FINANCIAL TIMES

WEDNESDAY 9 NOVEMBER 2022 · INTERNATIONAL NEWSPAPER OF THE YEAR · ASIA

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US midterms
Biden awaits voters' verdict

Will Oliver/EPA-EFE/Shutterstock

A jogger passes the Capitol building in Washington yesterday as Americans flocked to the polls to vote in midterm elections that stand to reshape Joe Biden's presidency after his nearly two years in office.

According to the final polling averages, Republicans are expected to win enough seats in the House of Representatives to regain control of the lower chamber of Congress, which they will use to stymie Biden's agenda and launch investigations into his administration.

But the balance of power in the Senate will depend on the outcome of a handful of races — such as Pennsylvania, Nevada and Georgia — that were neck-and-neck in the last stretch of the campaign.

Biden and predecessor Donald Trump have signalled they want to run again for president in 2024, but the midterm results could affect their decisions.

For election results ft.com/midterms

Binance to rescue crypto rival FTX as withdrawals trigger 'liquidity crunch'

- Deal ends spat between camps
- Zhao left to dominate sector
- Blow to Bankman-Fried reputation

JOSHUA OLIVER, SCOTT CHIPOLINA AND NIKOU ASGARI — LONDON

Binance has agreed to buy rival cryptocurrency exchange FTX after a surge in customer withdrawals triggered a liquidity crisis at Sam Bankman-Fried's company.

Binance chief executive Changpeng "CZ" Zhao wrote on Twitter that FTX had "asked for our help", adding: "There is a significant liquidity crunch."

Binance has signed a letter of intent to buy FTX but said it had "the discretion to pull out from the deal at any time".

FTX hit a valuation of $32bn at the start of this year, with blue-chip investors including BlackRock, Canada's Ontario Teachers' Pension Plan and SoftBank backing the company.

The deal with Binance ends an explosive and very public row between Bankman-Fried and Zhao — two of the most powerful figures in the crypto industry — and will combine two of the world's biggest crypto exchanges.

FTX's troubles accelerated over the weekend when Binance said it intended to offload its holdings of FTX's token FTT, citing concern over the exchange's financial stability and sending the token plunging in price.

Bankman-Fried responded on Monday, saying a "competitor is trying to go after us with false rumours". He added he would "love it" if he could work with Zhao "together for the ecosystem".

> 'Zhao's view of the world will matter a lot more, in terms of how he wants to interact with regulators'

The FTX chief also tried to calm markets by saying: "FTX is fine. Assets are fine." But yesterday he tweeted: "CZ has done, and will continue to do, an incredible job of building out the global crypto ecosystem, and creating a freer economic world." FTX confirmed the deal; the two companies did not immediately disclose the terms.

If completed, the deal will leave Binance as the largest platform in crypto trading.

"This elevates Zhao as the most powerful player in crypto", said Ilan Solot, co-head of digital assets at Marex Solutions. "Zhao's view of the world will matter a lot more, in terms of how he wants to interact with regulators and policymakers . . . the weight of his views will be much more powerful."

The crypto industry has struggled over the past year, particularly since the failure of the terra and luna tokens in May. The price of flagship tokens bitcoin and ether plunged and several big companies have collapsed, including lender Celsius Network and hedge fund Three Arrows Capital.

The rescue deal is also a significant setback for Bankman-Fried, who has long been viewed as a relatively stable and ambitious figure in the often shaky world of crypto.

In the wake of this year's crypto market collapse, he earned a reputation as an industry saviour after aiding failing companies. In June, the FTX chief announced a $250mn loan to ailing crypto lender BlockFi.

The loan followed further assistance for crypto broker Voyager Digital, which was rescued by an FTX loan worth about $485mn in cash and bitcoin.

But Bankman-Fried's ambitions also extended to traditional markets: his exchange sought to shake up trading of Wall Street futures and equities markets, buying a stake in Robinhood, the retail broker.

In 2021, FTX signed a 19-year deal to rename the Miami Heat Arena as the FTX Arena. The same year, Bankman-Fried said buying Goldman Sachs was "not out of the question at all".

Coinbase censured page 6
HK to seize crypto crown page 10

Briefing

▸ TikTok overhauls US operation as ads slow
The video platform has shaken up its structure in its biggest market as it responds to a slowing economy and a bleak outlook for digital advertising.— PAGE 6

▸ EU rethinks fiscal rules
Brussels has proposed a shake-up of fiscal regulations under which countries face a bigger threat of fines and censure if they are found in breach.— PAGE 2

▸ Usmanov spurs UBS raid
German police have raided the Swiss bank's offices in connection with a dirty money probe into billionaire Alisher Usmanov.
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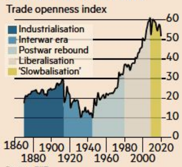
▸ PwC breakaway in Cyprus
A group of partners has launched a split-off firm to take on work from Russia-linked clients that the Big Four accountant will no longer touch.— PAGE 8

▸ ECB firm on rate rises
Central bank policymakers have pushed back against politicians' criticism of its tightening of monetary policy, saying they expect further rate rises.— PAGE 2

▸ Erdoğan presses Sweden
Turkey's president has said Sweden must do more to coax him to drop opposition to its bid to join Nato, including deporting asylum seekers.— PAGE 4

Datawatch

Globalisation retreats
Trade openness index



Source: PIIE

Global trade openness — the ratio of imports and exports to world GDP — is in retreat. China and the US seek greater technological self-sufficiency. Covid-19 and Russia's war in Ukraine have added momentum to globalisation's pullback

Freed Ukrainian prisoners recall the 'hell' of Mariupol

Analysis ▸ PAGE 4

Germany set to block chip plant sale to China group after Scholz's Beijing visit

GUY CHAZAN — STUTTGART
SAM JONES — BERLIN
YUAN YANG — LONDON

Germany's economy minister is looking at ways to tighten restrictions on non-European investment in the country's critical infrastructure as Berlin moved to block the sale of a chip factory to a Chinese-owned company.

The German government is expected to formally bar the sale of Dortmund-based Elmos's semiconductor plant to China-owned Silex Microsystems following a cabinet meeting today.

The ban comes just days after Olaf Scholz made his first visit as chancellor to Beijing and highlights rising concern over the security of western semiconductor technology and supply chains.

Robert Habeck, economy minister, said Germany should nurture relations with China but needed to view investments in "critical sectors" such as semiconductors "with particular sensitivity . . . That means that we should assume that Chinese investments [in such sectors] have higher hurdles to clear, and that goes for Elmos."

Berlin's move follows steps by the US in October to introduce chip export controls to make it harder for China to manufacture advanced semiconductors.

Habeck said Germany should have an interest in ensuring companies involved in the state's critical infrastructure — including ports, telecoms, energy and the health sector — "remained as far as possible in European hands".

Habeck, a senior figure in the German Green party, said his ministry was "some way off" from drafting laws that would further tighten rules covering Chinese investment. The economy ministry must already approve all acquisitions of stakes larger than 10 per cent by non-EU entities in companies involved in defence or critical infrastructure.

Elmos said the ministry had told it yesterday that "the sale of Elmos wafer production to Silex Microsystems is expected to be banned".

Silex, a Swedish subsidiary of China's Sai Microelectronics, did not respond to a request for comment. Management at both companies were caught off-guard by the decision. Elmos said the economy ministry had until yesterday told it the transaction "was likely to be approved".

Scholz has just returned from the first visit to Beijing by a European leader since the pandemic. He said before his trip that Germany needed to reduce "risky" and "one-sided" dependencies on China by diversifying supply chains.

Apple's China trade-off page 9

Australia	A$7.00(inc GST)
China	RMB30
Hong Kong	HK$33
India	Rup220
Indonesia	Rp45,000
Japan	¥650(inc JCT)
Korea	W4,500
Malaysia	RM11.50
Pakistan	Rupee 350
Philippines	Peso 140
Singapore	S$5.80(inc GST)
Taiwan	NT$140
Thailand	Bht140
Vietnam	US$4.50

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World Markets

STOCK MARKETS

	Nov 8	Prev	%chg
S&P 500	3853.81	3806.80	1.23
Nasdaq Composite	10720.57	10564.52	1.48
Dow Jones Ind	33348.76	32827.00	1.59
FTSEurofirst 300	1665.54	1653.97	0.70
Euro Stoxx 50	3737.79	3708.80	0.78
FTSE 100	7306.14	7299.99	0.08
FTSE All-Share	4000.38	3993.09	0.18
CAC 40	6441.50	6416.61	0.39
Xetra Dax	13688.75	13533.52	1.15

CURRENCIES

Pair	Nov 8	Prev	Pair	Nov 8	Prev
$/€	1.007	1.000	€/$	0.993	1.000
$/£	1.156	1.146	£/$	0.865	0.872
£/€	0.871	0.872	€/£	1.149	1.146
¥/$	145.495	146.470	¥/€	146.463	146.463
¥/£	168.243	167.899	£ index	77.342	76.499
SFr/€	0.992	0.990	SFr/£	1.139	1.134

CRYPTO

	Nov 8	Prev	%chg
Bitcoin ($)	20166.03	20588.90	-2.05

GOVERNMENT BONDS

Yield (%)	Nov 8	Prev	Chg
US 2 yr	4.68	4.73	-0.05
US 10 yr	4.14	4.21	-0.07
US 30 yr	4.27	4.29	-0.03
UK 2 yr	3.27	3.22	0.05
UK 10 yr	3.55	3.62	-0.07
UK 30 yr	3.74	3.85	-0.11
JPN 2 yr	-0.05	-0.04	-0.01
JPN 10 yr	0.25	0.25	-0.01
JPN 30 yr	1.59	1.58	0.01

Dubai

45> 9 770307 176838

Nikkei	27872.11	27527.64	1.25
Hang Seng	16557.31	16595.91	-0.23
MSCI World $	2533.63	2507.22	1.05
MSCI EM $	897.36	884.98	1.40
MSCI ACWI $	586.93	580.60	1.09
FT Wilshire 2500	4909.08	4849.95	1.22
FT Wilshire 5000	38363.57	37902.71	1.22

Ethereum	1541.42	1568.06	-1.70
COMMODITIES			
	Nov 8	Prev	%chg
Oil WTI $	90.82	91.79	-1.06
Oil Brent $	97.26	97.92	-0.67
Gold $	1678.95	1674.40	0.27

GER 2 yr	2.18	2.21	-0.02
GER 10 yr	2.28	2.34	-0.06
GER 30 yr	2.18	2.26	-0.08

Prices are latest for edition
Data provided by Morningstar

A Nikkei Company

INTERNATIONAL

Debt reduction

Brussels sets out plan to overhaul fiscal rules

Member states likely to face greater threat of fines for budgetary violations

SAM FLEMING — BRUSSELS

EU governments that violate the bloc's fiscal rules face an increased threat of fines and having to explain themselves in parliamentary hearings, according to a proposed overhaul of the regime from the European Commission.

Under the blueprint to be set out today, member states would be able to agree more realistic debt-reduction paths with the commission, while creating extra space for public investment. At the same time, enforcement would be tightened, with a stricter regime for countries that face "substantial" public debt challenges, according to the draft communication.

The commission wants to settle on a new approach before full enforcement of the stability and growth pact, which sets the union's fiscal rules, resumes in 2024, following a suspension in 2020 in the early weeks of the pandemic. It comes as member states face mounting budgetary pressure and the risk of a recession triggered by the energy crisis.

The draft communication, seen by the Financial Times, urges member states to reach "swift agreement" on revising the EU's budget rules, which are seen as being complex and poorly enforced.

"Thorough reform" was needed involving legislative change agreed between the council and the European Parliament, the document argued. The key thrust of the rules would be to give member states greater ownership of their debt reduction plans, which would be agreed with the commission and signed off by the council of ministers.

'The reform should tackle the prevailing challenges and contribute to making Europe more resilient'

Once agreed, member states would be under increased pressure to deliver on their commitments, and would face a more realistic threat of sanctions if they failed to do so.

As part of the enforcement changes, fines for breaches of the rules would be lowered, meaning they would be more likely to be used than under the current framework. "Reputational" sanctions would be enhanced, including a requirement on ministers to explain how they intended to address excessive deficits at a hearing of the European Parliament.

The new rules would scrap a requirement that heavily indebted member states reduce their debt-to-gross domestic product ratio each year by at least one-twentieth of the difference between the current level and the EU's 60 per cent target.

Instead, the commission would set out a four-year plan for an EU member state to put its public debt burden on a credible, downward trajectory. Any deadline extensions would need to be justified by commitments to public investment and reform, with the plans agreed between the commission and member state and signed off by the council.

Countries would need to stick to annual ceilings imposed on net primary public expenditure or face penalties. Sanction procedures would be more automatic for countries with more vulnerable public finances. EU funding could be withheld if countries failed to cure their excessive deficits.

"The reformed framework should tackle the prevailing challenges and contribute to making Europe more resilient, by allowing for sustaining strategic investment for years to come and by reducing high public debt ratios in a realistic, gradual and sustained manner," the draft communication said.

EU. Grants and loans

Spain rejects criticism of recovery fund spending

Madrid accused of being too slow to repair economic damage caused by Covid-19

BARNEY JOPSON — MADRID

Spain has brushed off corporate concerns about its management of billions of euros of EU recovery funds, insisting that it has reached "cruising speed" in developing investment plans and would meet strict audit standards to secure its next batch of money.

The country was the first to receive a payment from the EU's pandemic recovery funds last year and is due to receive a total of €140bn, making it the bloc's second biggest recipient after Italy. But Spain's experience has been rocky, highlighting the uphill task countries face in managing the €800bn programme, which aims to repair damage inflicted by Covid-19 and make economies greener.

In recent weeks Spain's Socialist-led government has faced dissatisfied business partners — including Volkswagen, an ally on electric vehicle projects — and questions over the pace and transparency of fund distribution.

But Nadia Calviño, Spain's deputy prime minister and economy minister, insisted that its plans were on track and dismissed complaints that funds were being doled out too slowly.

"We have reached cruising speed. There are calls and tenders for projects being opened by the public sector at a rhythm of around €2bn a month," she said in an interview. "With the recovery plan, the aim is not to be very fast, but rather to have a constant rhythm that maintains strong investment in the coming years."

The so-called Next Generation EU funds, comprising about €70bn in non-refundable grants and €70bn in loans for Spain, are being directed to projects ranging from residential solar panels to online stores for small businesses.

The European Commission said: "The implementation of the Spanish plan is currently in line with the agreed timetable, laid out in the [decision] approving the plan."

But some business executives accuse Spain of blurring the picture with its figures, arguing that the pace at which it opens tenders for project bids — the metric highlighted by the minister — is not the best gauge of performance or economic impact.

Money talks: Nadia Calviño, Spain's economy minister and deputy PM, at a Madrid meeting last week with Johannes Hahn, EU budgetary commissioner
Borja Sanchez Trillo/EPA-EFE/Shutterstock

The Círculo de Empresarios, one of Spain's biggest business lobbies, instead highlights actual payments to the regional and local governments and companies that will be spending the funds on approved projects. That metric shows that only 22.3 per cent of the €28.4bn in EU grants that Spain had budgeted to use this year had been paid out by the end of September, according to data from the general comptroller of the state administration.

"The general feeling in the private sector is that we are seeing poor management," said Manuel Pérez-Sala Gozalo, chair of Círculo de Empresarios. "Everything is delayed, there is a lot of bureaucracy, there is little clarity."

Last month, the finance ministry official running the recovery funds programme, Rocío Frutos, left her post for "personal reasons". Highlighting one bottleneck, an official at another ministry administering some of the money said: "We just don't have enough people with experience of managing funds."

Rodrigo Ogea, co-managing partner in Spain of law firm Baker McKenzie, said Madrid should have outsourced the handling of fund applications. "The central government has to roll out a huge amount of money in a short period of time and doesn't have the operating capacity to do it," he said.

The government has also been shaken by uncertainty over one of its landmark projects — an initiative led by Volkswagen-owned Seat to build a new car battery plant in Valencia and upgrade two factories to make electric vehicles.

Last week, Wayne Griffiths, Seat chief executive, said the public money on offer was "not sufficient", even after the government increased the sum to €397mn of grants and loans. He said the company was "looking for solutions" to ensure the project went ahead. Calviño declined to comment on the company, but said she would "strongly confirm the commitment of the Spanish government to accompany and support the necessary investment" in technology.

'The aim is not to be very fast, but rather to have a constant rhythm that maintains strong investment'
Nadia Calviño

Spain has already received €31bn of the recovery fund grants it is due from Brussels. Countries get the money by completing a series of structural reforms, such as Spain's new labour law approved earlier this year.

Calviño said she had been "finalising the details" for Spain's application for the next €6bn tranche.

One condition has been in the spotlight: Spain's need to finish setting up a new audit system to monitor targets and payments.

Monika Hohlmeier, the conservative chair of the European Parliament's budget control committee, has criticised both Spain and the European Commission for opacity. "What we ask is where did the money actually go? For what measures did Spain spend the money?" she told a hearing last month.

Calviño said Spain was engaged in "very intense work" with the commission to ensure that its financial controls met the highest standards. "The commission is extremely demanding, as it should be," she said. "Whatever country you talk to they're going to tell you the same. This is not specific to Spain."

Monetary policy

ECB to resist 'dovish pivot' on rate rises despite risk of weaker growth

MARTIN ARNOLD — FRANKFURT

Senior European Central Bank policymakers have said they expect interest rates to rise beyond the point at which they constrain demand and weaken growth to bring down inflation, rebuffing criticism from eurozone politicians of moves to tighten monetary policy.

The comments from several members of the ECB's rate-setting governing council resisted the idea it could do a "dovish pivot" and stop raising rates soon, echoing a similar message from the US Federal Reserve last week.

German central bank boss Joachim Nagel said yesterday he would do all he could to ensure that the ECB would "press ahead with monetary policy normalisation with determination, even if our measures dampen economic growth". By normalising policies, central banks aim to reach a point whereby they are neither stimulating nor restraining growth.

"In a situation where monetary policy lags behind the curve, the macroeconomic costs would be significantly higher," said Nagel, predicting German inflation, which reached a 70-year high of 11.6 per cent in October, would remain above 7 per cent next year.

ECB vice-president Luis de Guindos said tackling inflation required rates to keep rising to tighten financing conditions. The ECB has increased its deposit rate from minus 0.5 per cent to 1.5 per cent in the past four months and is expected to announce another rise to at least 2 per cent at its next meeting in December.

"It will reduce aggregate demand, both consumption and investment," de Guindos told the Politico website yesterday. "But it's the only possible way forward that we have because doing nothing would be much worse."

Next month's decision will hinge on whether inflation continues to set new eurozone records after reaching 10.7 per cent in October, far above the ECB's 2 per cent target.

However, European politicians have started warning the ECB not to go too far on raising rates. Last month, Italy's prime minister, Giorgia Meloni, said that tighter monetary policy was "considered by many to be a rash choice", while French president Emmanuel Macron warned he worried about central banks "smashing demand" to tackle inflation. Also last month, the ECB said "substantial progress" had been made in "withdrawing monetary policy accommodation". The move to withdraw some policies that stimulate growth has led some investors to bet it would soon stop rate rises.

But recent data have shown eurozone inflation and growth to be stronger than expected. In the latest sign of resilience, the volume of retail sales in the bloc rose 0.4 per cent in September from the previous month, leaving them down 0.6 per cent from a year ago.

ECB president Christine Lagarde said last week that a "mild recession" in the eurozone would not be enough to "tame inflation" on its own. A recession was not yet her baseline scenario for the 19-country bloc, she said, but if it happened, it would not be sufficient for the ECB to "just let it roll out" to bring inflation down to its 2 per cent target.

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Multinationals

EU warns of reviving digital levy talks if global tax deal fails

SAM FLEMING — BRUSSELS
MARY MCDOUGALL — LONDON

The EU will resurrect talks on a digital services levy if a global deal on the taxation of corporate giants fails, a senior European policymaker has warned.

Zbyněk Stanjura, the finance minister of the Czech Republic, which holds the rotating EU presidency, said a number of member states feared the US would will go back to talks about digital tax."

Last year 136 countries backed a two-pronged deal that aims to address public anger over multinationals not paying enough tax. The first pillar of reforms would force the largest companies to reallocate a share of profits to where they do business, ensuring they paid a fairer share of tax. The second pillar creates a minimum effective corporate tax rate, envisaged at 15 per cent.

Any revival by the EU of unilateral plans to tax digital giants would spark US trade tension, at a time when the two economies are already sparring over the US's proposed green subsidies.

Peter Barnes, a tax specialist at Washington law firm Caplin & Drysdale, said it was highly unlikely the US would implement the first pillar by the middle of next year irrespective of how the midterms panned out.

He added that if new digital services taxes were imposed by the EU or other countries, the US would probably bring legal action if the new taxes unfairly targeted American companies.

As Czech finance minister, Stanjura helps oversee the council of the EU's economic agenda during the country's six-month presidency of the bloc, which ends in December. "I'm not confident we will be able to reach an agreement"

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Representative, Anjali Mahindroo

of member states feared the US would not implement the global accord agreed last year, which would force the world's 100 biggest multinationals to declare profits and pay more tax in the countries where they do business.

In such an eventuality, EU governments would return to shelved talks to implement a digital services tax, Stanjura predicted in an interview, arguing that any such levy should be at a bloc-wide level.

"I really am not able to say whether we are going to wait for six more months or nine more months, but I believe the longer these negotiations will take, the less of a chance of actually reaching an agreement," he said.

"If we are not able to reach an agreement mid or long term, then Europe

rate, envisaged at 15 per cent.

Progress on implementation has faltered despite OECD calculations that governments could collect more than $150bn in additional taxes every year from the biggest companies.

Last month Pascal Saint-Amans, the former OECD official who masterminded the tax reforms, predicted the US would ultimately sign, given the alternative would be to see Big Tech companies confronted by a hodgepodge of separate digital services taxes in different countries.

But the prospect of the reform being implemented before the OECD's proposed deadline of mid-2023 has faded and the likelihood of Republican gains in the US midterm elections could further dent hopes of progress.

terms panned out.

The measure was "contentious", he said. "Getting legislation passed quickly is just not going to happen."

Zbyněk Stanjura: 'I believe the problem is more on the US side'

we will be able to reach an agreement in the OECD on the first pillar of the tax reform, he said. "To speak clearly without blurring the issue, I believe the problem is more on the American side."

The EU shelved a proposed digital levy in the summer of 2021 under US pressure, given the progress at that time towards an OECD deal.

EU officials stressed at the time that the digital proposal would differ from a 2018 plan that targeted the world's largest tech companies, a measure that ultimately foundered. Brussels was instead planning to target hundreds of companies with digital operations, rather than specifically aim at US tech giants.

The US has threatened to impose sanctions on European countries that introduce digital services taxes.

INTERNATIONAL

Oligarch's assets

German police raid UBS over Russian tycoon

Usmanov rejects claims of money laundering as two of bank's branches searched

SAM JONES IN BERLIN AND MAX SEDDON RIGA

German police have raided offices of the Swiss bank UBS in connection with a money laundering investigation into Uzbek-born Russian billionaire Alisher Usmanov.

UBS branches in Frankfurt and Munich were searched yesterday, state prosecutors confirmed.

"The subject of the investigation is the initial suspicion of money laundering against a businessman from the Russian Federation. The investigations are not aimed at the bank concerned or its employees," the Frankfurt prosecutor's office said.

Speaking anonymously, German officials said that Usmanov was the individual targeted by yesterday's raids, which were first reported by Der Spiegel.

Usmanov, 69, is one of the world's wealthiest men, with an estimated fortune of more than $19.5bn, earned through a business empire with holdings in some of Russia's largest mining, industrial and telecoms companies.

As well as being the owner of the biggest superyacht built, the $600mn Dilbar, his assets include stakes in English Premier League football clubs Arsenal and Everton. He was a former top shareholder in Apple, Facebook and Twitter.

After Russia's invasion of Ukraine in February, Usmanov was one of the first Russian businessmen to be hit by western sanctions because of his close ties to the Kremlin and the Russian president. The EU described him as "one of Vladimir Putin's favourite oligarchs".

Usmanov has launched legal cases in Europe to challenge the measures against him. Those attempts have so far been unsuccessful, although Brussels did lift sanctions against one of his sisters in September.

"We categorically reject any allegations of money laundering or tax evasion on the part of Alisher Usmanov," a spokesperson for Usmanov said yesterday.

"These claims are unfounded, false and slanderous to his honour and reputation. Mr Usmanov is an honest and law-abiding taxpayer who has paid all due taxes in Russia. He is also recognised as one of the most generous philanthropists in the world."

UBS did not respond to a request for comment. The searches at the bank's Frankfurt and Munich premises follow two raids in September involving more than 250 police at properties owned by Usmanov in Bavaria.

Prosecutors at the time said they were part of an investigation into the use of complex offshore holding companies to disguise illicit financial flows worth millions of euros.

Usmanov's European and US assets have been frozen since the beginning of the war as a result of sanctions against him. In March, the 156-metre-long Dilbar was seized by German authorities in Hamburg, where it was undergoing refurbishment.

For months, Usmanov has been in the sights of a special task force set up by the German government to probe the legality of assets of Russian oligarchs in the country and trigger police interventions where possible.

Usmanov also owns properties in the UK, including the £48mn Beechwood House in Highgate, north London, and Sutton Place, the Tudor mansion in Surrey, south of London, formerly owned by billionaire industrialist J Paul Getty.

Burning anger Khan supporters take to streets

Supporters of Imran Khan protest in Rawalpindi yesterday following last week's assassination attempt on the former prime minister. Supporters are angry at what they see as officials' reluctance to investigate Khan's claim that Shehbaz Sharif, prime minister, and military officials conspired to kill him
Sohail Shahzad/EPA-EFE

Greenwashing

UN tells Carney-led climate pact to raise standards

CAMILLA HODGSON — SHARM EL-SHEIKH

Former central banker Mark Carney's "net zero" coalition of more than 500 financial institutions is among private sector climate initiatives that must maintain tighter standards, according to a UN report on corporate greenwashing.

Companies could not claim to be net zero while they continue to build or invest in new fossil fuel assets and decarbonisation plans must not support new coal, oil and gas supplies, the High-Level Expert Group said.

"Net zero is entirely incompatible with continued investment in fossil fuels," the report concluded.

The report published at the COP27 climate summit in Egypt seeks to address greenwashing concerns by laying out a series of requirements to ensure the credibility of corporate net zero emissions claims.

It said campaigns such as Race to Zero and alliances like the Glasgow Financial Alliance for Net Zero, which is chaired by Carney, "must reinforce high-quality voluntary efforts and consolidate best practices into general norms".

Launching the report, UN secretary-general António Guterres said: "The message is clear to all those managing existing voluntary initiatives". He added: "Abide by this standard and update your guidelines right away, and certainly no later than COP28."

Voluntary corporate sector climate initiatives such as Gfanz have come under criticism from pressure groups, who say their rules are too lax. Gfanz recently weakened a requirement relating to fossil fuel investments, citing antitrust issues.

Carney, former Bank of England governor, said Gfanz members had been "working at pace" to set emissions-reduction targets. "The world will not make enough progress without more effective government policies and meaningful reforms to the international financial architecture," he said.

BlackRock and Vanguard, the leading asset managers and Gfanz members, recently said they would continue to invest in fossil fuels and did not believe it was necessary to end new coal, oil and gas investment. But the UN report said that to be credible, net zero targets must cover all of a company's emissions across business and supply chains.

The expert group behind the report was led by Catherine McKenna, a former climate and environment minister of Canada. She said companies must "meet the price of admission" to voluntary initiatives and a failure to meet the standards should result in "consequences", which could mean "someone's got to leave [the initiative]".

"There are some companies, in particular financial institutions, that don't understand that when you make a net zero commitment it means something," McKenna told the Financial Times.

ShareAction, a charity group that promotes responsible investment, said yesterday that many banks that were Gfanz members had left heavy emitting sectors, such as agriculture, out of their climate targets. The majority had set emissions-intensity targets — a measurement based on pollution relative to economic output, which McKenna's report said was not appropriate — and many had not included underwriting activities in their goals, ShareAction said.

Martin Wolf see Opinion

INTERNATIONAL

Ukrainian prisoners of war recall desperate fight to hold Mariupol

Accounts provide insights into ferocity of shelling and how Russia treated captives after city was taken

CHRISTOPHER MILLER — KYIV

Captain Valentina Strutynska feared the worst when she was taken from her cell after five months in Russian captivity. It was only when her handcuffs and blindfold were removed much later and the shouts of "Glory to Ukraine!" rang out that she realised she was home.

The Ukrainian marine was one of 215 prisoners released in September, the largest exchange since Russian president Vladimir Putin launched his invasion in February. She and two other Ukrainians captured during the desperate fight for the city of Mariupol in the early months of the conflict have told their stories to the Financial Times.

They provide insights into one of the key battles of the war's early phase, when several thousand fighters and scores of civilians retreated into the Azovstal steelworks as it was pounded by Russian forces, and a glimpse into how Moscow treats prisoners of war.

Captain Oleksandr Demchenko, a doctor and another of the released captives, was there only because he had volunteered to fly reinforcements and supplies into Azovstal.

"Mariupol was already surrounded," he said. "I understood it was probably a one-way ticket and there'd be no turning back." Ukraine's president, Volodymyr Zelenskyy, later said such missions were "almost impossible" and that many did not survive. Demchenko did, and he would spend the next six weeks treating wounded troops and civilians.

Major Oleksandr Voronenko, the third of the freed PoWs, was in Mariupol before the invasion as part of Ukraine's 56th motorised brigade. He said the intensity of the fighting was terrifying, as Russian forces bore down, and the destruction unbelievable.

"It felt like one long day in hell."

Intense battles in city

Mariupol, a strategically important port on Ukraine's south coast, was an early Russian target. Voronenko recalled how the power, gas and water supplies were quickly severed, a tactic now used more widely to break Ukrainian resistance.

Voronenko, who fought alongside the marines, said the battles were so intense the sky was sometimes blocked out by thick black smoke from the artillery and rocket strikes that pulverised the city. Those strikes killed thousands of civilians, according to estimates by local authorities and the UN. "It was uninterrupted, brutal fighting," said Voronenko, who was shot in the leg.

Strutynska remembered Russian tanks firing indiscriminately on apartment blocks, making her task of evacuating civilians next to impossible. "It was my first time seeing this level of fighting," she said. "I tried to organise removal of the dead but I failed because the fighting was so extreme."

As Moscow stepped up its attacks in the ensuing week, the remaining Ukrainian forces in the city, along with hundreds of civilians, including children, hunkered down at the Ilyich Iron and Steel Works and nearby Azovstal.

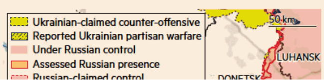
Strutynska and Voronenko retreated with their units into the fortress-like Ilyich works in March, safe inside its deep bunkers. But supplies there and at

Clockwise, from main: Ukrainian PoWs walk along a road after a prisoner swap last month at an unknown site in Ukraine; Valentina Strutynska with her husband, Yevhen; Oleksandr Demchenko inside the Azovstal bunker where he operated on the wounded — Reuters

wounded, many of whom he found in horrific condition. Sometimes in near darkness, he performed blood transfusions, treated head wounds, tied up abdominal injuries, set shattered bones and amputated limbs, sometimes with little or no anaesthetic. There were days he and others "did not leave the operating room for more than 30 hours".

One badly injured man had a tourniquet applied to his leg for more than two weeks, "completely unthinkable", according to Demchenko. Gangrene had set in by the time the medic found him and amputated the leg above the knee. "Miraculously, he survived," he added.

"The most terrible thing was the massive air strikes," the doctor recalled. One blast threw him across the room into a concrete pillar, while another caused



three floors of concrete to fall on to one of the wards, killing several patients.

As the Russians pounded them with heavier weapons, the Ukrainians were eventually forced to surrender, first the marines at Ilyich in April, then another group of marines and national guardsmen from the Azov regiment a month later. Azov is a former volunteer battalion with far-right members that has since been brought into the official military structure but remains a favourite bogeyman of the Kremlin.

Videos published by Russia's defence ministry showed Ukrainian troops hobbling out of Azovstal, hands in the air. They were met by soldiers who checked them for weapons and for tattoos before ushering them on to the buses that would take them to prison.

> 'I tried to organise removal of the dead but I failed because the fighting was so extreme'

Life in prison

Strutynska, Demchenko and Voronenko would be held in several prisons over the next six months. All three endured periods in the notorious Olenivka

> 'It was absolutely continuous propaganda and streams of hatred [towards

destroy the facility. Russia has blocked independent observers' access to Olenivka. A UN fact-finding mission warned in September its inability to access the site was a "major impediment to verifying" claims.

None of the three PoWs wanted to go into detail about the abuses they suffered in captivity. But other Ukrainian troops and human rights groups have documented how Russia and its proxy forces in the occupied territory have brutalised soldiers and civilian captives.

In the early days, the detainees said they were crammed into tiny cells, where they slept without blankets. Food was scarce and they were given buckets of muddy water to drink, which made some of them sick. "Everyone was dehydrated and exhausted," said Demchenko, who lost 45kg.

Strutynska had to share a cell meant for four with 30 female soldiers. "We slept on top of each other," she said, adding that they would sing Ukrainian folk songs and pop hits to raise their spirits.

She said they were treated better in Olenivka, which was run by pro-Russia Ukrainians, than later when they were sent to a prison in Taganrog, Russia. There, the Ukrainians said they were physically and verbally abused, while also being subjected to Russian propaganda.

"It was absolutely continuous propaganda and streams of hatred [towards Ukrainians]," Voronenko said of the programmes they were forced to watch on Russian television.

As colder September weather arrived, they huddled together in their unheated cells and hoped for freedom.

Prisoner exchange

It was September 21 when the PoWs were woken by Russian guards who blindfolded them and tied their hands behind their backs. Some thought they were being transferred to another prison, or sent back to Mariupol amid rumours that sham "trials" of those captured in the city were being prepared.

To their surprise, they were exchanged for 55 Russians and the pro-Moscow Ukrainian MP Viktor Medvedchuk, a friend of Putin who was arrested this year on treason charges. While the soldiers expressed disappointment at Medvedchuk's release, they said Ukraine got the better end of the deal.

Their wish now is that comrades still in captivity are freed. They said western countries should do more and called on the International Committee of the Red Cross to live up to its promises to not only facilitate the release of PoWs, but also to access facilities in Russia-occupied territories to check on them.

Zelenskyy has accused the ICRC of not doing enough, particularly at Olenivka. The ICRC said it had asked repeatedly to be allowed into Olenivka but that it "doesn't have unimpeded and repeated access to all prisoners of war in this international armed conflict".

"We'll not stop demanding access," the ICRC added.

All three said they wished to return to the military after they had recovered and spent time with their families. Voronenko wants surgery to remove two bullets stuck in his leg since Mariupol.

"I never cried from my wounds," he

Security talks

Sweden fails to persuade Erdoğan to end bar on joining Nato

AYLA JEAN YACKLEY — ISTANBUL

Turkey's President Recep Tayyip Erdoğan said Sweden must do more to persuade him to drop opposition to its bid to join Nato, including deporting asylum seekers his government wants to prosecute for terror-related offences.

Sweden and Finland ended their military non-alignment and applied for Nato membership in May. But Turkey, which has Nato's second-largest army, has refused to approve their bids. It accuses Sweden of providing a haven for people accused of links to Kurdish militants and a religious network blamed for a failed military coup in 2016.

In a press conference yesterday with Swedish prime minister Ulf Kristersson, Erdoğan welcomed Sweden's recent decision to lift an arms embargo on Turkey, introduced in 2019 after Turkey invaded Syria to fight Kurdish militants. But he said he expected Sweden to take "concrete steps" by the end of November to fully implement commitments it agreed to in a memorandum it signed with Finland and Turkey in June.

"Sweden wants Nato membership for its own security, and we want a Sweden that will support eliminating our security concerns," said Erdoğan. "It is our sincere wish that Sweden realise Nato membership, following full implementation of the memorandum."

Kristersson said that joining the alliance was "of vital national security to us because of the deteriorating security in our part of Europe due to Russia's illegal invasion of Ukraine". The newly elected conservative prime minister has pledged to distance his government from Kurdish groups fighting Isis in Syria, because Turkey considers them terrorists for their links to a domestic insurgency.

"My government was elected just a few weeks ago on a mandate to put law and order first, and this includes countering terrorism and terrorist organisations," he said. "I want to assure all Turks that Sweden will live up to all obligations made to Turkey in countering the terrorism threat before becoming a member of Nato and as a future ally."

> 'I want to assure all Turks that Sweden will live up to obligations in countering the terrorism threat'

Among Turkey's demands is the return of dozens of people it has accused of terrorism, despite the Swedish Supreme Court's rejection of extradition in several of the cases. The June memorandum commits Sweden and Finland to addressing Turkey's deportation requests and to create mechanisms to facilitate extradition.

Erdoğan said four people had already been deported to Turkey. But he singled out a journalist by name, accusing him of belonging to an Islamic network led by US-based preacher Fethullah Gülen, whom Turkey says masterminded the attempted coup in 2016.

"Deporting this terrorist to Turkey is very important to us," Erdoğan said. "Terrorist organisations' exploitation of

Azovstal, where thousands of soldiers and civilians also sheltered, were severely limited. That was when Kyiv devised a risky plan to rescue them.

Demchenko and another doctor were dispatched on separate military helicopters alongside special forces, an operation he likened to "jumping from a plane without a parachute".

"They split us up so that if one helicopter was shot down, at least the other would have a chance to make it," he said.

They faced enemy fire before landing near Mariupol and a boat to the works.

Demchenko set up a makeshift hospital and operating room to treat the

Sources: Institute for the Study of War; AEI's Critical Threats Project; FT research • Updated 9am GMT Nov 4
* These regions and Crimea are not recognised by the international community, Crimea was annexed by Russia in 2014

prison in the occupied Donetsk region, which Zelenskyy has called a "concentration camp" for Ukrainian PoWs.

Olenivka has been under Russian control since the first invasion of Ukraine in 2014. An explosion in July destroyed a wing where Ukrainians captured at Mariupol were being held, killing 53 and injuring 75 others. None of the three was there when it was hit.

Kyiv has accused Russia of being behind the attack to conceal its torture of Ukrainian captives, and released recordings to support the claim. Moscow has said, without evidence, that Ukraine used US-provided missiles to

Ukrainians]'

said, but coming home was "emotional". He was recently reunited with his children, who had fled Russia-held Kherson.

Demchenko is recuperating and trying to get his weight back up. He hoped that sharing his experience would help other doctors save soldiers.

Strutynska, meanwhile, recently received news that her husband, Yevhen, who she had not heard from in the seven months since he too was captured in Mariupol, was one of more than 50 Ukrainians included in a separate prisoner exchange.

She shared her joy on Facebook: "My hero. My beloved husband is home."

Sweden's democratic environment must absolutely be prevented. When our citizens see these terrorists walking the avenues of Sweden and Finland with terrorist rags in their hands, they hold me to account." Erdoğan said that concessions Sweden would help him contest next year's election in Turkey and "appear before our people with a great victory against terrorism".

All 30 Nato members except for Hungary and Turkey have approved the Nordic countries' accession. Hungary has said parliament will ratify their entry before the end of the year.

See Opinion

Energy supplies

Sanctions-hit Russia becomes India's top oil supplier as Moscow offers discounts

CHLOE CORNISH — MUMBAI
JOHN REED — NEW DELHI
TOM WILSON — LONDON

Russia has surpassed Iraq and Saudi Arabia as India's largest supplier of oil, according to independent research firms, as Asia's third-largest economy enjoys steep price discounts caused by sanctions on Moscow.

India has historically bought most of its oil from Iraq and Saudi Arabia, but Russian imports have surged since Vladimir Putin invaded Ukraine. Western energy sanctions have pushed Russia to cut prices for those buyers still willing to purchase its crude, oil trade data show.

US Treasury secretary Janet Yellen has signalled the US is willing to see this continue, telling Indian media this week that Washington wanted India to benefit from a western price cap on Russian oil that would give it a bargaining chip to negotiate deeper discounts.

G7 countries agreed in September to implement the price cap, which the US government hopes will be in place by December 5 when an EU embargo on the shipment of Russian crude comes into force. Under the mechanism, European companies will be permitted to transport and insure shipments of Russian oil to third countries as long as it is sold below a fixed price — an effort to limit the impact of the sanctions on global oil flows but ensure Russia earns less from the trade.

"Our objective is to hold down the price that Russia receives for its oil and keep that oil trading," Yellen told the Press Trust of India ahead of a visit to New Delhi this week. "Our hope would be that India would take advantage of this price cap."

India foreign minister S Jaishankar was in Russia yesterday. Moscow said the visit would focus on trade and investment, "promising projects in the energy sector". Jaishankar said New Delhi was obliged to ensure consumers had access to global markets on the best possible terms. "And in that respect, we have seen that the India-Russia relationship has worked to our advantage."

Russia's flagship Urals crude was trading at $80 a barrel yesterday, compared with $97 a barrel for global benchmark Brent. Urals crude has traded at a discount of about $30 for much of the year.

While estimates of India imports vary, analysts at three independent trackers said Russian crude had squeezed out more expensive Iraqi and Saudi Arabian oil over the past three months. Russian crude arrivals to India, the world's fastest growing major economy, averaged 970,000 barrels per day in October, according to research firm Kpler, from 942,000 bpd in September. Kpler excluded cargoes believed to be Kazakh in origin.

Imports from Iraq averaged 806,000 b/d in September and 918,000 b/d in October, Kpler shows, while imports from Saudi Arabia fell from 860,000 b/d in September to 617,000 b/d in October, their lowest since March 2021.

Janiv Shah, senior analyst at Rystad Energy, said Russia was India's biggest oil supplier in June, August, September and October. "Russia is expanding market share at the expense of Saudi," said Serena Huang, head of Asia Pacific analysis at Vortexa, a third independent analytics firm. Vortexa found Russia's shipments into India surpassed Iraq and Saudi for the first time in October.

Government and trade data compiled by Reuters showed Iraq as India's top supplier for September.

Viktor Katona, lead crude analyst at Kpler, said: "We see the cargo movements, while national governments would most often calculate barrels that have been customs cleared, so there might be a time discrepancy."

Faustian tech Critics say Apple's Beijing bargain leaves it under authoritarian influence and exposed to supply shocks ➔ COMPANIES

Companies & Markets

TikTok rings the changes in US after digital ads downturn

- Chinese-owned app revamps leadership
- Data deal with White House takes shape

PATRICK MCGEE — SAN FRANCISCO
CRISTINA CRIDDLE — LONDON

TikTok is restructuring US operations in response to a slowing economy and a depressed environment for digital advertising.

The social platform's reorganisation has resulted in sweeping leadership changes in the US, the largest market for TikTok, which is owned by China-based parent company ByteDance.

North America general manager Sandie Hawkins, who oversees business operations, sales and marketing across the region, is to be transferred and placed in charge of TikTok Shop in the US, its ecommerce channel, according to five people with knowledge of the changes. It follows a restructuring in Europe earlier this year.

> '[Hawkins] has always advocated for her team and clients, which has made us a better business'

Hawkins's move was announced internally on Monday at a meeting led by Blake Chandlee, an executive based in Austin, Texas, who oversees global business solutions. Chandlee will assume her role on an interim basis.

"Under [Hawkins's] leadership, the team has become a significant player in the digital ads space . . . and she has always advocated for her team and clients, which has made us a better business," Chandlee said in a note to staff.

"She will be a valuable partner . . . as

to three people familiar with the restructuring. Overall, the headcount in the US has increased over the past year.

Other senior employees have already confirmed that their roles have been cut, including David Ortiz, former global head of ads business systems, who said his post was "eliminated in a much larger reorganisation effort".

The restructuring suggests that TikTok is not immune to the digital advertising slowdown that has hit the share price of Facebook parent Meta and Snapchat parent Snap in the past year.

US advertisers are predicted to spend $65.3bn on social media this year, a year-on-year increase of just 3.6 per cent — around 10 times slower than in 2021, according to estimates from eMarketer.

The reorganisation of TikTok's US operations comes as the company is finalising a deal with the White House, which has raised concerns that the app's links to ByteDance could pose a security risk. The deal would allow it to keep operating but place limits on how US user data are stored. TikTok maintains that access to data for employees globally, including engineers in China, is limited and strictly controlled.

Two people with knowledge of the move said TikTok planned to replace Hawkins on a permanent basis with Sameer Singh, head of the platform's Asia-Pacific operations since July 2021. TikTok said it was considering several candidates, including Singh.

The pressure on the digital advertising sector has driven social networking companies to diversify. Meta, Snapchat and TikTok are experimenting with new

Snap decision UBS chief risk officer switches career to become professional photographer

Christian Bluhm is leaving the Swiss bank in May to focus on his Zurich studio and gallery business — Christian Bluhm

ABBY WALLACE AND OWEN WALKER
LONDON

UBS's chief risk officer Christian Bluhm has resigned from the Swiss bank to become a full-time professional photographer.

The career change, announced yesterday, will lead to Bluhm opening a studio and gallery in Zurich's historic centre, a short distance from UBS's headquarters, as he swaps capital ratios for aspect ratios.

A mathematician by training, the 53-year-old German will leave the bank in May to focus on his business and academic opportunities.

"That experience fascinated me so much that I started a never-ending journey into professional photography," Bluhm wrote.

Bluhm is following in the footsteps of Matthew Greenburgh, the former Bank of America Merrill Lynch dealmaker, who quit banking in 2010 aged 49 to pursue a career in photography.

Christine Novakovic, UBS's Europe chief executive, spent two years as an art dealer before joining the Swiss lender in 2007.

UBS chief executive Ralph Hamers said he wished Bluhm the best for the future. He added: "I'd also like to personally thank Christian for his leader-

in many of the scandals that have hit its Swiss rival Credit Suisse.

UBS did, however, suffer an $861mn loss on the collapse of family office Archegos Capital last year, but that was overshadowed by Credit Suisse's $5.5bn loss. Both banks had offered prime broking services to the investment business run by former Tiger Management analyst Bill Hwang.

Hamers has set about reshaping his executive team over the past two years, bringing in a new chief financial officer, a new head of the Americas and giving more power to the head of wealth management, Iqbal Khan.

The new chief risk officer will be

Coinbase censured by German watchdog

SCOTT CHIPOLINA — LONDON

Germany's financial watchdog has censured Coinbase following an annual audit that raised questions about the crypto exchange's set-up in Europe's biggest economy.

BaFin ordered Coinbase to ensure it had in place a "proper" business structure after an audit by Deloitte found "organisational deficiencies" in how the group's German unit was organised, the regulator said yesterday.

Deloitte in May gave Coinbase's financials an unqualified audit opinion, meaning they were presented accurately and fairly, but the accountancy firm flagged up organisational flaws with the regulator.

BaFin's reprimand marks the latest blow for US-listed Coinbase, which is among the biggest operators in the digital asset industry. The company revealed last week that it swung to a $545mn loss in the third quarter as a sharp downturn in crypto prices this year knocked its trading volumes.

Coinbase, which has seen its shares tumble almost 80 per cent since its direct listing in April 2021, also unveiled plans this summer to shed almost a fifth of its workforce, amounting to more than 1,000 people.

BaFin's censure comes after Coinbase in June 2021 became the first company to secure permission from the German financial regulator to provide crypto custody and proprietary trading services.

Coinbase's BaFin permission was part of the broader industry's pivot to Europe ahead of anticipated EU-wide regulations that are set to co-ordinate the bloc's approach to crypto. In recent months, Coinbase and Crypto.com secured registration in Italy, while competitor Binance snapped up registrations in France, Italy and Spain.

Regulators have been sharpening their scrutiny of crypto exchanges to increase consumer protections and ensure the venues are taking sufficient action to prevent money laundering, sanctions violations and other criminal activity on their platforms.

[ecommerce] becomes a critical part of our client needs.”

Hawkins’s reassignment is part of a broader restructuring in the past four months in which fewer than 100 staff have been made redundant. The cuts include about 20 senior managers, with new leaders being recruited, according

formats including gaming and live shopping in an effort to be less reliant on advertising. TikTok Shop is a feature that launched in the UK last year, where users can buy products from videos and live broadcasts on the app.

Additional reporting by Hannah Murphy in San Francisco

He has already launched a website, featuring cityscapes, nature photography, and wedding and beauty shots.

On his website, he said his love of photography blossomed after a friend showed him how to take a clear photo of the Big Dipper star constellation in the night sky.

ship and commitment over the last six years and for the significant contributions he and his team have made to our sustainable performance through active risk management.”

Bluhm has been chief risk officer of UBS since 2016, during which time the bank has avoided being entangled

Damian Vogel, who currently manages risk in the bank’s wealth management business.

“With his strong track record, in-depth risk expertise, and experience across all asset classes, Damian is ideally suited to lead our risk function into the future,” Hamers said.

One issue often flagged up by regulators is how crypto exchanges, which process more than $1tn a month in trades collectively, often have complex and opaque corporate structures.

Coinbase did not respond to a request for comment on the notice, and BaFin declined to provide further details.

Taiwan needs banking heft to support industrial push overseas

INSIDE BUSINESS
ASIA

Kathrin Hille

Hardly a day goes by without Taiwan’s tech industry being courted by foreign governments. As the west seeks to secure supply chains against disruptions and the growing power of China, the politically isolated country responsible for 90 per cent of advanced chip production has gained a seat at the table.

But back home, a big chunk of the economy dances to a different tune. Taiwan’s financial sector is still overbanked despite a 20-year effort at consolidation, with some 38 domestic banks. Clans and institutions controlled by the government call the shots.

That reality has been brought into sharp relief by the collapse of the proposed merger between IBF, a financial holding company, and Entie, a domestic bank owned by Longreach, a private equity fund that is based in Japan and Hong Kong. The deal valued Entie at NT$33.7bn ($1.08bn).

The failed merger was the canary in the coal mine, said Chris Cottorone, president of TriOrient, an Asia-based private investment group and co-chair of the private equity committee at the American Chamber of Commerce in Taiwan. “M&A activity — particularly involving foreign private equity — has been lagging compared with other markets around Asia. This indicates an unwillingness on the part of foreign institutional investors to enter.”

Longreach took that step with its 2007 acquisition of Entie but is regretting it. After two earlier attempts to negotiate an exit ran aground, a sale to IBF seemed in reach when a majority of board members and shareholders at both institutions approved the deal late last year. Then family-owned conglomerate Nice Group, an IBF minority shareholder which voted against the merger, filed a legal complaint to stop the deal. The regulator paused its review, noting the pending legal action and the fact that almost half the IBF board had voted against it. Last month, Taiwan’s Commercial Court ruled that the deal could go ahead. But the ruling came just one day before the year-long deadline for closing the deal expired.

> Clans and institutions controlled by the government call the shots despite a 20-year effort at consolidation

Mark Chiba, chair and partner of Longreach Group, said: “Longreach has a very significant amount of capital, including US pension plans and endowments who ask, ‘what is going on? We have been stuck in Taiwan for 15 years. In terms of economic effect, it’s expropriation’.”

One factor complicating the deal was that IBF is seen as close to the Kuomintang, Taiwan’s main opposition party, and that its largest shareholder is Want Want, a family-owned group with deep ties in China. When the IBF board voted on the proposed deal last year, representatives of government-owned financial institutions sided with Nice in opposing it, a move some investors interpret as a government attempt to stop Want Want from gaining more influence in the financial sector.

“Taiwan needs to systemically embed itself in the global economy, other than through TSMC,” Chiba said, referring to the world’s largest contract chipmaker. “Yet you have a banking and financial system that is still a conduit for domestic political interests and disputes. What kind of message does that send?”

It is not the first bank merger to run into hurdles. Taishin, one of Taiwan’s largest financial holding companies, tried for years to acquire state-owned Changhwa Bank but gave up after a merger once viewed as a done deal came under renewed scrutiny following a change in government.

“Political risk discourages bank owners from even trying for mergers,” said Patrick Chen, head of research at CLSA in Taipei. As banking moved online, branches would become less valuable to rivals. There is also little pressure for potential targets to agree a deal because the risk of bankruptcy is low.

In that situation, government shareholders concerned about job losses and family conglomerates that prefer retaining influence on a small institution over a diluted stake in a bigger bank are most content with the status quo.

It does Taiwan’s broader economic interests a disservice. In contrast to economies such as Japan, South Korea, Singapore and Hong Kong, it lacks a global or even regional bank that could accompany its industry in an internationalisation push.

“Global supply chain reshuffling is prompting many local firms to expand their manufacturing into new markets,” Cottorone said. If foreign institutional investors were not able to help Taiwan banks grow to play that role, “it may limit Taiwan firms’ ability to expand internationally”.

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COMPANIES & MARKETS

Financial services

PwC breakaway firm retains Russia ties

Former Cyprus partners to work for clients dropped by Big Four

MICHAEL O'DWYER
ACCOUNTANCY CORRESPONDENT

A group of PwC partners has launched a breakaway firm in Cyprus to take on work from Russia-linked clients that the Big Four accountants will no longer touch.

PwC has operated a "sanctioned anywhere, sanctioned everywhere" policy globally since shortly after Russia's full-scale invasion of Ukraine in February, going beyond what is legally required.

This had a particularly big effect on PwC Cyprus, given the extensive links between Russia and Cyprus, thinning the firm's roster of clients and prompting three partners to quit in June and launch Kiteserve, about half of whose clients have a Russian connection.

Managing partner Theo Parperis said his new firm observed EU, US and UK sanctions, but added: "The Big Four went well beyond the sanctions imposed by these countries . . . and, effectively, we're covering that space to a certain extent, but . . . we were very selective." He said it could have taken on "four times more work if we wanted".

He estimated that about 50 per cent of Kiteserve's clients had links to Russia but predicted this would reduce over time. The work related mostly to assets in the west rather than in Russia, Parperis added. "These clients . . . are serviced also by western banks, by western lawyers," said Parperis. "So why should we be singled out?"

Unlike PwC Cyprus, Kiteserve does not voluntarily observe sanctions imposed by countries such as Australia and Canada. It provides services to entities hit with EU sanctions when permitted under a derogation, though this accounted for only a "small percentage" of the firm's clientele, said Parperis, adding that the "majority" were not the subject of sanctions by the EU, US or UK.

The Kiteserve founders struck a deal with the Big Four group to buy themselves out of restrictions on hiring PwC Cyprus staff and the usual five-year ban on former partners selling audit, tax or compliance services.

The deal to waive the restrictions handed PwC Cyprus a gain in return for allowing the departing partners to work for any company they wished.

PwC and Kiteserve did not disclose the value of the deal to remove the non-compete restrictions. The sum was intended to offset the cost to PwC Cyprus of making normal retirement payouts to the departing partners, said one person with knowledge of the arrangement. PwC said the amounts were "in accordance with normal market practice, or contractual obligations" and "the net payment to the retiring partners is not material to PwC Cyprus or its partners".

Parperis said he and his co-founders were close to PwC's mandatory retirement age and the Ukraine war had accelerated plans to strike out alone.

Kiteserve operates from PwC offices in Nicosia and Limassol. PwC said the space was being sublet to Kiteserve on terms mirroring PwC's rental contract while it negotiates a transfer of the leases. Kiteserve hired about 20 of its roughly 30 staff from PwC.

Apart from the "arm's length" deals on separation and subletting "there are no agreements between PwC Cyprus and Kiteserve", PwC said.

Downturn. Costs focus

Axe starts to fall on US middle manager jobs

Reductions concentrating on professional roles stoke fears of 'white-collar recession'

TAYLOR NICOLE ROGERS — NEW YORK

A wave of job cuts in middle management has raised fears that the US is heading towards a "white-collar recession", according to economists and recruiters.

In previous downturns, blue-collar employees including construction workers and truck drivers have tended to be the first to lose their jobs, but this

Financials

Hertha Berlin football club in protest over Windhorst cash delays

OLAF STORBECK — FRANKFURT
CYNTHIA O'MURCHU AND ROBERT SMITH
LONDON

A Vienna-based private bank that provided confirmation of wire transfers supposedly made by German financier Lars Windhorst was reported to Austria's financial regulator after the money failed to turn up on time.

In July 2020, Windhorst agreed to pay €150mn to raise his stake in football club Hertha Berlin from 49.9 per cent to 66.6 per cent.

A senior banker at European American Investment Bank repeatedly told the Bundesliga club in October and November 2020 that an expected payment of €25mn from Windhorst's personal account was imminent, people familiar with the matter told the FT. But despite the bank's repeated assurances, only €5mn was paid at the end of October; the remaining €20mn was transferred in mid-December.

In late October 2020, the Euram banker informed the club that the payment "has now been entered into our systems after a delay" and would "certainly" arrive in Hertha's account in the following week, according to people familiar with the matter. When this did not happen, the banker informed the club in early November that the pay-

Hertha was so incensed that it reported the banker's conduct to the time US companies have been focusing headcount reductions on middle managers working in office jobs.

In recent weeks, a number of companies including Walmart, Ford, Gap, Zillow and Stanley Black & Decker have announced they plan to cut jobs at their head offices.

William Lee, economist at the Milken Institute, suggested that companies might have more people in middle manager roles than they required or could afford after rushing to hire as much professional talent as possible when the economy bounced back from the pandemic.

In the past two months, recruitment firm Challenger, Gray & Christmas, which specialises in helping mid-level managers who have been sacked find jobs, has recorded an uptick in work roles that have been done away with.

"Those big, big salaries catch people's eyes when they have to make those horrible decisions about who to let go," said Andy Challenger, senior vice-president.

Although job cuts have hovered near record lows for more than a year, some economists suspect that the cuts Challenger observed are the first sign of a "white-collar recession" where mid-ranking office workers have their jobs eliminated at higher rates than counterparts working in manufacturing, service, and transport.

"People are saying this will affect white-collar workers more than the past recessions because it's very much driven by rising interest rates and by declining stock price valuations," said Julia Pollak, chief economist at jobs site ZipRecruiter.

"Because in many blue-collar industries there are still labour shortages, there are a whole lot of industries that would just not be able to shed workers because they're already understaffed."

More than half of US chief executives said they were considering workforce reductions over the next six months in preparation for a potential recession, according to a KPMG report.

"I wouldn't at all be surprised if white-collar workers do end up being the first to be let go in a recession scenario," said Dave Gilbertson, a vice-president at HR software maker UKG.

"If you look at where the lay-offs have been already, it really hasn't driven to the blue-collar markets yet. That is because there's such a severe labour shortage in these blue-collar roles."

Companies in Silicon Valley and on Wall Street that employ large numbers of people in professional roles have rushed to implement job cuts.

Netflix has let go nearly 500 workers this year, most recently 30 members of its animation team in September.

Snap cut 20 per cent of its staff, about 1,300 workers, in August.

Elon Musk laid off thousands of Twitter employees last week after closing his buyout of the social media group. Before the cuts started, he said he planned to take aim at middle management. "There seem to be 10 people 'managing' for every one person coding," he wrote on the platform.

Meta was planning its first large-scale job cuts, The Wall Street Journal reported on Monday.

Denis Coleman, Goldman Sachs chief financial officer, said in July that the bank would "probably [be] reinstating our annual performance review of our employee base at the end of the year" after suspending the scheme before the pandemic.

There have also been widespread cuts for estate agents, mortgage brokers, and appraisers since rising interest rates in March resulted in home sales slowing to a crawl.

Job cuts for blue-collar workers and others on lower salaries, such as those in leisure and hospitality, have been less pronounced. Low-wage staff in shops, restaurants and hotels were the first to lose their jobs after the Covid crisis took hold, but now are in very short supply. The leisure and hospitality sector employs 1.1mn fewer workers compared with the level in February 2020.

Many chief executives had been considering thinning out management ranks even before persistent inflation raised recession fears and pushed them to cut costs.

The stereotype of unhelpful bureaucrats inspired what McKinsey senior partner Bill Schaninger called a "30-year assault" on middle managers. The pandemic accelerated it by demonstrating that leaders could quickly make strategic and operational shifts without the support of broader teams.

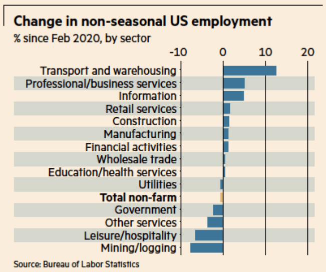
Gilbertson said: "There's a significant portion of the population who will have to delay the American dream because they can't find the role that they want."

Even if new managerial roles dry up, Gilbertson expects employers to continue hiring for blue-collar roles.

The laptop class might find these jobs more appealing than before the pandemic, he said, as they had recorded strong wage growth over the past two years. "As an economy, there should be plenty of jobs available. They just might not be the kinds of jobs that workers want."

Commuters at New York's Grand Central station. Many bosses were considering thinning out the ranks even before receiving a prompt from inflation woes
Timothy A. Clary/AFP/Getty Images

'There's a significant portion of the population who will have to delay the American dream'



financial regulator

ment had now been "irrevocably accepted" by the bank. One week later, the banker then blamed IT issues at its correspondent bank but stressed that he was able to "execute the transfer immediately" and offered to send a "money confirmation via screenshot".

Hertha was so incensed at the communications around the delays that it raised a complaint with Euram's top management and reported the conduct to Austria's FMA financial regulator. The club argued that the behaviour raised "serious questions" about "proper business conduct".

The flamboyant 45-year-old Windhorst made his name in the mid-1990s as a teenage entrepreneur. By the time he was 34, he had weathered the collapse of two companies, personal bankruptcy and a suspended jail sentence for "breach of trust". In 2017, Deloitte resigned as the auditor of Windhorst's now-defunct investment vehicle Sapinda Invest after saying it received letters that contained "deliberately false" information about a fund's financial position from a custodian bank. The custodian bank denied the allegations.

Windhorst, who also owns a German shipyard, an Italian lingerie brand and a shopping centre in Hannover, paid €374mn for a majority stake in Hertha between 2019 and 2021. Last month he announced that he wanted to terminate his involvement with Hertha, following revelations that he allegedly hired corporate spies in an undercover operation to force out the club's president.

A lawyer for Euram said Hertha's complaint to the banking regulator was "completely without merit" and said that the club "even apologised to our client Euram Bank" in writing for the "potential irritation".

Hertha and the FMA declined to comment. Windhorst declined to comment.

Automobiles

Fiat wins legal battle over €30mn tax break

JAVIER ESPINOZA — BRUSSELS

The EU's top court has ruled that Fiat Chrysler will not have to pay back €30mn in taxes to Luxembourg, dealing a blow to efforts to crack down on aggressive corporate tax planning.

The case dates back to 2015 when the European Commission ruled that Luxembourg had granted Fiat unfair "selective tax advantages". Competition commissioner Margrethe Vestager said in that decision: "Tax rulings that artificially reduce a company's tax burden are not in line with EU state aid rules. They are illegal."

In 2019, the general court agreed that the unpaid tax amounted to illegal state aid, but yesterday the European Court of Justice issued an opposing view and said the earlier decisions had been "erroneous". The judgment is final and there can be no appeal.

Vestager said in a tweet that the defeat was "a big loss for tax fairness". She later said the commission "will carefully study the judgment and its implications", adding: "Even if the commission's decision was annulled, the judgment gives important guidance on the application of EU state aid rules in the area of taxation."

The EU has struggled in its efforts to crack down on aggressive corporate tax planning. In 2020, judges quashed a European Commission order for Apple to pay back €14.3bn in taxes to Ireland. The commission also lost a tax case against Amazon. Both companies won challenges on paying back tax breaks at a lower court but the commission is appealing against the decisions. A final judgment is expected next year.

Separately, judges in Luxembourg struck down an EU order for Starbucks to pay €30mn in back taxes to the Netherlands. Brussels has not appealed against the ruling. In 2019, the general court struck down an EU ruling against a Belgian tax scheme worth €700mn.

Tax breaks granted to Ikea and Nike in the Netherlands and packaging company Huhtamaki's deal with Luxembourg are also under scrutiny.

Yesterday's ruling might make officials "more cautious" about tax investigations, said Assimakis Komninos, a partner at law firm White & Case.

"This was always a controversial area, where everybody knew from the start that proving illegal state aid would be challenging," he added.

Plans for international rules on minimum tax rates for multinationals have been under discussion for years but have yet to yield results. A senior European policymaker warned yesterday that if there was no agreement on making the world's largest companies pay fair taxes where they did business, the EU would resurrect talks to introduce a levy on digital companies. A number of member states have estimated that Brussels loses more than €35bn a year from corporate tax avoidance.

Personal goods

Puma chief lured to Adidas for CEO role

OLAF STORBECK — FRANKFURT

Adidas has hired Puma boss Bjørn Gulden to lead the second-largest sportswear maker from January after a torrid period for the group.

It comes after the brand issued three profit warnings in the past five months and has ended a lucrative tie-up with US rapper and fashion designer Kanye West.

The company first confirmed the talks with the former Norwegian professional footballer on Friday after a report by Manager Magazin, sending the shares up more than 20 per cent.

Gulden has been widely credited with resurrecting the Puma brand during his nine years at the helm as it struggled with dwindling sales and profits.

"Effective January 1, 2023, Bjørn Gulden is appointed as member of the Executive Board and CEO of Adidas AG," Adidas said, adding that departing chief executive Kasper Rørsted would leave the company this week. Finance chief Harm Ohlmeyer will become the interim chief executive until Gulden's arrival.

Shares in Adidas have lost 60 per cent over the past 12 months and had recently fallen to the lowest level in six years. The stock climbed 4.4 per cent yesterday.

"Bjørn Gulden brings almost 30 years of experience in the sporting goods and footwear industry," Adidas chair Thomas Rabe said, pointing to an earlier stint at the brand from 1992 to 1999 and his record at Puma. "He reinvigorated the brand and led the company to record result," said Rabe.

Bjørn Gulden has been nine years at the Puma helm, reviving the group

Although it is three times larger than Puma, Adidas has had to grapple with falling consumer demand in western countries owing to rising inflation, and a decision to cut ties with West over his anti-Semitic remarks, with the move expected to wipe out up to €250mn in net profit this year. It has also been sitting on a pile of unsold stock as a result of lower demand from shoppers.

Adidas and Puma, both based in Herzogenaurach in rural Frankonia north-east of Nuremberg, have long been pitted against each other. They started as a single shoe factory founded by brothers Adolf and Rudolf Dassler in 1924, a pioneer in the development of track shoes. After the second world war, the brothers fell out, with Adolf founding Adidas and Rudolf founding Puma.

COMPANIES & MARKETS

Apple trades acquiescence for access to factories and consumers in China

With most iPhones made in the country, cheap labour and a big market come with supply perils

PATRICK MCGEE — SAN FRANCISCO
RYAN MCMORROW — BEIJING

The most profitable tech company operating in China is not a homegrown internet giant such as Alibaba or Tencent, but California-based Apple.

Its China business grew so quickly during the pandemic that it now generates more profit than the combined income of the country's two biggest tech companies, according to an analysis by the Financial Times.

Apple's reliance on the country as its manufacturing base — with responsibility for 95 per cent of iPhone production, according to Counterpoint, a market intelligence group — leaves the business vulnerable to supply chain shocks.

Apple on Sunday said global shipments of its newest high-end iPhones would be delayed because of recent Covid-19 outbreaks at Chinese plants run by Foxconn, its main assembler. That came a week after it warned of "significant" headwinds to revenue growth because of the impact of a strong US dollar and supply constraints.

Yet when it comes to selling its devices to Chinese consumers, business has

Technology

Twitter says users have flocked to site since Musk took control

HANNAH MURPHY — SAN FRANCISCO

Twitter has said that user growth is "accelerating" and hit "all-time highs" during Elon Musk's first week at the helm, as it attempts to reassure advertisers after a growing number paused their spending on the social media platform since his takeover.

In an email to some advertisers, seen by the Financial Times, Twitter said growth in its monetisable active daily users (mDAUs), a homegrown metric that counts the number of logged-in users to whom the platform shows advertising, hit "all-time highs" last week, accelerating to 20 per cent, from 15 per cent in the second quarter.

"Twitter's largest market, the US, is growing even more quickly," the email said. Musk closed the deal to buy the platform for $44bn on October 27.

Since the second quarter ended on June 30, Twitter added more than 15mn mDAUs "crossing the quarter billion mark", the email said. Twitter reported 237.8mn mDAUs, up nearly 17 per cent year on year, in the second quarter, its boomed. Operating profits in greater China, which includes Hong Kong, Macau, Taiwan and mainland China, have shot up 104 per cent over 24 months to $31.2bn in the financial year to September. This eclipses the $15.2bn earned by Tencent and the $13.5bn from Alibaba in their most recent 12-month period, according to S&P Global Market Intelligence.

The record profits underscore the bargain Apple has struck with Beijing, allowing the iPhone maker to sail through President Xi Jinping's crackdown on homegrown tech groups while reaping the rewards from US sanctions, which are helping to damage Huawei, the national champion and its only real competitor in the country.

It is the result of corporate diplomacy led by Tim Cook, chief executive, whose regular visits to Beijing in pre-pandemic times, including meetings with Xi and Chinese tech executives, have helped avoid the fate of other western tech companies. The likes of Alphabet, Meta and Netflix have been locked out of the country.

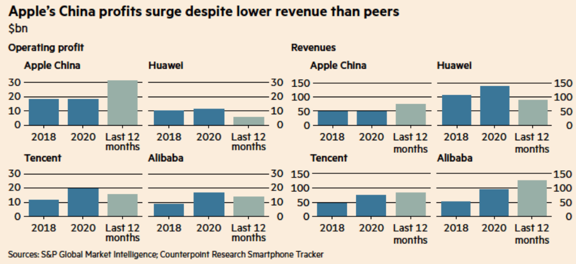
Critics argue Apple's reliance on Chinese manufacturing has made it acquiesce too readily to authoritarian demands. The bargain has helped ensure the group maintains unfettered access to the country's cost-effective labour force and factories, while becoming a leading luxury brand in the world's biggest consumer market.

"It's clear to Beijing that it's a two-way street. They get a lot of good back — a lot of employment out of it, and prestige," said Brian Merchant, author of *The One Device: The Secret History of the iPhone*. "The pay, the standards are better for companies contracting with Apple. It's helped boost wages towards the middle class."

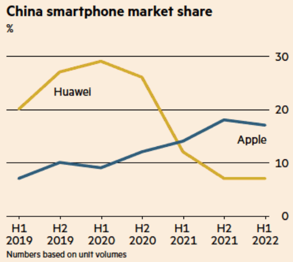
In 2019, Huawei had overtaken Apple in global smartphone sales, making it second to Samsung, and its fast growth was led by the Chinese market where Huawei and its Honor sub-brand had reached a combined market share of 42 per cent by March 2020, according to Counterpoint.

"It was like a 'national factory' — Chinese citizens wanted to show how much they love the country and they went out to buy Huawei smartphones," said Archie Zhang, analyst at Counterpoint.

Visits to Beijing by boss Tim Cook, including meetings with Xi Jinping, have helped Apple avoid the fate of businesses such as Alphabet, Netflix and Meta,which have been locked out
FT montage/Getty/AFP/Reuters



Sources: S&P Global Market Intelligence; Counterpoint Research Smartphone Tracker



Numbers based on unit volumes

Huawei took an early lead with 5G-capable smartphones in August 2019 and had increased Chinese sales of the next-generation devices to more than 7mn a month by June 2020, according to M Science, an analytics group.

Apple's first 5G-equipped handsets, the iPhone 12 series, hit the market only in October 2020. By then, the Trump administration had imposed tough sanctions against Huawei, alleging the company was a security threat.

The sanctions choked off access to technology including 5G chipsets, which proved crippling. Huawei's market share in China collapsed in the second half of 2020, and it was forced to spin off Honor to save it from sanctions. In 2021, Huawei's consumer business revenues halved to $38.3bn, according to S&P GMI.

As Huawei's share of the Chinese market plummeted from a high of 29 per cent in mid-2020 to 7 per cent two years later, Apple's share jumped from 9 per cent to 17 per cent, according to Counterpoint. Virtually all of the US group's sales were in the premium segment, where its dominance rose from 51 per cent to 72 per cent in three years.

"Today, Apple has much of the $600-and-above market to itself," Zhang said. "If you're going to buy a $1,000 smartphone, there's nothing else."

Apple has worked hard to satisfy the tastes of Chinese customers. When local competitors rolled out smartphones with bigger screens, more advanced cameras with lowlight photography and a dual-SIM card slot, it was Apple's Chinese employees who pushed the company to follow suit, said one person close to the China operations.

Cook has credited feedback from Chinese customers for "a tonne of features" including Night mode and a QR code reader. "Even 5G, in a lot of ways, was energised in China, because China is so far ahead in the coverage model for 5G," Cook told a 22-year-old Chinese student in a rare interview aimed at social media. "So we listen very carefully to our customers there."

Concerns have grown that its manufacturing is too concentrated in one region, with Apple warning that Foxconn's major iPhone facility was "operating at significantly reduced capacity" during the US group's most lucrative period of the year.

> The group's 'vision of a controlled ecosystem for the customer experience maps into the same vision that the party wants'

But for years, its efforts to stay on side with Beijing — pledging big investments and staying quiet on sensitive subjects — have paid off.

It acquiesced to moving storage of Chinese user data to a data centre owned by the Guizhou provincial government, and it has removed thousands of apps from the local App Store at the request of Beijing's censors.

The apps of dozens of news outlets have been removed, while encrypted messaging platforms such as WhatsApp, Signal and Telegram are banned. Apple, which declined to comment, has argued it must respect the laws of countries in which it operates.

"Apple's vision of a controlled, locked-down ecosystem for the customer experience maps into the same vision, the same control, that the Communist party wants to have in China," said Nathan Freitas, director at Guardian Project, a developer of mobile privacy tools.

"They see eye to eye on what, for a harmonious society, you need. It's just one is a phone ecosystem, the other is a nation."

Additional reporting by Nian Liu in Beijing

final earnings as a public company.

Musk on Monday said on the platform: "Twitter usage at an all-time high lol. I just hope the servers don't melt!"

It comes as Musk seeks to disprove concerns that users might have fled the platform following his takeover, despite pledges by several celebrities to move elsewhere and a rise in user numbers on the niche Twitter alternative Mastodon.

> Musk reassured advertisers last week the platform would not become a 'free-for-all hellscape'

Musk will need to persuade brands such as General Motors, Mondelez, United Airlines, Volkswagen and General Mills to resume advertising, as Twitter relies on ads for most of its revenue.

The companies have suspended marketing over concerns the self-described free-speech absolutist will weaken content moderation and get rid of permanent bans for violations. Twitter also said that brand advertisers "will now have an additional 'Official' label beneath their name upon Twitter Blue's relaunch this week [Wednesday]".

It is rolling out a new version of its premium subscription service Twitter Blue for $7.99, which will allow users to pay for the "Blue Tick" verifications that are at present available only to companies, politicians, celebrities and journalists.

The Verge technology news website first reported the Twitter user growth data. Twitter did not respond to a request for comment.

Musk's relationship with advertisers has become increasingly fraught in his first week in charge. He had said he would not change content policies until he had convened a moderation council with "widely diverse viewpoints", and told advertisers the platform would not become a "free-for-all hellscape".

Musk has posted a poll on Twitter asking if advertisers should support free speech or political "correctness".

Additional reporting by Claire Bushey in Chicago

Asset management

Carlyle blames volatility for slow fundraising

ANTOINE GARA — NEW YORK

Carlyle Group has suffered a sharp slowdown in fundraising and a decline in assets under management as the private equity group searches for a new chief executive after the abrupt departure of Kewsong Lee in August.

The $6bn in new investor commitments received in the third quarter was less than the $10bn it raised in the second quarter, New York and Washington-based Carlyle said yesterday.

The figure was far below the amounts gathered by US private equity rivals. Even though their fundraisings also slowed in the quarter, Blackstone raised $45bn, Apollo Global Management $34bn and KKR $13bn.

Carlyle's weaker fundraising led to a decline in the group's overall assets and capital available to invest. Assets under management fell 2 per cent to $369bn from the second quarter, while available capital for investment dropped almost 9 per cent to $74bn.

Chief financial officer Curtis Buser said the trend was a symptom of rising stock market volatility, which has caused many investors to become over-exposed to traditional private equity strategies, and a crowded market in which many groups were fundraising.

In the third quarter, Carlyle raised just $1.9bn for its newest flagship buyout fund, compared with $3.2bn in the previous quarter.

The data reported, along with Carlyle's third-quarter financial results, underscore the challenges it faces while it searches for a new chief executive.

> 'We are operating well and . . . have navigated all types of markets'
> William Conway, interim CEO

Lee resigned in early August after co-founders William Conway, David Rubenstein and Daniel D'Aniello decided they would not renew his contract at the end of 2022. The search for Lee's replacement continues as Carlyle considers candidates in a process led by an executive recruitment firm.

Conway, who was made interim chief executive in August, was asked by analysts whether the leadership upheaval had affected fundraising.

"[The] short answer would be no, in terms of the impact of the CEO change on fundraising," Conway said. "[I] don't see any long-term damage at all in this."

Carlyle reported strong performance from its portfolio of investments, including strong realised gains from asset sales. Distributable earnings, which count realised investment profits and are seen by analysts as a proxy for cash flows, were $644mn, or $1.42 per share, significantly beating estimates of analysts polled by Bloomberg.

Carlyle generated $217mn in fee-related earnings, a proxy for the money it earns from base management fees, which were in line with estimates.

The results were buoyed by continued gains in its private equity funds, notably $22bn in infrastructure and natural resources investments it manages. Those investments gained 8 per cent during the quarter, bolstered by rising commodity prices amid the war in Ukraine, and have gained 45 per cent in the year to date.

Carlyle's shares fell more than 6 per cent to $26.28 early yesterday, putting them near their lows for the year. "We are operating well and . . . have navigated all types of markets," added Conway.

See Lex

Financials

Adviser to royalty Rothschild dies aged 91

AKILA QUINIO, SARAH PROVAN AND OWEN WALKER — LONDON

British banker Sir Evelyn de Rothschild, who expanded the family bank and advised the late Queen Elizabeth II on financial matters, has died aged 91.

"Sir Evelyn died peacefully [on Monday] at his home in London after a short illness," the family said yesterday.

The businessman, who owned racehorses, dedicated 42 years of his career to his family's bank. He chaired Rothschilds Continuation Holdings, the overall group, from 1982 until 2003.

In 1968, he was appointed a director of de Rothschild Frères, the French bank, and eight years later became chair and chief executive of London-based NM Rothschild, the international investment bank, until 2003, when he oversaw the merger of the family's French and UK branches.

NM Rothschild, now the UK arm of Rothschild & Co, increased its total assets from £40mn to £4.6bn during his tenure, Yesterday's statement said. He expanded the number of offices worldwide from 15 to more than 50.

Rothschild handed over the reins of the family business to his cousin, David, in 2004, and four years ago David's son, Alexandre, became the seventh generation to lead the 200-year-old group.

Sir Evelyn was known for prioritising family control over expansion.

"The humanistic side of banking has gone out," he told the Financial Times in 2017. "You know the name of your doctor but not the name of your bank manager. There are certain things in life where you have to have a human relationship. Maybe we should go back to the days of semaphore. Think how lovely a time it was, with horse and cart."

After his retirement, he focused on philanthropy and EL Rothschild, the family investment company, with his wife Lynn Forester de Rothschild, who survives him. The pair counted Bill and Hillary Clinton among their friends and spent a night of their honeymoon at the White House.

Sir Evelyn de Rothschild dedicated 42 years to his family's bank

Rothschild, who was knighted in 1989 by the Queen for services to banking and finance, has held numerous jobs in the private and public sectors.

A former chair of The Economist for more than 17 years, he served as the late monarch's financial adviser and created the Eranda Rothschild Foundation to fund social welfare and medical research. He chaired St Mary's Hospital medical school from 1977 to 1988.

A chocolate lover, Rothschild set up a shortlived luxury confectionery brand in later life.

He told the FT at the time that his sweet tooth could be traced back to being evacuated to Long Island, New York, during the second world war and working in his first job on a soda fountain at a Westhampton drugstore.

"I was paid a dime a day and could eat as much chocolate as I liked," he recalled.

He was born in London in 1931 to Anthony de Rothschild and Yvonne Cahen d'Anvers of the Bischoffsheim banking family.

Hubs battle. Regulation

HK looks to seize crypto crown from Singapore with rules shift

Fixed income

Ankara issues $1.5bn in dollar bonds as EM sell-off eases

ADAM SAMSON — LONDON

Turkey has issued $1.5bn in new dollar bonds in a sign of how this year's vicious sell-off in emerging market debt has eased in recent weeks.

The country sold the five-year debt at a yield of 10 per cent, Turkey's ministry of treasury and finance said yesterday. It brings the total amount Turkey has raised on international markets this year to $9bn.

Turkey's debt sale highlights how some investors are snatching up debt of riskier emerging market issuers after a big fall in prices in 2022 increased the returns received for holding the bonds.

Hong Kong used a fintech conference last week to signal greater access
Peter Parks/AFP/Getty

Enhanced clarity for retail investors follows years of discouraging ambiguity

HUDSON LOCKETT, CHAN HO-HIM AND WILLIAM LANGLEY — HONG KONG
MERCEDES RUEHL — SINGAPORE

Hong Kong has initiated a contest to become Asia's crypto capital as investors and executives warn that rival Singapore may be squandering its head start with its pivot to stricter regulation.

The sudden shift in Hong Kong last week towards clear rules for retail investors to trade digital assets follows years of ambiguity from regulators. That made some companies reluctant to build up a greater presence in the city, and capitalise on demand from mainland China, where crypto trading is outlawed.

"This kind of regulation [in Hong Kong], this kind of positive development, I think we have been waiting for [it for] five years," said Lennix Lai, director of financial markets at OKX, a crypto exchange with offices in Hong Kong and Singapore.

"The regulatory status of Hong Kong is very important on a global scale . . . industry participants are seeking a proper licence everywhere in the world, but what they really want is a regulatory status in a major financial centre," Lai added.

That delay is reflected in the size of Hong Kong's market in comparison to Singapore. With about $74bn, Hong Kong trails Singapore in terms of the value of crypto assets received in the year to the end of June, with the latter's total coming in at about $100bn, according to Chainalysis, a consultancy.

The clash between the two financial hubs came to a head last week, when they held overlapping fintech conferences. At their event, Hong Kong officials announced a public consultation on how retail investors could have a suitable degree of access to digital assets under a new licensing regime. Rules at present limit crypto trades to institutional investors with a portfolio of at least HK$8mn (US$1mn).

"I think [Hong Kong] could still regain that [leading global crypto hub] status," said Sam Bankman-Fried, co-founder and chief executive of FTX. "It's absolutely not too late for that." FTX quit Hong Kong for the Bahamas last year owing to the city's strict Covid-19 restrictions and more regulatory clarity in the Caribbean.

In contrast, the Monetary Authority of Singapore proposed to tighten regulations for retail investors, after years of trying to attract some of the biggest names. The "crypto credit crunch" earlier this year revealed companies with ties to Singapore, such as hedge fund Three Arrows Capital.

Ravi Menon, managing director of the MAS, said in a speech at Singapore's fintech festival last week that the city-state did not want to be a hub for trading and speculating in the asset class. The central bank has proposed barring retail investors from borrowing to invest in cryptocurrencies and requiring crypto exchanges to check that would-be buyers understood the risks.

The contrasting approaches have already prompted some to change their plans. "With the recent policy announcements, we will be prioritising and accelerating our business plans in Hong Kong over Singapore. Previously we planned to move our headquarters to Singapore, but now that plan is on pause," said Adrian Wang, chief executive of Metalpha, a crypto asset management service provider.

Hong Kong's shift comes despite the ban levied on crypto trading in mainland China.

"Hong Kong seems to be positioning itself as a much more open jurisdiction for crypto trading as compared to Singapore, which is especially interesting in the context of how hard the mainland has cracked down," said Zennon Kapron, head of fintech consulting firm Kapronasia.

The city is at pains to emphasise it has a regulatory system that is separate from mainland China. "The key elements that international investors or people come to Hong Kong for is our international connectivity . . . together with our access to China," said Christopher Hui, Hong Kong's financial services secretary.

> 'We have been waiting for this kind of positive development for five years'

Singapore says it is still "embracing" crypto but focusing on institutional markets.

"We are embracing fully the underlying technologies of distributed ledgers and the potential that they have to transform financial markets," said Lawrence Wong, Singapore's deputy prime minister, as he opened its conference.

Analysts and industry executives said there would be greater clarity when the two cities published the final versions of their plans.

"Hong Kong's regime will be going into effect in March, and there's plenty of time for Singapore to issue similar guidelines in the first quarter of next year," said Vince Turcotte, Hong Kong-based director of digital assets at Eventus.

But Hong Kong's ambiguity on crypto may have already cost it as the hub of choice for companies and executives.

"I don't look at the Hong Kong announcement as anything more than the whole region waking up to 'this is real and here to stay'," said Brooks Entwistle, a senior vice-president at cryptocurrency company Ripple. "But Singapore has been open for the last several years, making all the right moves to remain the long-term regional or global headquarters of choice for fintech and crypto organisations."

Emerging market debt traded on international markets has recovered in price since late last month, sending the premium in borrowing costs that investors demand to hold these bonds above ultra low-risk assets such as US Treasuries — known as the "spread" — falling.

Spreads on emerging market sovereign debt on international markets reached 5.07 percentage points on Monday from 5.77 percentage points on October 21, according to JPMorgan's global diversified emerging market bond index. It is still up significantly from 3.59 percentage points at the start of 2022.

Turkey, which holds a junk credit rating, sold its new dollar bonds at a spread against US Treasuries of 5.61 percentage points, compared with 6.45 percentage points for its $2bn dollar bond in March. Almost three-quarters of the debt was purchased by investors outside Turkey, including those in the US, UK, Europe and the Middle East.

> Emerging market debt traded on international markets has recovered in price since late last month

Sentiment surrounding emerging markets has improved as investors bet the US Federal Reserve's cycle of rate increases, which has weighed heavily on the asset class, will end in the middle of next year. "Into next year, a peak in [the Fed's main interest rate] will eventually materialise, which can be a catalyst for relief rallies in EM," JPMorgan said in a note to clients.

Yet many analysts see a risk of further flare-ups causing another wave of outflows. JPMorgan warned that concerns over rising interest rates could morph into worries about a US recession, something that could place fresh pressure on EM assets. Investors have withdrawn $84bn from EM equity and debt funds this year, according to its data.

Turkey has also seen investors flee its domestic markets in recent years over concerns about the unorthodox policies pursued by president Recep Tayyip Erdoğan. The country's central bank, which is in effect controlled by Erdoğan, has sharply cut interest rates this year, despite inflation reaching 85.5 per cent.

The lira has fallen 28 per cent against the dollar since the end of 2021, with many analysts saying the decline would have been much more severe if not for measures aimed at steadying the currency ahead of elections in 2023.

Equities

Blibli stock climbs in $509mn listing amid Indonesian rush to go public

MERCEDES RUEHL — SINGAPORE
WILLIAM LANGLEY — HONG KONG

Shares of Indonesian ecommerce company Blibli rose on their debut after its parent company raised 8tn rupiah ($509mn), marking the country's second-biggest equity listing this year as groups rush to go public.

Global Digital Niaga, Blibli's owner, rose as much as 4.9 per cent yesterday before retreating to a 1.3 per cent gain in the afternoon. Shares were priced at 450 rupiah each, at the top end of the range.

Indonesia has had one of the most active exchanges this year, despite volatility in global markets and subdued valuations, especially for technology companies.

The Jakarta Composite index is up more than 7 per cent in the year to date, compared with a fall of 29 per cent for Hong Kong's Hang Seng index and a 20.1 per cent drop for the S&P 500 in the US. Part of that can be attributed to a government privatisation drive. The state-owned enterprises ministry has said it is planning 14 initial public offerings to help reform the $606bn sector. Pertamina Geothermal Energy, a unit of Pertamina, the government-run energy group, is expected to list before the end of the year.

However, technology groups that have listed are trading below their issue prices. GoTo, an Indonesian company that offers everything from ride-hailing to payment services, raised $1.1bn in April.

GoTo, in which Blibli invested in 2018, also jumped on its debut, but shares are now 42 per cent lower than the company's IPO price. Bukalapak, another tech company that listed last year, is down 67 per cent from its IPO price.

The ecommerce business marks the IPO on the Jakarta bourse yesterday

Blibli's free float is about 15 per cent, low compared with other technology companies that have listed on the Indonesia Stock Exchange.

The company is backed by Djarum Group, one of Indonesia's biggest conglomerates, which holds most of the company. Djarum Group's businesses include tobacco, online travel and supermarkets. It also controls Bank Central Asia, the lender.

Blibli said in its prospectus that it intends to use capital from the listing to pay down debt. The unprofitable online commerce group doubled its losses in the first half of 2022 to 2.48tn rupiah. It reported revenues of 6.77tn rupiah over the same period.

Founded in 2010, Blibli is led by Kusumo Martanto, its co-founder and chief executive. It says it has an "omnichannel" strategy encompassing a mixture of offline stores and online shopping services. It also owns the Tiket.com online travel agency.

Asset management

Tiger Global losses pile up after sharp tech valuations reset and China rout

ANTOINE GARA — NEW YORK

Losses at Tiger Global Management continued to mount in October after the New York-based hedge fund was buffeted by the whipsawing value of technology stocks in the US and a sell-off in China.

The firm's flagship hedge fund lost 5.4 per cent in October, taking losses this year to a new low of 54.7 per cent, said a person with knowledge of the figures.

A "crossover" fund that mixes publicly traded tech holdings without any hedges and Tiger's private equity investments fell 4 per cent in October, putting year-to-date losses at 44 per cent, another new low, according to a paper seen by the Financial Times.

At the mid-year point, Tiger's flagship fund had fallen about 50 per cent and the crossover fund nearly 36 per cent, the documents revealed.

The tech-heavy Nasdaq Composite gained 4 per cent last month. Tiger declined to comment.

The new losses underscore continued pressure on Tiger's sprawling portfolio of publicly traded and privately held tech companies as founder Chase Coleman and top executive Scott Shleifer work to better manage the firm's risks and adapt to volatile markets.

Tiger has halted new investment in China as it awaits further clarity on how President Xi Jinping will manage the world's second-largest economy, said a person familiar with the matter.

Tiger had been reducing its exposure to China ahead of the Communist party's meeting in October, in which Xi secured a third five-year term as president and consolidated power, the person added.

The Wall Street Journal reported this month on the halt in new Chinese equity investments.

Tiger Global managed about $17bn of hedge fund assets at the mid-year point in addition to more than $40bn of private equity investments in companies such as TikTok parent ByteDance, financial technology group Stripe and software provider Databricks.

The hedge fund's public holdings have plunged in value this year amid a sharp reset in public tech stock valuations. The firm's private equity holdings have also been marked down this year.

In its mid-year letter to investors, Tiger blamed its losses on the negative impact of high inflation and rising interest rates on tech stocks. It also said hedges on its public stock portfolio did not fully protect the fund against rising market volatility.

China, a source of some of Tiger's biggest investment coups, such as its investments in JD.com, has now become one of its foremost problems.

Schleifer, head of the Tiger's private equity business, helped lead an investment in the ecommerce company when it was a small private start-up, leading to one of the group's most profitable investments.

However, Tiger has been stung by a sharp sell-off in Chinese stocks. JD.com, Tiger's largest public holding as of mid-year, has fallen 35 per cent this year.

The FT has reported that the New York-based hedge fund had boosted exposure to some Chinese investments in its portfolio this year. It added jobs website Kanzhun and electric carmaker Li Auto to the 10 biggest holdings in its public equities portfolio at mid-year.

COMPANIES & MARKETS

The day in the markets

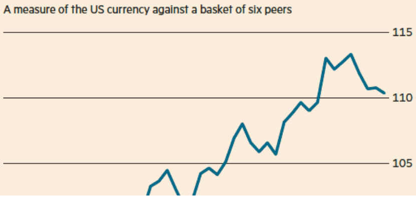
What you need to know

- US stocks climb during midterm elections and ahead of inflation data
- Yields on two- and 10-year US Treasuries fall ahead of data release
- Dollar index slips, wiping out earlier gains as peak is projected

US stocks climbed yesterday as the US midterm elections began and investors anticipated the release of inflation data tomorrow.

By midday in New York, Wall Street's benchmark S&P 500 was up 1.2 per cent and the tech-heavy Nasdaq Composite had risen 1.5 per cent. The moves came as

Dollar index has risen 15% since the start of the year
A measure of the US currency against a basket of six peers



New Delhi's policy moves India closer to East Asia model

Chetan Ahya

Markets Insight

If there were a constant in the ever-changing world of investing, it would be investors' continuing search for the next big thing

supply chains, with India emerging as a destination of choice.

These forces will integrate India's fast-growing workforce into the global econ-

a longer growth runway. India's median age today is 11 years younger than China's.

Productivity growth differentials

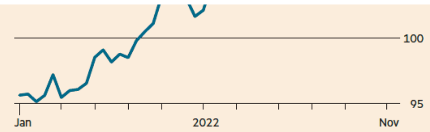
had risen 1.5 per cent. The moves came as US voters went to the polls.

The worst outcome for markets would be if a "few tightly fought races and legal challenges dragged on", delaying results, said Joshua Shapiro, chief US economist at MFR, a consultancy.

But investors were also looking ahead to the publication tomorrow of October's consumer price index, which could show the impact of successive interest rate rises from the Federal Reserve.

Higher readings would increase pressure on the Fed to raise borrowing costs by 0.75 percentage points for the fifth consecutive month when it next meets in December. Officials at the central bank last week suggested, however, that interest rates could soon rise by a smaller 0.5 percentage point, even as the Fed targeted a higher terminal rate in its fight against inflation.

The data are expected to show headline inflation increasing at an annual rate of 8 per cent, down from 8.2 per cent in September. Excluding more volatile food and energy prices, core inflation is expected to have risen 6.6 per cent year on year, the same rate as the month before.



Source: ICE Futures US

In government bond markets, the yield on the two-year US Treasury, which is particularly sensitive to interest rates, fell 0.02 percentage points to 4.69 per cent, while the yield on the 10-year also dropped 0.06 percentage points to 4.14 per cent. Prices fall when yields rise.

The dollar index, which measures the US currency against a basket of six peers, slipped 0.6 per cent, wiping out earlier gains. The index has risen 15 per cent since the start of the year, though some analysts have begun to question how much further the dollar can rise.

Foreign exchange analysts at JPMorgan said their bullish view on the dollar was premised on "two pillars" — a hawkish Fed and weaker economic growth outside the US.

Kit Juckes, a macro strategist at Société Générale, said his conviction that the dollar's rally was "on its last legs isn't being challenged by the current trendless market".

Elsewhere, Europe's Stoxx 600 added 0.8 per cent by the close, erasing earlier losses. London's FTSE 100 closed flat.

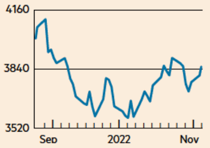
Markets update

	US	Eurozone	Japan	UK	China	Brazil
Stocks	**S&P 500**	**Eurofirst 300**	**Nikkei 225**	**FTSE100**	**Shanghai Comp**	**Bovespa**
Level	3853.81	1665.54	27872.11	7306.14	3064.49	116509.34
% change on day	1.23	0.70	1.25	0.08	-0.43	1.01
Currency	**$ index (DXY)**	**$ per €**	**Yen per $**	**$ per £**	**Rmb per $**	**Real per $**
Level	110.416	1.007	145.495	1.156	7.263	5.149
% change on day	0.269	0.700	-0.666	0.873	0.325	0.631
Govt. bonds	**10-year Treasury**	**10-year Bund**	**10-year JGB**	**10-year Gilt**	**10-year bond**	**10-year bond**
Yield	4.141	2.279	0.247	3.548	2.686	11.649
Basis point change on day	-6.810	-6.300	-0.630	-7.400	-1.200	4.700
World index, Commods	**FTSE All-World**	**Oil - Brent**	**Oil - WTI**	**Gold**	**Silver**	**Metals (LMEX)**
Level	392.11	97.26	90.82	1678.95	20.67	3689.10
% change on day	1.31	-0.67	-1.06	0.27	3.53	-1.56

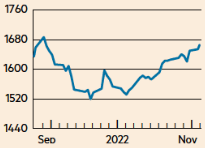
Yesterday's close apart from: Currencies = 16:00 GMT; S&P, Bovespa, All World, Oil = 17:00 GMT; Gold, Silver = London pm fix. Bond data supplied by Tullett Prebon.

Main equity markets

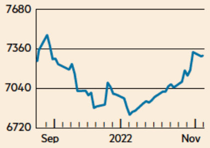
S&P 500 index



Eurofirst 300 index



FTSE 100 index



Biggest movers

%	US		Eurozone		UK	
Ups	Solaredge Technologies	17.07	Infineon Tech	6.06	B&m Eur Value Retail S.a.	4.40
	Welltower	9.73	Coloplast	5.93	Frasers	4.39
	Expeditors International	8.54	Grifols	5.90	Ocado	4.36
	Dupont De Nemours	8.66	Cnh Industrial	5.73	Fresnillo	4.26
	Newmont	8.01	Endesa	4.70	Endeavour Mining	4.24
Downs	Take-two Interactive Software	-9.75	Bayer	-4.53	Dcc	-8.23
	Constellation Energy	-5.37	Renault	-3.36	Persimmon	-5.22
	Medtronic	-4.51	Telecom Italia	-2.18	Harbour Energy	-4.47
	Nortonlifelock	-2.26	Tenaris	-2.03	Bp	-3.21
	Eqt	-2.22	Carrefour	-1.99	Admiral	-2.77

Prices taken at 17:00 GMT. Based on the constituents of the FTSE Eurofirst 300 Eurozone

All data provided by Morningstar unless otherwise noted.

Wall Street

A cut to its outlook weighed on **Take-Two Interactive**, the video game producer, which forecast net bookings of between $5.4bn and $5.5bn for its fiscal 2023 year, down from the $5.8bn-$5.9bn range stated in August.

The pared-back guidance reflected "fluctuations in foreign exchange rates, and a more cautious view of the current macroeconomic backdrop, particularly in mobile", said chief executive Strauss Zelnick.

The US-listed shares of electric vehicles group **Arrival** plummeted after it flagged up issues surrounding its funding.

Arrival said in July it was reorganising its business in response to a "challenging" environment that included "supply chain issues, an ongoing pandemic, geopolitical tensions and rising inflation".

Yesterday's update warned that the company did "not currently have cash on hand to fund operations for the coming 12 months".

Rival **Lordstown** rallied on news that Taiwan tech group Foxconn was investing up to $170mn in the EV manufacturer through purchasing preferred stock and 18.3 per cent of common shares.

Ride-hailing group **Lyft** fell sharply after its number of active riders, at 20.3mn, trailed Wall Street's estimate by 4 per cent. *Ray Douglas*

Europe

Denmark's **Pandora** rose sharply off the back of third-quarter results that were "more resilient than expected", said Citi.

The world's largest jewellery maker confirmed its full-year guidance after posting sales and operating profit around 2 per cent above consensus — "a respectable outcome given signs of weakness within the broader consumer space", said the broker.

Better than expected results lifted another Danish company, **FLSmidth**, an engineering group that works within the cement and mineral industries.

Third-quarter earnings of DKr334mn ($45mn) came in 6 per cent ahead of expectations, boosted by a "healthy backlog and fundamentally positive market conditions" in its mining business, said chief executive Mikko Keto.

RBC Europe described the results as "decent . . . overall", highlighting cash flows from operations that had turned positive during the quarter.

An upgrade to its full-year guidance sent **Qiagen** higher, with the diagnostics company raising its sales target to $2.25bn, up from earlier goal of "at least $2.2bn".

What comforted Berenberg were signs the German group was also relying more on non-Covid-19 sales, which grew at an "impressive" 18 per cent in the third quarter, said analysts. *Ray Douglas*

London

A vote of confidence by a boardroom member lifted **Aston Martin**, which revealed in regulatory filings that executive chair Lawrence Stroll had raised his stake in the luxury carmaker to 23.29 per cent.

The auto group is down about 70 per cent this year, having been hit by supply chain disruptions that have hindered its turnround plans.

Housebuilder **Persimmon** sank towards the bottom of the FTSE 100 index after group chief executive Dean Finch warned that rising interest rates and broader economic uncertainty were "clearly impacting mortgage lending and customer behaviour".

Peers **Vistry**, **Taylor Wimpey**, **Bellway** and **Berkeley** all retreated following the sombre update.

Joining Persimmon at the lower end of the blue-chip benchmark was support services group **DCC**, which reported adjusted operating profit of £221mn for the half year, falling short of the £231mn RBC Europe had estimated.

The broker said DCC's "exposure to a squeezed consumer warrants some caution".

Coca-Cola HBC climbed after raising its full-year guidance, with the soft drinks bottler seeing "limited evidence of changing consumer behaviour" within its sector. *Ray Douglas*

search for the next big thing.

Over the past 20 years, and from a macro standpoint, that story has been about China.

The unprecedented nature of its economic success led to a fundamental reassessment of how we think about the global economy. Over the next decade, while the US and China will remain just as important to global investors, we think the ascendancy of India's economy will mean it features more prominently on their radars.

The key lies in the size and scale of India's opportunity set.

We forecast that India will be the third-largest economy by 2027, with its GDP more than doubling from the current $3.4tn to $8.5tn over the next 10 years. Incrementally, India will add more than $400bn to its GDP every year, a scale that is only surpassed by the US and China. My colleague Ridham Desai projects that India's market capitalisation will rise from $3.4tn to $11tn by 2032 the third largest globally.

These projections are underpinned by a confluence of favourable domestic and global forces. The most important change domestically is the shift in policy approach away from redistribution and towards boosting investment and job creation.

This was evident in the introduction of the goods and services tax which creates a unified domestic market; corporate tax cuts; and production-linked schemes to incentivise investment from within and outside India's borders. Overlaying this is the emergence of a multipolar world where companies are diversifying their growing workforce into the global economy. As it is, India has a high market share in services exports, and its lead has increased since the onset of the pandemic as corporates became more accustomed to remote work.

India is making efforts to attract investment to boost manufacturing exports. These new factories and offices will draw more employment into the formal sector and raise productivity growth, creating a virtuous cycle of sustained growth. Indeed, the shift in India's policy approach is moving it closer to the East Asian model of leveraging exports, raising saving, and recycling it for investment.

> The economy is projected to be the third-largest by 2027, with GDP more than doubling over 10 years

Against this backdrop, we think that India is entering a phase where incomes will be compounding at a fast rate on a high base. For context, India took 31 years since 1991 to raise its GDP by $3tn. According to our projections, it will take just another seven years for GDP to grow by an additional $3tn.

To contextualise how important this development would be for global investors, the experience of China provides a useful template. India's GDP today is where China's was in 2007 — a 15-year gap.

But from an outlook perspective, India's working-age population is still growing, which suggests it will have Productivity growth differentials should also swing in India's favour. Taken together, we think this means that India's real GDP growth will average 6.5 per cent over the coming decade while China's will average 3.6 per cent.

China's industrialisation drive, which has propelled much of its growth over the past 30 years, has been enabled by a buildout of hard infrastructure such as roads and railways. India is playing catch-up and is making efforts to raise the public expenditure on infrastructure.

Digital infrastructure is as important as the physical kind, and this is where India is leading and taking a unique developmental approach.

Unlike other economies where private networks have taken root, India has led in building public digital infrastructure.

This is based on its unique digital identification system, Aadhaar. Further layers are being built, which will leverage this digital infrastructure to match consumers and businesses better, facilitate transactions, and ease the cost of doing business. For instance, the open network for digital commerce set up by the government facilitates ecommerce transactions across a network of buyers and sellers.

We estimate that India is set to drive a fifth of global growth in the coming decade. We think this offers a compelling opportunity for multinationals and global investors in a world starved of growth.

Chetan Ahya is chief Asia economist at Morgan Stanley

MARKET DATA

WORLD MARKETS AT A GLANCE

FT.COM/MARKETSDATA

Change during previous day's trading (%)

S&P 500	Nasdaq Composite	Dow Jones Ind	FTSE 100	FTSE Eurofirst 300	Nikkei	Hang Seng	FTSE All World $	$ per €	$ per £	¥ per $	£ per €	Oil Brent $ Sep	Gold $
1.23%	1.48%	1.59%	0.08%	0.70%	1.25%	-0.23%	1.31%	0.700%	0.873%	-0.666%	-0.115%	-0.35%	0.27%

Stock Market movements over last 30 days, with the FTSE All-World in the same currency as a comparison

AMERICAS

Oct 09 - - — Index — All World
S&P 500 New York

Oct 09 - Nov 08 — Index — All World
S&P/TSX COMP Toronto

EUROPE

Oct 09 - Nov 08 — Index — All World
FTSE 100 London

Oct 09 - Nov 08 — Index — All World
Xetra Dax Frankfurt

ASIA

Oct 09 - Nov 08 — Index — All World
Nikkei 225 Tokyo

Oct 09 - Nov 08 — Index — All World
Kospi Seoul

3,612.39 → 3,853.81 — Day 1.23% Month -8.96% Year -13.16%
18,583.13 → 19,559.99 — Day 0.86% Month -2.02% Year -3.83%
6,959.31 → 7,306.14 — Day 0.08% Month -3.20% Year 5.86%
12,272.94 → 13,688.75 — Day 1.15% Month 4.59% Year NaN%
27,311.30 → 27,872.11 — Day 1.25% Month -3.65% Year -8.61%
2,232.84 — Day 1.15% Month -3.76% Year -23.61%

Nasdaq Composite New York — 10,542.10 → 10,720.57 — Day 1.48% Month -15.73% Year -28.83%
IPC Mexico City — 46,046.58 → 50,724.53 — Day 0.20% Month 5.01% Year -0.81%
FTSE Eurofirst 300 Europe — 1,548.09 → 1,665.54 — Day 0.70% Month -3.27% Year -4.77%
Ibex 35 Madrid — 7,413.50 → 7,998.90 — Day 0.46% Month -4.09% Year -8.71%
Hang Seng Hong Kong — 17,216.66 → 16,557.31 — Day -0.23% Month -16.31% Year -33.60%
FTSE Straits Times Singapore — 3,145.81 → 3,145.83 — Day 0.14% Month -2.97% Year 2.56%

Dow Jones Industrial New York — 29,202.88 → 33,348.76 — Day 1.59% Month -1.15% Year -3.66%
Bovespa São Paulo — 117,560.8 → 115,712.95 — Day 1.01% Month 4.60% Year 7.15%
CAC 40 Paris — 5,840.55 → 6,441.50 — Day 0.39% Month -0.84% Year -1.96%
FTSE MIB Milan — 20,912.96 → 23,694.17 — Day 0.86% Month 5.22% Year -7.77%
Shanghai Composite Shanghai — 2,974.15 → 3,064.49 — Day -0.43% Month -5.94% Year -15.20%
BSE Sensex Mumbai — 58,222.10 → 61,185.15 — Day 0.39% Month 2.57% Year 3.66%

Country	Index	Latest	Previous
Argentina	Merval	147555.40	148193.59
Australia	All Ordinaries	7150.10	7129.20
	S&P/ASX 200	6958.90	6933.70
	S&P/ASX 200 Res	5609.50	5632.70
Austria	ATX	3158.71	3139.68
Belgium	BEL 20	3630.72	3616.18
	BEL Mid	9378.65	9334.94
Brazil	IBovespa	116509.34	115342.40
Canada	S&P/TSX 60	1192.83	1183.01
	S&P/TSX Comp	19714.02	19545.91
	S&P/TSX Div Met & Min	1367.42	1382.88
Chile	S&P/CLX IGPA Gen	29160.35	28507.31
China	FTSE A200	9983.25	10054.46
	FTSE B35	9000.71	8988.96
	Shanghai A	3211.87	3225.78
	Shanghai B	290.15	291.99
	Shanghai Comp	3064.49	3077.82
	Shenzhen A	2113.12	2121.55
	Shenzhen B	1114.72	1115.58
Colombia	COLCAP	1261.61	1260.21
Croatia	CROBEX	2013.05	2011.29
Hong Kong	Hang Seng	16557.31	16595.91
	HS China Enterprise	5602.61	5636.21
	HSCC Red Chip	3161.93	3173.76
Hungary	Bux	43840.56	43812.28
India	BSE Sensex	61185.15	60950.36
	Nifty 500	15615.15	15530.85
Indonesia	Jakarta Comp	7050.13	7102.40
Ireland	ISEQ Overall	7114.46	7115.05
Israel	Tel Aviv 125	1920.34	1939.45
Malaysia	FTSE Bursa KLCI	1441.35	1442.12
Mexico	IPC	50861.63	50760.17
Morocco	MASI	10768.18	10740.88
Netherlands	AEX	683.96	676.06
	AEX All Share	927.24	918.07
New Zealand	NZX 50	11151.89	11290.34
Nigeria	SE All Share	44269.43	44269.18
Norway	Oslo All Share	1017.37	1006.88
Pakistan	KSE 100	42265.36	42047.36
	FTSE/JSE Top 40	62408.05	62812.67
South Korea	Kospi	2399.04	2371.79
	Kospi 200	312.01	307.87
Spain	IBEX 35	7998.90	7962.30
Sri Lanka	CSE All Share	8267.77	8491.80
Sweden	OMX Stockholm 30	2035.99	2008.62
	OMX Stockholm AS	778.41	766.90
Switzerland	SMI Index	10827.04	10750.39
	Nasdaq 100	11161.97	10977.00
	Nasdaq Cmp	10720.57	10564.52
	NYSE Comp	14971.35	14808.63
	S&P 500	3853.81	3806.80
	Wilshire 5000	37659.39	37959.37
Venezuela	IBC	9129.94	9068.13
Vietnam	VNI	981.65	975.19
	FTSEurofirst 80 (Eur)	5075.38	5027.96
	MSCI ACWI Fr ($)	586.93	580.60
	MSCI All World ($)	2533.63	2507.22
	MSCI Europe (Eur)	1689.48	1686.71
	MSCI Pacific ($)	2415.34	2377.50
	S&P Euro (Eur)	1680.94	1665.97
	S&P Europe 350 (Eur)	1706.79	1694.72
	S&P Global 1200 ($)	2830.66	2794.12
	Stoxx 50 (Eur)	3605.83	3596.17

(c) Closed. (u) Unavaliable. † Correction. ♥ Subject to official recalculation. For more index coverage please see www.ft.com/worldindices. A fuller version of this table is available on the ft.com research data archive.

STOCK MARKET: BIGGEST MOVERS

AMERICA

ACTIVE STOCKS	stock traded m's	close price	Day's change
Tesla	127.6	194.25	-2.83
Apple	51.5	140.89	1.97
Nvidia	44.8	147.56	4.55
Amazon.com	33.3	91.10	0.57
Advanced Micro Devices	25.5	64.47	1.39
Microsoft	24.1	231.03	3.16
Take-two Interactive Software	11.3	97.83	-10.57
Alphabet	10.5	89.62	0.97
Alphabet	10.3	89.58	1.09
Amgen	10.2	295.02	18.00

BIGGEST MOVERS	Close price	Day's change	Day's chng%
Ups			
Welltower	67.48	6.02	9.80
Expeditors Int Of Washington	104.21	8.48	8.86
Dupont De Nemours	67.01	5.27	8.54
Newmont	44.62	3.30	7.97
Albemarle	307.35	20.86	7.28
Downs			
Take-two Interactive Software	97.83	-10.57	-9.75
Constellation Energy	88.48	-5.02	-5.37
Medtronic	81.69	-3.86	-4.51
Nortonlifelock	21.66	-0.50	-2.26
Eqt	43.20	-0.98	-2.22

Based on the constituents of the S&P500

LONDON

ACTIVE STOCKS	stock traded m's	close price	Day's change
Shell	253.1	2438.00	-63.00
Glencore	198.5	524.70	-7.30
Bp	195.9	485.70	-16.10
Diageo	160.3	3634.00	-11.00
Astrazeneca	138.3	10660.00	14.00
Rio Tinto	94.5	5111.00	67.00
Anglo American	89.4	3064.00	86.00
Unilever	81.7	4056.50	24.50
Gsk	72.5	1387.00	9.60
Experian	71.5	2770.00	77.00

BIGGEST MOVERS	Close price	Day's change	Day's chng%
Ups			
Ferrexpo	124.10	9.50	8.29
Elementis	103.60	7.10	7.36
Wizz Air Holdings	2120.00	136.00	6.85
Int Distributions Services	229.30	13.00	6.01
Imi	1387.00	67.00	5.08
Downs			
Hilton Food	538.00	-96.00	-15.14
Dcc	4537.00	-407.00	-8.23
Persimmon	1254.00	-69.00	-5.22
W.a.g Payment Solutions	77.80	-3.70	-4.54
Harbour Energy	389.00	-18.20	-4.47

Based on the constituents of the FTSE 350 index

EURO MARKETS

ACTIVE STOCKS	stock traded m's	close price	Day's change
Nestle N	305.4	108.84	0.34
Inditex	304.3	23.93	0.33
Asml Holding	278.9	497.50	20.70
Novartis N	272.8	81.54	0.25
Roche Gs	244.9	326.98	0.15
Intesa Sanpaolo	215.3	2.15	0.02
Eni	190.8	14.21	-0.05
Bayer Ag Na O.n.	189.8	51.82	-2.46
Novo Nordisk B A/s	186.2	114.36	-0.24
Santander	179.1	2.65	-0.02

BIGGEST MOVERS	Close price	Day's change	Day's chng%
Ups			
Sartorius Ag Vzo O.n.	363.10	22.10	6.48
Infineon Tech.ag Na O.n.	27.80	1.48	5.60
Sartorius Sted Bio	326.10	16.30	5.26
Vestas Wind Systems A/s	22.61	0.94	4.34
Asml Holding	497.50	20.70	4.34
Downs			
Bayer Ag Na O.n.	51.82	-2.46	-4.53
Roche I	394.55	-7.26	-1.81
Totalenergies	57.33	-0.83	-1.43
Airbus	112.78	-1.20	-1.05
Prosus	50.33	-0.47	-0.93

Based on the constituents of the FTSEurofirst 300 Eurozone index

TOKYO

ACTIVE STOCKS	stock traded m's	close price	Day's change
Softbank .	2333.7	6929.00	328.00
Mitsubishi	719.2	4331.00	-72.00
Tokyo Electron	675.0	40690.00	1300.00
Sony	648.2	11200.00	355.00
Kawasaki Kisen Kaisha,	600.4	2440.00	108.00
Fast Retailing Co.,	499.1	83500.00	-340.00
Nintendo Co.,	469.3	6225.00	104.00
Nippon Yusen Kabushiki Kaisha	369.9	2646.50	42.50
Toyota Motor	369.0	2003.00	10.00
Mitsui O.s.k.lines,	313.3	3020.00	72.00

BIGGEST MOVERS	Close price	Day's change	Day's chng%
Ups			
Yamaha Motor Co.,	3565.00	405.00	12.82
Mitsui Chemicals,.	3065.00	286.00	10.29
Hitachi Zosen	950.00	79.00	9.07
Tokai Carbon Co.,	1065.00	61.00	6.08
Dai-ichi Life Holdings	2460.00	129.00	5.53
Downs			
Ntt Data	1970.00	-117.00	-5.61
Orix	2100.00	-63.00	-2.91
Konami	6640.00	-130.00	-1.92
Mitsubishi	4331.00	-72.00	-1.64
Isetan Mitsukoshi Holdings	1292.00	-21.00	-1.60

Based on the constituents of the Nikkei 225 index

UK MARKET WINNERS AND LOSERS

FTSE 100	Nov 08 price(p)	%Chg week	%Chg ytd
Winners			
Frasers	737.00	11.9	-5.3
Anglo American	3064.00	10.8	1.8
B&m Eur Value Retail S.a.	372.70	10.3	-
Fresnillo	807.00	10.2	-8.5
Sainsbury (j)	219.20	9.8	-
Next	5388.00	8.6	-
Rolls-royce Holdings	88.44	8.5	-
Prudential	911.20	8.0	-
Rio Tinto	5111.00	7.9	4.4
Jd Sports Fashion	107.90	7.7	-
Ocado	703.60	7.5	-
Endeavour Mining	1648.00	6.9	1.9
Losers			
Bt	117.45	-8.9	-30.3
Rs	882.00	-8.2	-
Dcc	4537.00	-7.4	-25.1
Persimmon	1254.00	-5.1	-
Admiral	1929.50	-5.0	-
Bae Systems	786.80	-4.1	42.6
Gsk	1387.00	-4.1	-
Convatec	211.20	-3.4	10.9
British American Tobacco	3354.00	-3.2	23.2
Pearson	948.60	-1.4	56.5
Segro	784.20	-1.3	-
Centrica	76.94	-1.2	8.0

FTSE 250	Nov 08 price(p)	%Chg week	%Chg ytd
Winners			
Aston Martin Lagonda Global Holdings	140.65	33.1	-
Ferrexpo	124.10	27.2	-
Iwg	166.85	26.5	-
Wizz Air Holdings	2120.00	22.2	-49.6
Morgan Advanced Materials	291.50	17.1	-
Hammerson	22.50	15.3	-
Genuit	292.00	13.2	-
Ip	70.75	12.7	-
Genus	2950.00	12.7	-
Watches Of Switzerland	915.00	12.4	-
Molten Ventures	386.80	11.5	-
Lancashire Holdings	571.00	11.3	9.3
Losers			
Hilton Food	538.00	-13.5	-
Trainline	307.60	-10.8	11.0
Morgan Sindall	1462.00	-7.4	-41.5
Bbgi Global Infrastructure S.a.	151.40	-6.5	-
Videndum	1206.00	-5.8	-
Direct Line Insurance	193.20	-5.3	-
Bellevue Healthcare Trust	158.00	-5.3	-
W.a.g Payment Solutions	77.80	-4.9	-13.2
Allianz Technology Trust	218.00	-4.8	-
Vietnam Enterprise Investments	536.00	-4.6	-
Vinacapital Vietnam Opportunity Fund Ld	408.00	-4.6	-
Home Reit	83.80	-4.2	-

FTSE SmallCap	Nov 08 price(p)	%Chg week	%Chg ytd
Winners			
Pod Point Holdings	71.75	42.9	-
Metro Bank	87.10	19.6	-6.8
Reach	110.60	15.1	-
Up Global Sourcing Holdings	139.00	14.9	-
Esken	6.24	13.5	-
Dfs Furniture	139.60	11.5	-
Riverstone Energy	702.00	11.4	48.3
Foxtons	33.25	10.8	-
Tt Electronics	145.00	10.5	-
Severfield	55.00	10.0	-
Xp Power	1986.00	9.6	-
Headlam	273.00	9.2	-
Losers			
Seraphim Space Investment Trust	43.40	-14.7	-
Trustpilot	101.40	-9.4	-
Dignity	445.00	-7.0	-
Oxford Biomedica	314.00	-6.5	-
Senior	118.60	-6.5	-
Ricardo	415.00	-5.7	-8.6
Taylor Maritime Investments	95.60	-5.3	-2.5
Starwood Eur Real Estate Finance	87.20	-5.3	-5.2
Abrdn Eur Logistics ome	77.00	-5.3	-
Regional Reit	63.20	-5.2	-33.0
Baillie Gifford Us Growth Trust	159.00	-5.1	-
Porvair	525.00	-5.1	-

Industry Sectors	Nov 08 price(p)	%Chg week	%Chg ytd
Winners			
Industrial Transportation	3568.95	11.7	-
Personal Goods	31796.89	8.8	-
Electronic & Electrical Equip.	9023.71	5.2	-
Oil & Gas Producers	8479.85	5.1	48.2
Industrial Metals	7217.42	4.9	13.6
Travel & Leisure	6443.19	4.9	-
Industrial Engineering	14471.10	4.0	-
General Industrials	6088.65	2.2	-
Aerospace & Defense	4793.36	1.9	14.2
Pharmaceuticals & Biotech.	19898.07	1.8	6.0
Media	9068.49	1.6	-7.1
Mining	10184.67	0.0	-48.3
Losers			
Automobiles & Parts	1404.42	-15.4	-
Real Estate & Investment Servic	2103.72	-15.2	-
Real Estate Investment Trusts	2263.78	-14.0	-
Electricity	9670.11	-13.2	-4.1
Household Goods	9670.36	-9.4	-
Gas Water & Multiutilities index	5468.40	-8.9	-8.2
Banks	3061.81	-8.7	0.6
Mobile Telecommunications	2533.90	-5.8	-
Life Insurance	6232.05	-5.8	-
Software & Computer Services	1788.62	-5.4	-
Chemicals	11673.25	-4.8	-
Nonlife Insurance	3075.33	-4.4	-6.6

Based on last week's performance. †Price at suspension.

CURRENCIES

Nov 8	Currency	DOLLAR Closing Mid	DOLLAR Day's Change	EURO Closing Mid	EURO Day's Change	POUND Closing Mid	POUND Day's Change
Argentina	Argentine Peso	159.7134	0.3715	160.7761	1.4421	184.6846	2.0305
Australia	Australian Dollar	1.5308	-0.0144	1.5410	-0.0042	1.7702	-0.0012
Bahrain	Bahrainin Dinar	0.3770	-	0.3795	0.0025	0.4359	0.0038
Bolivia	Bolivian Boliviano	6.9100	-	6.9560	0.0463	7.9904	0.0694
Brazil	Brazilian Real	5.1486	0.0323	5.1829	0.0668	5.9536	0.0888
Canada	Canadian Dollar	1.3423	-0.0069	1.3512	0.0021	1.5521	0.0056
Chile	Chilean Peso	898.2500	-19.6000	904.2270	-13.5771	1038.6916	-13.4423
China	Chinese Yuan	7.2628	0.0235	7.3111	0.0722	8.3983	0.0999
Colombia	Colombian Peso	4993.0500	-115.9500	5026.2749	-82.4699	5773.7154	-82.7451
Costa Rica	Costa Rican Colon	618.3550	-5.3450	622.4695	-1.1993	715.0349	0.0859
Czech Republic	Czech Koruna	24.1246	-0.1992	24.2851	-0.0375	27.8964	0.0140
Denmark	Danish Krone	7.3894	-0.0497	7.4386	-0.0002	8.5447	0.0173
Egypt	Egyptian Pound	24.3454	0.0494	24.5074	0.2126	28.1518	0.3012
Hong Kong	Hong Kong Dollar	7.8498	0.0001	7.9021	0.0527	9.0772	0.0790
Hungary	Hungarian Forint	399.2947	-1.0253	401.9516	1.6516	461.7245	2.8365
India	Indian Rupee	81.9325	-	82.4777	0.5493	94.7427	0.8232
Indonesia	Indonesian Rupiah	15697.5000	-10.0000	15801.9572	95.2332	18151.8182	146.2581
Israel	Israeli Shekel	3.5347	-0.0089	3.5582	0.0148	4.0874	0.0254
Japan	Japanese Yen	145.4950	-0.9750	146.4631	0.0004	168.2432	0.3442
..One Month		145.4945	-0.9760	146.4629	0.0001	168.2427	0.3433
..Three Month		145.4932	-0.9786	146.4624	-0.0010	168.2416	0.3411
..One Year		145.4874	-0.9903	146.4591	-0.0076	168.2427	0.3363
Kenya	Kenyan Shilling	121.7000	0.0500	122.5098	0.8659	140.7278	1.2801
Kuwait	Kuwaiti Dinar	0.3090	-0.0006	0.3110	0.0015	0.3573	0.0024
Malaysia	Malaysian Ringgit	4.7365	-0.0030	4.7680	0.0288	5.4771	0.0442
Mexico	Mexican Peso	19.4660	0.0155	19.5955	0.1460	22.5095	0.2134
New Zealand	New Zealand Dollar	1.6713	-0.0159	1.6824	-0.0047	1.9326	-0.0015
Nigeria	Nigerian Naira	442.5000	-0.2500	445.4444	2.7165	511.6849	4.1595
Norway	Norwegian Krone	10.2015	-0.0408	10.2693	0.0276	11.7964	0.0557
Pakistan	Pakistani Rupee	221.5000	-	222.9739	1.4849	256.1316	2.2255
Peru	Peruvian Nuevo Sol	3.9253	-0.0212	3.9514	0.0052	4.5390	0.0152
Philippines	Philippine Peso	58.2700	-0.3150	58.6577	0.0757	67.3805	0.2244
Poland	Polish Zloty	4.6523	-0.0244	4.6833	0.0068	5.3797	0.0188
Romania	Romanian Leu	4.8676	-0.0208	4.8999	0.0119	5.6286	0.0251
Russia	Russian Ruble	61.0000	-0.2500	61.4059	0.1590	70.5374	0.3263
Saudi Arabia	Saudi Riyal	3.7594	0.0016	3.7844	0.0269	4.3472	0.0397
Singapore	Singapore Dollar	1.3983	-0.0045	1.4076	0.0049	1.6169	0.0089
South Africa	South African Rand	17.6900	-0.0050	17.8077	0.1136	20.4558	0.1720
South Korea	South Korean Won	1384.8500	-16.3000	1394.0649	-7.0151	1601.3715	-4.7706
Sweden	Swedish Krona	10.7431	-0.1175	10.8145	-0.0455	12.4227	-0.0267
Switzerland	Swiss Franc	0.9850	-0.0046	0.9915	0.0020	1.1389	0.0046
Taiwan	New Taiwan Dollar	32.0475	-0.0160	32.2607	0.1988	37.0581	0.3037
Thailand	Thai Baht	37.2875	-0.1300	37.5356	0.1200	43.1174	0.2256
Tunisia	Tunisian Dinar	3.2709	-0.0151	3.2927	0.0068	3.7823	0.0156
Turkey	Turkish Lira	18.5943	0.0164	18.7180	0.1410	21.5015	0.2056
United Arab Emirates	UAE Dirham	3.6731	-0.0001	3.6975	0.0246	4.2473	0.0368
United Kingdom	Pound Sterling	0.8648	-0.0076	0.8705	-0.0018	-	-
..One Month		0.8649	-0.0076	0.8704	-0.0018	-	-
..Three Month		0.8652	-0.0076	0.8702	-0.0018	-	-
..One Year		0.8658	-0.0076	0.8690	-0.0018	-	-
United States	United States Dollar	-	-	1.0067	0.0067	1.1564	0.0100
..One Month		-	-	1.0064	-0.1397	1.1564	0.0101
..Three Month		-	-	1.0059	-0.1397	1.1567	0.0100
..One Year		-	-	1.0040	-0.1396	1.1574	0.0100
Vietnam	Vietnamese Dong	24871.5000	-0.5000	25037.0548	166.2586	28760.1775	249.2735
European Union	Euro	0.9934	-0.0067	-	-	1.1487	0.0023
..One Month		0.9932	-0.0067	-	-	1.1486	0.0023
..Three Month		0.9926	-0.0067	-	-	1.1483	0.0023
..One Year		0.9908	-0.0066	-	-	1.1472	0.0023

Rates are derived from WM Reuters Spot Rates and MorningStar (latest rates at time of production). Some values are rounded. Currency redenominated by 1000. The exchange rates printed in this table are also available at www.FT.com/marketsdata

FTSE ACTUARIES SHARE INDICES

UK SERIES www.ft.com/equities

Produced in conjunction with the Institute and Faculty of Actuaries

	£ Strlg Nov 08	Day's chge%	Euro Index	£ Strlg Nov 07	£ Strlg Nov 04	Year ago	Div yield%	Cover	P/E ratio	X/D adj	Total Return
FTSE 100 (100)	7306.14	0.08	6535.54	7299.99	7334.84	7300.40	3.69	1.75	15.43	238.39	7472.75
FTSE 250 (250)	18697.89	0.75	16725.77	18559.57	18341.57	23539.92	3.17	0.93	34.03	484.82	15512.75
FTSE 250 ex Inv Co (174)	19138.90	0.91	17120.26	18965.98	18692.52	24437.48	3.28	1.44	21.21	522.51	16207.81
FTSE 350 (350)	4040.16	0.18	3614.04	4032.87	4042.39	4190.92	3.62	1.65	16.78	127.79	8201.32
FTSE 350 ex Investment Trusts (271)	3979.00	0.17	3559.33	3972.31	3982.45	4079.18	3.67	1.74	15.60	128.18	4174.34
FTSE 350 Higher Yield (131)	3492.94	-0.23	3124.53	3500.93	3516.45	3279.58	5.06	1.82	10.88	141.52	7977.92

Hourly movements	8.00	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.00	High/day	Low/day
FTSE 100	7253.75	7269.25	7288.14	7283.15	7292.57	7294.68	7300.52	7293.10	7297.25	7312.62	7245.23
FTSE 250	18505.43	18523.47	18575.26	18552.04	18558.47	18552.55	18596.64	18600.53	18642.47	18697.89	18485.03
FTSE SmallCap	5999.86	6000.06	6001.97	6002.26	5999.12	5990.27	5998.97	6001.27	6004.42	6019.37	5988.47
FTSE All-Share	3970.31	3977.91	3988.13	3985.15	3989.58	3990.21	3994.37	3991.15	3994.38	4002.21	3966.62

Time of FTSE 100 Day's high:16:29:30 Day's Low08:05:15 FTSE 100 2010/11 High: 7672.40(10/02/2022) Low: 6826.15(12/10/2022)
Time of FTSE All-Share Day's high:16:29:00 Day's Low08:05:00 FTSE 100 2010/11 High: 4296.96(10/02/2022) Low: 3712.50(12/10/2022)
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FT 30 INDEX

	Nov 08	Nov 07	Nov 04	Nov 03	Nov 02	Yr Ago	High	Low
FT 30	2440.20	2419.90	2404.60	2375.20	2386.30	0.00	2880.10	2152.10
FT 30 Div Yield	-	-	-	-	-	0.00	3.93	2.74
P/E Ratio net	-	-	-	-	-	0.00	19.44	14.26

FT 30 hourly changes

8	9	10	11	12	13	14	15	16	High	Low
2419.9	2421.9	2430.6	2429.8	2431.2	2433.2	2434.2	2431.5	2432.2	2442.6	2410.9

FT30 constituents and recent additions/deletions can be found at www.ft.com/ft30

FT WILSHIRE 5000 INDEX SERIES

	Nov 04		Nov 04
FT Wilshire 5000	38363.57	FT Wilshire Mid Cap	5230.65
FT Wilshire 2500	4909.08	FT Wilshire Small Cap	4752.04
FT Wilshire Mega Cap	4867.21	FT Wilshire Micro Cap	4748.56
FT Wilshire Large Cap	4927.68		

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FTSE GLOBAL EQUITY INDEX SERIES

Nov 8 Regions & countries	No of stocks	US $ indices	Day %	Mth %	YTD %	Total retn	YTD %	Gr Div Yield
FTSE Global All Cap	9523	659.45	1.1	4.3	-22.1	1055.42	-20.6	2.4
FTSE Global All Cap	9523	659.45	1.1	4.3	-22.1	1055.42	-20.6	2.4
FTSE Global Large Cap	1907	588.66	1.1	4.0	-22.5	971.12	-20.9	2.4
FTSE Global Mid Cap	2264	853.56	0.8	5.2	-20.4	1285.01	-18.9	2.3
FTSE Global Small Cap	5352	887.84	1.0	4.8	-22.4	1278.22	-21.1	2.1
FTSE All-World	4171	387.03	1.1	4.2	-22.1	655.97	-20.6	2.4
FTSE World	2664	702.38	1.1	4.6	-21.8	1597.44	-20.3	2.4

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FTSE SECTORS: LEADERS & LAGGARDS

Year to date percentage changes

Oil & Gas Producers	48.49	Mobile Telecomms	-6.68	Equity Invest Instr	-19.46
Oil & Gas	47.90	Utilities	-7.15	Food Producers	-19.70
Tobacco	24.62	Gas Water & Multi	-8.16	Support Services	-20.28
Aerospace & Defense	14.02	Health Care Eq & Srv	-8.32	FTSE 250 Index	-20.37
Mining	12.94	Travel & Leisure	-8.69	Industrial Eng	-22.01
Pharmace & Biotech	6.04	Media	-9.72	Construct & Material	-22.24
Basic Materials	5.34	Beverages	-10.99	Fixed Line Telecomms	-25.13
Health Care	5.06	Telecommunications	-11.96	Electronic & Elec Eq	-28.25

FTSE 100 SUMMARY

FTSE 100	Closing Price	Day's Change	FTSE 100	Closing Price	Day's Change
3I Group PLC	1255.5	20.00	International Consolidated Airlines Group S.A.	129.66	1.88
Admiral Group PLC	1929.5	-55.00	Intertek Group PLC	3892	73.00
Airtel Africa PLC	120.60	-0.10	Jd Sports Fashion PLC	107.90	3.50
Anglo American PLC	3064	86.00	Kingfisher PLC	225.20	-0.20
Antofagasta PLC	1309.5	35.50	Land Securities Group PLC	590.60	1.60
Ashtead Group PLC	4900	76.00	Legal & General Group PLC	239.50	0.30

For all queries e-mail ft.reader.enquiries@morningstar.com

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UK RIGHTS OFFERS

Issue price	Amount paid up	Latest renun. date	High	Low	Stock	closing Price p	+or-

There are currently no rights offers by any companies listed on the LSE.

UK COMPANY RESULTS

Company		Turnover		Pre-tax		EPS(p)		Div(p)		Pay day	Total	
Argentex Group	Int	27.400	15.700	6.200	4.200	4.500	3.000	0.00000	0.75000	-	1.250	2.750
Associated British Foods	Pre	16997.000	13884.000	1076.000	725.000	88.600	60.500	29.90000	29.90000	Jan 13	43.700	29.900
AVEVA Group	Int	551.500	480.900	89.100L	80.300L	26.520L	27.070L	0.00000	13.00000	-	24.500	36.500
Brand Architekts Group	Pre	14.296	15.875	4.116L	1.885L	23.900L	13.100L	0.00000	0.00000	-	0.000	0.000
Egdon Resources	Pre	6.908	1.093	2.407	1.682L	0.640	0.510L	0.00000	0.00000	-	0.000	0.000
Leeds Group	Pre	29.590	33.013	3.245L	0.508L	11.900L	1.700L	0.00000	0.00000	-	0.000	0.000
Marks Electrical Group	Int	43.146	37.470	2.117	2.069	1.660	0.000	0.00000	0.00000	-	0.670	0.670
Oxford Instruments	Int	200.500	170.100	26.600	21.400	35.900	28.700	4.60000	4.40000	Jan 13	18.300	17.300
SVM UK Emerging Fund	Int			1.829L	1.239	30.510L	20.670	0.00000	0.00000	-	0.000	0.000
Warehouse REIT	Int			46.355L	86.446	10.900L	20.400	0.00000	1.55000	-	1.750	3.100
Zoo Digital Group	Int	51.422	26.927	3.511	1.516L	0.038	0.020L	0.00000	0.00000	-	0.000	0.000

Figures in £m. Earnings shown basic. Figures in light text are for corresponding period year earlier.
For more information on dividend payments visit www.ft.com/marketsdata

UK RECENT EQUITY ISSUES

Issue date	Issue price(p)	Sector	Stock code	Stock	Close price(p)	+/-	High	Low	Mkt Cap (£m)
10/31	4.00		BWN	Bowen Fintech PLC	6.25	0.00	7.35	5.90	343.8
10/27	10.00		UMR	Unicorn Mineral Resource PLC	18.50	0.00	19.50	10.00	513.5
10/24	1.00		ATN	Eastinco Mining and Exploration PLC	0.95	-0.05	1.00	0.90	916.5
10/21	55.00	AIM	SND	Sondrel (Holdings) PLC	59.00	0.41	60.00	51.67	5160.2
10/07	10.00		ACG	ACG Acquisition Company Ltd	10.30	0.08	10.10	9.85	160.9
10/04	1.00		MII	Milton Capital PLC	1.03	0.00	1.20	1.00	102.5

§Placing price. *Intoduction. ‡When issued. Annual report/prospectus available at www.ft.com/ir
For a full explanation of all the other symbols please refer to London Share Service notes.

MARKET DATA

FT500: THE WORLD'S LARGEST COMPANIES

Stock	Price	Day Chg	52 Week High	52 Week Low	Yld	P/E	MCap m
Australia (A$)							
ANZ Bank	24.40	0.07	28.33	20.78	5.88	10.76	47657.2
BHP Group	40.35	-0.13	53.72	35.69	9.68	9.97	133435.7
CmwBkAu	104.48	1.40	109.94	86.98	3.18	20.67	115773.96
CSL	280.70	3.54	319.78	240.10	1.02	42.28	88422.53
NatAusBk	31.95	0.22	33.75	25.43	2.67	17.90	65824.18
Telstra	3.94	0.02	4.20	3.62	2.41	33.71	29738.79
Wesfarmers	46.42	0.64	61.34	40.03	3.64	25.10	34382.37
Westpac Bank	23.66	0.47	24.67	18.80	3.57	18.11	54112.97
Woolworths	33.31	0.50	41.13	31.67	3.08	39.96	26470.18
Belgium (€)							
AnBshInBv	52.47	-0.15	58.72	45.56	0.98	27.13	91756.91
KBC Grp	53.66	0.22	86.50	45.53	6.18	9.05	22518.82
Brazil (R$)							
Ambev	16.59	0.23	18.09	12.81	3.24	26.31	50750.35
Bradesco	15.70	-0.19	17.72	13.53	5.03	7.63	14852.05
Cielo	5.54	-0.02	6.22	2.01	2.50	19.69	2923.32
ItauHldFin	24.77	-0.18	26.04	18.86	2.97	10.29	23854.19
Petrobras	30.59	-0.04	42.08	26.56	14.93	4.58	44218.3
Vale	74.56	2.69	107.11	61.85	16.58	3.49	69205.34
Canada (C$)							
Bausch Hlth	9.83	-0.17	36.26	5.10	-	-3.25	2650.15
BCE	61.72	0.12	74.09	55.66	5.14	22.75	41933.39
BkMontrl	128.57	0.79	154.47	113.73	3.19	10.89	64873.51
BkNvaS	66.71	0.49	95.00	63.19	5.05	9.19	59211.02
Brookfield	56.28	0.67	79.04	51.07	1.06	20.55	67916.07
CanadPcR	104.61	0.67	106.93	86.12	0.66	27.59	72488.46
CanImp	62.65	0.18	167.50	55.35	8.70	4.78	42246.92
CanNatRs	82.06	-0.42	88.18	48.42	2.21	14.00	67854.83
CanNatRy	163.99	1.93	171.48	137.26	1.36	26.24	82729.69
Enbridge	53.65	-0.18	59.69	46.88	5.65	20.61	80931.91
GtWesLif	30.22	-0.02	41.50	27.99	5.80	9.35	20979.36
ImpOil	76.55	-0.41	79.83	41.04	1.22	24.25	34875.41
Manulife	22.51	0.08	28.09	20.81	4.72	7.01	31666.04
Nutrien	103.81	5.15	147.93	83.74	2.03	16.41	40474.26
RylBkC	129.15	0.94	149.60	116.75	3.13	12.63	133377.09
SHOP	44.32	0.81	222.87	33.00	-	1.69	32933.01
Suncor En	48.59	-0.21	53.62	28.77	1.96	19.34	49014.86
ThmReut	143.30	1.10	156.62	119.23	1.30	10.87	51340.32
TntoDom	88.78	0.42	109.08	77.27	3.34	12.25	120022.43
TrnCan	60.13	0.07	74.44	54.60	5.25	35.63	45333.59
China (HK$)							
AgricBkCh	2.34	0.02	3.15	2.22	8.68	3.21	9162.94
Bk China	2.63	0.01	3.20	2.51	8.06	3.41	28016.81
BkofComm	4.06	0.01	5.74	3.84	8.21	3.51	18108.49
BOE Tech	0.68	0.03	0.87	0.57	-	11.47	17.24
Ch Coms Cons	3.26	-	5.17	3.09	5.95	2.83	1834.95
Ch Evrbrght	2.13	-	3.11	2.04	10.71	3.01	3440.25
Ch Rail Cons	4.00	0.01	5.95	3.75	6.24	2.23	1058
Ch Rail Gp	3.69	0.03	5.88	3.48	5.31	3.11	1977.77
ChConstBk	4.39	0.02	6.23	4.12	8.06	3.34	134453.39
China Vanke	11.06	-	21.70	9.96	12.27	5.21	2686.16
ChinaCitic	3.07	-0.02	4.08	2.92	8.71	2.98	5820.27
ChinaLife	9.65	-0.01	15.04	8.53	6.74	4.41	9147.59
ChinaMBank	30.20	-0.10	70.80	25.40	4.51	5.83	17662.16
ChinaMob	48.35	0.20	58.65	45.90	6.35	7.80	126020.66
ChinaPcIns	15.06	0.04	25.90	12.10	8.31	5.13	5324.44
ChMinsheng	2.40	-0.02	3.29	2.19	9.76	3.25	2543.85
ChMrchSecs	12.98	-0.04	18.56	12.06	3.39	11.53	13264.61
Chna Utd Coms	3.54	-0.04	4.08	3.30	3.18	17.67	15091.7
ChShenEgy	22.65	0.10	27.65	15.74	8.62	7.19	9745.42
ChShpbldng	3.58	-0.01	4.36	3.36	-	-264.77	10885.77
ChStConEng	4.89	0.01	6.40	4.52	4.42	3.77	27494.45
ChUncHK	3.50	-	4.43	3.27	4.28	8.07	13642.79
CNNC Intl	6.03	-0.03	8.92	5.78	2.08	15.68	15650.73
CSR	2.72	0.01	3.80	2.37	7.25	7.82	1514.57
Daqin	6.59	-	7.25	5.95	7.32	9.93	13489.82
GuosenSec	8.88	-0.03	11.70	8.43	2.60	10.15	10792.74
HaitongSecs	4.17	-0.01	7.34	3.77	6.57	4.74	1811.23
Hngzh HikVDT	29.57	-0.26	55.55	28.10	2.72	16.17	37358.38
Hunng Pwr	3.06	0.03	5.74	2.62	6.16	-3.59	1832.3
IM Baotou Stl	1.94	0.01	3.21	1.75	-	32.86	8461.62
In&CmBkCh	3.59	0.01	4.94	3.37	8.07	3.44	39693.52
IndstrlBk	15.45	-0.02	23.22	15.01	5.05	4.21	44192.84
Kweichow	1484.88	-22.23	2216.96	1359	1.31	33.27	256831.54
Midea	0.36	0.01	0.61	0.35	-	-4.09	13.81
New Ch Life Ins	14.78	0.12	24.70	12.04	9.88	2.93	1947.06
PetroChina	3.33	0.02	4.49	3.01	6.83	7.03	8950.36
PingAnIns	36.10	-0.70	69.40	31.30	6.62	6.00	34249.99
PngAnBnk	10.85	-0.03	19.06	10.39	1.61	6.45	28990.33
Pwr Cons Corp	7.23	-0.12	9.81	5.99	1.23	14.95	10941.83
SaicMtr	14.39	-0.12	23.10	13.77	4.15	7.16	23148.91
ShenwanHong	0.09	0.00	0.18	0.05	-	2.78	101.04
ShgPdgBk	6.79	-0.02	8.81	6.64	6.81	4.32	27441.64
Sinopec Corp	3.38	0.02	4.28	3.06	3.93	4.26	10962.15
Sinopec Oil	1.97	0.01	2.37	1.70	-	651.58	3680.69
Denmark (kr)							
DanskeBk	124.55	0.90	133.25	91.28	1.55	8.84	14532.32
MollerMrsk	15660	340.00	24070	13185	2.10	2.65	17743.91
NovoB	850.70	-1.80	864.40	604.40	1.06	42.52	200611.58

Stock	Price	Day Chg	52 Week High	52 Week Low	Yld	P/E	MCap m
[illegible]							
TevaPha	30.42	-0.59	37.23	23.83	-	27.08	9516.75
Italy (€)							
Enel	4.78	0.05	7.32	3.96	7.39	23.07	48961
ENI	14.21	-0.05	14.85	10.43	4.58	6.20	51590.94
Generali	16.22	0.22	21.55	13.67	8.74	9.45	25807.62
IntSPaolo	2.15	0.02	2.92	1.58	1.64	69.03	42014.3
Unicred	12.87	0.07	15.93	7.75	0.90	19.81	28985.16
Japan (¥)							
AstellasPh	2087.5	27.00	2205	1739	2.38	29.84	26340.01
Bridgestne	5371	45.00	5509	4042	3.33	11.60	26346.43
Canon	3224	42.00	3516	2467	3.27	14.81	29554.65
CntJpRwy	16855	-150.00	17920	14660	0.83	-30.01	23864.26

Stock	Price	Day Chg	52 Week High	52 Week Low	Yld	P/E	MCap m
[illegible]							
H & M	118.42	2.14	191.86	98.25	5.38	16.25	16100.9
Investor	184.32	3.46	228.75	158.22	1.92	7.89	31259.22
Nordea Bk	107.10	1.12	113.78	85.25	13.82	12.44	37240.52
SEB	118.60	1.95	141.85	91.64	8.62	9.87	23785.8
SvnskaHn	104.75	1.05	105.40	80.88	4.83	10.23	18962.53
Swedbank	165.00	0.35	195.30	124.50	8.93	8.78	17386.22
Telia Co	29.09	-0.01	41.70	27.93	6.96	10.22	11073.9
Volvo	187.58	1.02	218.65	148.24	3.51	12.17	27735.52
Switzerland (SFr)							
ABB	28.78	0.22	33.86	23.84	2.67	14.22	57409.38
CredSuisse	4.14	0.07	9.59	3.52	2.23	-6.69	11139.08
Nestle	107.92	0.34	128.90	103.42	2.35	19.30	301314.78

Stock	Price	Day Chg	52 Week High	52 Week Low	Yld	P/E	MCap m
Novartis	80.85	0.25	88.42	73.01	3.45	9.04	197310.4
Richemont	103.10	-0.50	146.10	90.28	1.75	25.32	54640.54
Roche	324.20	0.15	404.20	298.60	2.50	22.37	231251.15
Swiss Re	74.86	0.38	102.20	68.18	7.29	18.62	24131.02
Swisscom	490.80	-2.50	587.40	443.40	4.14	15.04	25812.88
UBS	16.39	0.07	19.90	13.10	1.95	8.69	58651.49
Zurich Fin	434.10	2.80	461.70	376.00	4.26	14.89	66312.77
Taiwan (NT$)							
Chunghwa Telecom	108.50	0.50	132.50	105.50	3.90	23.91	26263.61
Formosa PetChem	83.30	0.30	103.50	75.20	0.70	16.24	24760.54
HonHaiPrc	100.00	-	116.00	99.50	3.96	10.20	43257.66
MediaTek	620.00	-	1200	533.00	5.90	8.93	30940.16
TaiwanSem	399.00	9.00	650.00	370.00	2.65	16.07	322840.23
Thailand (THB)							
PTT Explor	35.50	-0.25	41.25	32.75	5.42	9.83	27193.69
United Arab Emirates (Dhs)							
Emirtestele	24.30	0.70	38.98	11.60	2.75	27.17	57535.64
United Kingdom (p)							
Anglo American	3064	86.00	4292.5	2487.5	5.82	6.07	49766.32
AscBrFd	1458	29.50	2066	1223	0.43	24.10	13347.29
AstraZen	10660	14.00	11540	8090.32	1.94	1804.94	156111.25
Aviva	433.90	-0.80	606.58	341.92	4.92	57.09	20136.03
Barclays	154.18	1.58	209.45	132.06	1.95	3.74	30422.3
BP	485.70	-16.10	503.30	310.53	3.24	17.62	111938.34
BrAmTob	3354	-14.00	3645	2514	6.43	11.35	72310.81
BT	117.45	2.25	201.40	113.80	-	11.40	13475.23
Compass	1862.5	-9.50	1970.5	1435	0.75	45.32	35419.56
Diageo	3634	-11.00	4364.1	3282.5	2.00	27.95	105787.49
GlaxoSmh	1387	9.60	2753.96	1280.92	5.77	16.02	78875.42
Glencore	524.70	-7.30	548.30	346.40	1.69	19.21	87520.24
HSBC	478.65	-0.75	567.20	409.85	3.37	10.46	110974.88
Imperial Brands	2135	1.00	2150	1434.23	6.47	7.14	23545.92
Jardine Mathes.	62.50	-	60.50	50.06	2.35	12.18	18127.36
LlydsBkg	42.85	0.84	56.00	38.10	6.00	5.95	35710.79
LSE Group	7786	36.00	8612	6230	0.99	79.61	31151.56
Natl Grid	978.00	22.20	1271.45	844.29	5.03	22.80	37959.76
Natwest Group	239.80	1.40	284.42	196.92	4.38	9.44	33180.85
Prudential	911.20	4.60	1516.5	782.40	1.29	14.80	27261.33
ReckittB	5686	46.00	6824	5400	3.07	-24.60	46301.52
RELX	2314	33.00	2634.82	2056	2.06	30.53	51280.1
RioTinto	5111	67.00	6343	4354	9.83	5.35	79267.35
RollsRoyce	88.44	2.09	161.91	64.44	-	60.16	1902.02
Shell PLC	2438	-63.00	2527	1534.2	2.48	12.85	129601.63
StandCh	562.00	4.00	641.00	406.20	1.58	12.60	21424.76
Tesco	230.30	2.60	304.10	194.35	3.97	11.73	21804.46
Unilever	4056.5	24.50	4178	3267.5	3.57	20.83	57778.92
Vodafone	106.24	1.52	141.60	97.40	7.28	-237.67	32769.04
WPP	824.80	19.20	1231.5	713.00	3.21	15.71	12075.64
United States of America ($)							
21stC Fox A	29.76	0.62	44.95	28.02	1.35	14.11	9001.64
3M	126.34	1.66	186.30	107.07	4.00	14.62	69833.54
AbbottLb	99.77	0.27	142.60	93.25	1.54	29.66	173956.36
Abbvie	150.81	2.71	175.91	115.01	2.94	27.39	266704.55
Accenture	274.15	5.08	417.37	242.95	1.15	32.60	182250.3
Activision Bli.	72.17	1.07	82.00	56.40	0.56	24.57	56459.07
Adobe	308.74	9.20	699.54	274.73	-	35.57	143533.23
Advanced Micro	64.47	1.39	164.46	54.57	-	29.38	103948.6
AEP	89.25	1.25	105.60	80.22	2.87	21.08	45862.33
Aflac	68.07	0.25	68.47	52.07	1.66	12.48	42325.15
AirProd	282.40	4.77	316.39	216.24	1.81	34.75	62636.03
Allstate	131.11	2.29	144.46	106.11	2.11	9.04	34770.3
Alphabet	89.58	1.09	151.55	83.34	-	0.94	535061.34
Altria	46.04	0.16	57.05	40.35	6.53	40.24	82511.63
Amazon	91.10	0.57	188.11	88.04	-	1.65	929370.7
AmerAir	14.32	-0.01	22.35	11.65	-	-4.48	9303.33
AmerExpr	150.89	3.91	199.55	130.65	1.05	17.16	112749.94
AmerIntGrp	59.53	0.36	65.73	47.05	1.84	6.44	44225.89
AmerTower	204.75	2.73	291.99	178.17	2.17	42.37	95332.75
Amgen	295.02	18.00	296.67	198.64	2.04	33.61	157416.54
Amphenol Corp	76.37	0.53	88.45	61.67	0.87	35.64	45447.37
Analog Devices	154.85	5.92	191.95	133.48	1.54	60.90	79645.79
Anthem	482.58	12.71	-	-	-	-	-
Aon Cp	288.43	1.33	341.98	246.21	0.59	60.87	59662.59
Apple	140.89	1.97	182.13	129.04	0.52	27.37	2241294.75
Applied Materi.	97.62	2.58	167.06	71.12	0.83	15.77	83983.4
Aptiv	101.67	2.50	179.40	77.96	-	61.39	27547.44
ArcherDan	96.31	0.71	98.88	61.80	1.31	23.55	52905.28
AT&T	18.68	0.32	21.53	14.46	9.51	7.93	133096.73
Autodesk	203.11	8.23	335.48	163.20	-	105.20	43843.13
AutomData	247.02	6.61	261.59	192.26	1.32	44.79	102470.76
AutoZone	2510.14	5.13	2560.01	1703.32	-	26.57	47646.04
Avago Tech	485.78	10.56	677.76	415.07	2.64	32.13	196739.58
BakerHu	30.77	0.15	39.78	20.42	2.06	83.40	30810.15
Bank of NY	42.97	0.55	64.63	36.22	2.58	12.16	34724.2
BankAm	37.30	0.29	50.11	29.31	1.79	12.24	299196.61
Baxter	53.09	0.75	89.70	49.83	1.74	24.58	26761.25
BectonDick	220.93	-0.01	277.29	215.90	1.30	44.77	63008.16
BerkshHat	441734.02	3159.01	544389.26	393012.25	-	8.70	265006.84
Biogen	289.67	5.05	292.45	187.16	-	32.62	41712.89
BlackRock	689.35	13.05	973.16	503.12	2.05	21.13	103537.32

Stock	Price	Day Chg	52 Week High	52 Week Low	Yld	P/E	MCap m
Boeing	169.52	4.61	233.94	113.02	-	-27.77	100662.87
Booking Holdings	1887.92	54.10	2715.66	1616.85	-	78.50	73231.26
Bristol-Myers	80.22	1.03	80.59	53.22	2.14	30.12	170560.58
Broadcom	485.78	10.56	677.76	415.07	2.64	32.13	196739.58
Cadence Design	149.83	3.83	194.97	132.32	-	70.20	41100.77
CapOne	106.18	1.44	160.54	90.27	1.61	4.61	40528.75
CardinalHlth	80.84	-0.14	81.57	45.85	2.07	49.06	21190.92
Carnival	9.13	0.37	25.07	6.11	-	-1.27	10159.01
Caterpillar	232.24	3.63	237.90	160.60	1.57	22.99	120859.87
Centene Corp	83.48	0.53	98.53	69.51	-	42.89	47270.79
CharlesSch	80.14	0.49	96.24	59.35	0.77	33.17	145678.02
Charter Comms	358.53	5.25	706.93	297.66	-	17.16	55813.18
Chevron Corp	185.74	0.13	186.38	110.73	2.44	26.73	359154.02
Chipotle Mexic.	1399.51	3.14	1895.99	1196.28	-	71.58	38795.97
Chubb	212.28	0.19	218.99	173.78	1.28	12.90	88106.87
Cigna	328.16	3.79	328.63	191.74	1.04	24.44	100331.31
Cintas Corp	434.30	14.44	461.44	343.86	0.71	44.60	44101.13
Cisco	45.15	0.60	64.29	38.61	2.83	18.78	185514.31
Citigroup	46.51	0.78	69.67	40.01	3.74	5.37	90083.03
CME Grp	173.38	3.64	256.94	166.58	1.77	27.86	62369.12
Coca-Cola	59.62	0.13	67.20	52.28	2.41	31.03	257805.86
Cognizant	54.55	0.80	93.47	51.33	1.50	15.78	28034.41
ColgtPlm	74.57	1.07	85.18	67.84	2.05	34.25	62281.92
Comcast	32.29	0.69	54.59	28.39	2.64	12.44	139276.34
ConocPhil	133.94	-1.00	138.49	66.06	1.24	25.85	166898.76
Constellation	247.05	0.56	261.53	207.59	1.06	-1302.96	39830.51
Corning	33.35	0.27	43.47	28.98	2.46	30.52	28207.81
Corteva	67.29	1.25	68.43	43.74	0.68	33.24	48074.59
Corteva	67.29	1.25	68.43	43.74	0.68	33.24	48074.59
Costco	494.83	6.28	612.27	406.51	0.55	46.27	219013.81
CrownCstl	130.54	0.70	208.69	121.71	3.57	57.27	56530.09
CSX	29.78	-0.18	38.63	25.80	1.12	19.27	62609.73
CVS	102.54	1.36	111.25	86.28	1.67	20.19	134734.17
Danaher	254.20	5.16	331.69	233.71	0.30	33.97	185044.48
Deere	408.63	9.86	446.76	283.81	0.82	26.28	123332.56
Delta	33.79	0.43	46.27	27.20	-	47.50	21665.75
Devon Energy	71.84	-0.20	79.40	35.55	2.34	20.08	46961.81
Digital Realty	99.45	2.23	176.53	85.76	3.98	19.61	28592.65
DiscFinServ	102.44	1.43	129.12	87.64	1.57	6.73	27987.88
Disney	101.72	1.29	179.25	90.23	-	69.27	185441.44
Dollar General	252.96	1.64	262.21	183.25	0.57	28.86	57059.5
DominRes	63.07	0.13	88.78	59.67	3.41	23.16	52554.67
DukeEner	93.71	1.48	116.33	83.76	3.55	22.26	72158.73
DuPont	67.01	5.27	84.08	49.52	1.53	24.30	33565.44
Eaton	159.66	1.26	175.72	122.50	1.63	35.02	63496.78
eBay	41.98	1.40	76.58	35.92	1.46	129.40	22780.83
Ecolab	142.48	4.16	238.93	131.04	1.17	42.68	40582.3
Edwards Lifesc.	68.54	-0.23	131.73	67.13	-	33.73	42375.57
Eli Lilly	366.34	1.27	367.30	231.87	0.79	70.11	348088.17
Emerson	92.73	1.49	100.00	72.41	1.87	23.72	54831.25
EOG Res	148.08	2.14	150.88	80.67	0.93	21.71	86980.64
Equinix	607.69	1.17	847.10	494.89	1.61	128.71	56234.02
EquityResTP	60.43	0.24	94.32	59.32	3.40	20.66	22837.64
Exelon	37.43	0.75	50.71	29.10	3.49	25.19	37190.8
ExxonMb	113.61	-0.03	113.99	57.96	2.62	24.69	467879.32
Fedex	163.00	3.76	260.50	141.92	1.50	10.27	42415.83
Fidelity NIS	63.30	1.45	122.06	56.53	2.10	110.66	37560.92
Fiserv	99.71	3.32	110.94	87.03	-	58.69	63318.65
FordMtr	13.67	-0.04	25.87	10.61	0.62	3.60	53971.86
Franklin	23.67	0.45	36.33	20.24	4.08	7.33	11793.62
GenDyn	252.33	0.75	254.99	188.64	1.58	25.59	69276.09
GenElectric	84.15	0.69	116.17	59.93	0.32	-30.33	91948.02
GenMills	79.87	0.68	82.10	61.41	2.20	24.71	47402.72
GenMotors	39.33	-0.07	67.21	30.33	-	6.87	55868.9
GileadSci	83.08	1.62	83.80	57.17	2.92	19.74	104202.58
GoldmSchs	366.25	3.69	413.65	277.84	1.52	7.22	124024.92
Halliburton	39.44	-0.10	43.99	20.77	0.57	25.96	35816.36
HCA Hold	214.77	0.53	279.02	164.47	0.76	11.89	60719.07
Hew-Pack	29.21	0.46	41.47	24.08	2.45	6.17	29383.47
Hilton Worldwi.	131.86	2.99	167.99	108.41	-	105.78	35660.98
HiltonWwde	131.86	2.99	167.99	108.41	-	105.78	35660.98
HomeDep	291.44	1.17	420.61	264.51	1.95	21.77	298354.83
Honywell	211.57	1.80	228.26	166.63	1.52	31.33	142239.85
HumanaInc	560.66	5.73	571.30	363.73	0.43	28.97	70979.73
IBM	140.87	2.53	144.73	114.56	3.97	31.67	127363.38
IDEXX Laborato.	391.48	6.28	664.70	317.06	-	53.32	32421.18
IllinoisTool	215.79	0.07	248.11	173.52	1.87	29.70	66287.75
Illumina	220.97	3.78	410.70	173.45	-	51.35	34758.58
Intcntl Exch	100.64	3.14	138.46	88.60	1.12	16.42	56212.64
Intel	28.71	0.30	55.00	24.59	4.13	6.92	118465.54
Intuit	388.33	18.22	716.86	339.36	0.56	56.96	109458.53
John&John	174.33	1.35	186.69	155.72	2.05	26.15	455782.93
JohnsonCn	65.14	1.01	81.69	45.52	1.51	34.84	44869.1
JPMrgnCh	131.76	0.39	170.92	101.28	2.46	10.05	386479.08
Kimb-Clark	124.77	0.45	144.53	108.74	3.22	27.43	42108.89
KinderM	18.37	0.12	20.20	15.01	5.16	46.48	41291.02
KLA Corp	343.84	6.67	442.44	250.20	0.97	20.73	48727.72
Kraft Heinz	38.41	0.24	44.87	32.73	3.56	54.86	47043.44
Kroger	47.10	0.25	62.78	40.18	1.43	25.18	33714.48
LasVegasSd	40.48	-0.22	48.27	28.88	-	-31.40	30933.45
LibertyGbl	18.58	0.14	29.56	15.22	-	0.93	3193.94

Stock	Price	Day Chg	52 Week High	52 Week Low	Yld	P/E	MCap m
Lilly (E)	366.34	1.27	367.30	231.87	0.79	70.11	348088.17
Linde	317.50	4.01	346.50	262.47	1.14	50.80	156965.5
Lockheed	490.42	1.79	493.24	328.20	1.93	24.66	128526.31
Lowes	189.86	3.30	263.31	170.12	1.36	18.30	117846.21
Lyondell	84.71	1.09	117.22	71.46	4.47	5.92	27583.65
Marathon Ptl	118.35	-1.15	120.98	59.55	1.67	68.63	55466.01
Marsh&M	163.50	0.49	183.14	142.80	1.40	29.46	81095.07
MasterCard	329.04	3.91	399.92	276.87	0.58	44.00	313839.35
McDonald's	278.81	2.40	279.31	217.68	1.61	32.53	205125.33
McKesson	393.37	-2.43	401.78	215.27	0.39	52.18	55777.3
Medtronic	81.69	-3.86	123.96	79.44	2.61	26.11	108571.89
Merck	101.54	1.47	101.84	71.50	2.22	24.47	257444.11
Meta	196.64	0.99	384.33	169.00	-	15.41	450997.53
Metlife	73.85	-0.08	75.52	57.05	2.20	11.83	57943.17
Microsoft	231.03	3.16	349.67	213.43	0.85	28.82	1722206.93
Mnstr Bvrg	98.86	-0.04	100.47	71.78	-	45.06	51579.57
MondelezInt	64.28	-0.11	69.47	54.72	1.77	24.77	87781.96
Monsanto	9.99	-	10.01	9.66	-	53.64	249.75
MorganStly	86.11	0.54	109.73	72.05	2.08	12.56	145535.32
Netflix	263.59	4.99	700.99	162.71	-	27.47	117302.95
NextEraE	78.71	1.42	92.91	67.22	1.76	121.11	156409.65
Nike	95.88	2.44	177.75	82.22	1.04	29.35	121159.02
NorfolkS	234.34	-1.29	296.87	203.65	1.52	22.67	54253.04
Northrop	538.67	3.90	556.27	345.90	0.98	14.49	82907.86
NXP	164.02	6.12	239.91	132.08	1.17	28.29	42503.3
Occid Pet	75.03	-0.94	77.13	26.05	0.05	42.66	70317.44
Oracle	75.67	-1.08	106.34	60.78	1.46	33.51	204005.42
Pepsico	181.69	1.48	183.58	153.37	2.00	38.76	250315.99
Perrigo	33.73	-5.55	47.95	31.32	2.43	-40.31	4540.67
Pfizer	47.59	0.50	61.71	41.45	2.80	14.18	267091.82
Phillips66	104.34	-1.10	111.28	67.08	2.96	41.15	50190.47
PhilMorris	91.80	0.90	112.48	82.85	4.56	18.44	142308.57
PNCFin	159.88	3.18	214.50	143.52	2.56	14.75	64482.65
PPG Inds	117.51	1.17	172.78	107.06	1.73	30.20	27616.89
ProctGmbl	137.12	0.62	165.35	122.18	2.23	27.30	327099.69
Prudntl	103.77	0.56	124.22	85.46	3.78	6.23	38187.36
PublStor	285.07	10.74	421.76	270.73	2.40	33.83	50068.36
Qualcomm	114.24	4.15	192.68	101.93	2.01	15.33	128063.04
Raytheon	96.01	-0.16	106.02	79.00	1.78	43.59	141140.54
Regen Pharm	766.62	15.69	769.13	538.01	-	12.48	82092.04
S&P Global	324.14	4.89	484.21	279.32	0.81	30.35	105604.81
Salesforce	151.16	6.57	311.75	136.04	-	118.50	151160.8
Schlmbrg	54.85	0.04	55.12	27.65	0.78	48.67	77769.87
Sempra Energy	152.06	2.35	176.47	119.56	2.47	44.41	47795.96
Shrwin-Will	226.07	4.70	354.15	195.24	0.83	37.94	58584.55
SimonProp	116.26	-0.61	171.12	86.02	5.25	19.91	38010.72
SouthCpr	54.88	1.84	79.32	42.42	4.98	14.64	42427.64
Starbucks	93.01	2.56	117.47	68.39	1.69	29.44	106719.67
StateSt	76.83	0.90	103.76	58.62	2.42	12.52	28192.01
Stryker	212.80	-0.72	279.28	188.84	1.04	47.84	80529.89
Sychrony Fin	36.24	0.04	51.09	27.22	2.13	5.59	16327.62
T-MobileUS	150.43	0.65	154.38	101.51	-	73.11	187158.11
Target	163.62	3.75	268.98	137.16	1.66	13.46	75305.87
TE Connect	118.02	1.23	166.44	104.76	1.43	18.78	37745.8
Tesla Mtrs	194.25	-2.83	400.65	186.75	-	46.43	613393.41
TexasInstr	169.47	3.78	199.90	144.46	2.12	24.03	153801.64
TheTrvelers	184.69	0.56	187.98	145.40	1.67	13.34	43281.64
ThrmoFshr	499.03	6.93	668.94	475.77	0.18	30.04	195717.35
TJX Cos	72.13	0.01	76.94	53.69	1.24	31.00	83746.75
Truist Financial Corp	44.60	0.62	66.10	40.01	3.56	11.69	59173.78
Twitter	53.70	0.35	60.16	31.30	-	-224.30	41093.72
UnionPac	201.00	4.70	278.94	183.70	1.97	21.76	123574.96
UPS	170.60	1.47	233.72	154.87	2.04	13.61	124507.52
USBancorp	44.00	0.47	61.13	38.39	3.41	10.11	65376.23
UtdHlthcre	553.37	8.35	558.10	436.00	0.86	35.85	517036.07
ValeroEngy	130.44	-1.34	146.81	65.13	2.57	67.31	50287.66
Verizon	37.98	0.79	55.51	34.55	5.70	8.36	159488.07
VertexPharm	309.08	5.85	318.38	179.96	-	40.18	79338.19
VF Cp	28.74	0.53	78.91	26.46	5.85	11.04	11167.39
Visa Inc	203.82	3.72	235.85	174.60	0.56	39.53	333248.69
Walgreen	38.70	0.11	53.46	30.39	4.23	6.56	33468.27
WalMartSto	143.65	1.20	160.77	117.27	1.32	34.22	389900.28
Walt Disney	101.72	1.29	179.25	90.23	-	69.27	185441.44
Waste Manage.	159.58	2.23	175.98	138.58	1.23	43.57	65503.93
WellsFargo	47.35	0.28	60.30	36.54	1.39	11.21	180426.74
Williams Cos	33.94	0.10	37.97	24.86	4.13	32.06	41350.45
Workday	141.69	5.17	307.81	128.72	-	1369.99	28479.69
Yum!Brnds	122.55	0.04	139.85	103.97	1.39	27.55	34870.68
Zoetis	139.71	1.85	249.27	124.15	0.61	38.32	65114.92
Zoom	81.49	1.88	268.88	70.44	-	21.01	20451.97
Venezuela (VEF)							
Bco de Vnzla	1.16	-	2.14	0.32	141.60	-	482.73
Bco Provncl	2.83	0.01	3.30	1.70	-	0.00	121.09

Closing prices and highs & lows are in traded currency (with variations for that country indicated by stock), market capitalisation is in USD. Highs & lows are based on intraday trading over a rolling 52 week period.
◆ ex-dividend
■ ex-capital redistribution
price at time of suspension

FT 500: TOP 20

	Close price	Prev price	Day change	Day change %	Week change	Week change %	Month change %
SandsCh	17.66	17.04	0.62	3.64	3.96	28.9	5.48
HK Exc&Clr	261.60	259.60	2.00	0.77	52.60	25.2	-21.66
Tencent	245.80	245.40	0.40	0.16	40.20	19.6	-21.97
ChinaPcIns	15.06	15.02	0.04	0.27	2.40	19.0	-7.51
New Ch Life Ins	14.78	14.66	0.12	0.82	2.32	18.6	-18.63
Boeing	169.52	164.91	4.61	2.80	26.14	18.2	3.84
ChinaMBank	30.20	30.30	-0.10	-0.33	4.40	17.1	-25.59
AIA	68.70	67.70	1.00	1.48	9.25	15.6	-8.82
Citic Secs	13.56	13.72	-0.16	-1.17	1.82	15.5	-16.97
Panasonic	1229.00	1231.50	-2.50	-0.20	164.50	15.5	7.43
PingAnIns	36.10	36.80	-0.70	-1.90	4.70	15.0	-17.11
CSR	2.72	2.71	0.01	0.37	0.34	14.3	-5.21
DuPont	67.01	61.74	5.27	8.54	8.31	14.2	11.28
JapanTob	2804.00	2796.00	8.00	0.29	340.00	13.8	18.44
ChinaLife	9.65	9.66	-0.01	-0.10	1.10	12.9	-14.87
JohnsonCn	65.14	64.13	1.01	1.57	7.14	12.3	13.87
Sony	11200.00	10845.00	355.00	3.27	1212.00	12.1	-6.54
AirProd	282.40	277.63	4.77	1.72	30.28	12.0	7.17
Aptiv	101.67	99.17	2.50	2.52	10.08	11.0	-1.99
PetroChina	3.33	3.31	0.02	0.60	0.33	11.0	-2.92

Based on the FT Global 500 companies in local currency

FT 500: BOTTOM 20

	Close price	Prev price	Day change	Day change %	Week change	Week change %	Month change %
Fidelity NIS	63.30	61.85	1.45	2.34	-19.74	-23.8	-36.95
Perrigo	33.73	39.28	-5.55	-14.13	-6.38	-15.9	-17.05
Tesla Mtrs	194.25	197.08	-2.83	-1.44	-33.57	-14.7	-34.65
Cognizant	54.55	53.75	0.80	1.49	-7.98	-12.8	-20.66
Nutrien	100.84	98.66	2.18	2.21	-14.27	-12.4	-14.53
DominRes	63.07	62.94	0.13	0.21	-6.65	-9.5	-26.32
BT	117.45	115.20	2.25	1.95	-11.45	-8.9	-25.53
Petrobras	30.42	30.63	-0.21	-0.69	-2.84	-8.5	-13.14
Zoetis	139.71	137.86	1.85	1.34	-13.01	-8.5	-17.53
Netflix	263.59	258.60	4.99	1.93	-23.16	-8.1	9.30
Cielo	5.51	5.56	-0.05	-0.90	-0.44	-7.4	0.73
PublStor	285.07	274.33	10.74	3.91	-22.58	-7.3	-18.85
Devon Energy	71.84	72.04	-0.20	-0.28	-5.46	-7.1	4.73
Medtronic	81.69	85.54	-3.86	-4.51	-6.06	-6.9	-13.87
SHOP	43.63	43.51	0.12	0.28	-3.08	-6.6	-1.62
Workday	141.69	136.52	5.17	3.79	-9.91	-6.5	-15.59
Apple	140.89	138.92	1.97	1.42	-9.76	-6.5	-18.18
Amazon	91.10	90.53	0.57	0.63	-5.69	-5.9	-33.94
Bradesco	15.69	15.89	-0.20	-1.26	-0.95	-5.7	-2.78
Edwards Lifesc.	68.54	68.77	-0.23	-0.33	-4.05	-5.6	-30.44

Based on the FT Global 500 companies in local currency

BONDS: HIGH YIELD & EMERGING MARKET

Nov 08	Red date	Coupon	S*	M*	F*	Bid price	Bid yield	Day's chge yield	Mth's chge yield	Spread vs US
High Yield US$										
HCA Inc.	04/24	8.36	BB-	Ba2	BB	113.75	4.24	0.00	0.12	-
High Yield Euro										
Aldesa Financial Services S.A.	04/21	7.25	-	-	B	71.10	28.23	0.00	0.64	25.98
Emerging US$										
Peru	03/19	7.13	BBB+	A3	BBB+	104.40	2.60	-	-	0.34
Colombia	01/26	4.50	-	Baa2	BBB-	109.50	2.33	0.16	0.52	1.28
[illegible]										

BONDS: GLOBAL INVESTMENT GRADE

Nov 08	Red date	Coupon	S*	M*	F*	Bid price	Bid yield	Day's chge yield	Mth's chge yield	Spread vs US
US$										
FleetBoston Financial Corp.	01/28	6.88	BBB+	Baa1	A-	129.00	2.54	-0.01	-0.05	-
The Goldman Sachs Group, Inc.	02/28	5.00	BBB+	A3	A	117.21	2.47	0.00	0.32	-
NationsBank Corp.	03/28	6.80	BBB+	Baa1	A-	127.69	2.72	-0.01	0.06	-
GTE LLC	04/28	6.94	BBB+	Baa2	A-	128.27	2.80	0.00	-0.11	-
United Utilities PLC	08/28	6.88	BBB	Baa1	A-	130.43	2.62	-0.07	-0.22	-
Barclays Bank plc	01/29	4.50	A	A1	A+	96.46	5.02	0.00	0.02	-
[illegible]										

INTEREST RATES: OFFICIAL

Nov 08	Rate	Current	Since	Last
US	Fed Funds	3.00-3.25	21-09-2022	2.25-2.5
US	Prime	6.25	22-09-2022	5.50
US	Discount	3.25	22-09-2022	2.50
Euro	Repo	0.53	01-11-2022	0.374
UK	Repo	3.00	02-11-2022	2.25
Japan	O'night Call	0.00-0.10	01-02-2016	0.00
Switzerland	Libor Target	-1.25-0.25	15-01-2015	-0.75--0.25

INTEREST RATES: MARKET

Nov 08 (Libor: Nov 07)	Over night	Change Day	Change Week	Change Month	One month	Three month	Six month	One year
US$ Libor	3.81800	0.002	0.754	-0.003	3.85514	4.55729	5.02286	5.61214
Euro Libor	-0.64957	-0.064	0.000	0.001	-0.61943	-0.58057	-0.55600	-0.48571
£ Libor	0.18063	-0.005	0.000	0.003	2.96780	3.44940	4.06350	0.81363
Swiss Fr Libor				-0.002	-0.77540	-0.75300	-0.70280	-0.55320
Yen Libor				0.000	-0.06005	-0.03172	0.04083	0.04867
Euro Euribor				0.007	1.40500	1.74200	2.29600	2.82000
Sterling CDs				0.000	0.50000	0.63000	0.78500	
US$ CDs				0.000	3.84000	4.44000	5.01000	
Euro CDs				0.000	1.38000	1.65000	2.12000	

Nov 08	Short term		7 Days notice		One month		Three month		Six month		One year	
Euro	1.17	1.47	1.20	1.50	1.23	1.53	1.50	1.80	1.97	2.27	2.44	2.74
Sterling					0.45	0.55	0.58	0.68	0.71	0.86	0.90	1.05
US Dollar	3.62	3.82	3.64	3.84	3.74	3.94	4.34	4.54	4.91	5.11	5.28	5.48
Japanese Yen	-0.15	0.05	-0.20	0.00	-0.20	0.00	-0.15	0.05	-0.10	0.20	-0.05	0.25

Libor rates come from ICE (see www.theice.com) and are fixed at 11am UK time. Other data sources: US $, Euro & CDs: Tullett Prebon; SDR, US Discount: IMF; EONIA: ECB; Swiss Libor: SNB; EURONIA, RONIA & SONIA: WMBA.

BOND INDICES

	Index	Day's change	Month's change	Year change	Return 1 month	Return 1 year
Markit IBoxx						
ABF Pan-Asia unhedged	187.64	0.38	0.24	-14.63	-0.83	-14.02
Corporates(£)	315.21	-0.35	-0.08	-20.36	5.61	-21.50
Corporates(€)	204.73	0.03	-0.21	-15.24	-0.03	-15.98
Eurozone Sov(€)	210.44	-0.06	-0.92	-17.29	-0.20	-18.49
Gilts(£)	270.17	-0.82	-1.35	-24.84	6.40	-26.05
Overall(£)	277.60	-0.69	-1.01	-23.31	5.98	-24.49
Overall(€)	205.43	-0.01	-0.71	-16.72	-0.14	-17.80
FTSE						
Sterling Corporate (£)	-	-	-	-	-	-
Euro Corporate (€)	104.47	-0.05	-	-	0.54	-1.73
Euro Emerging Mkts (€)	616.63	1.49	-	-	-13.38	-18.97
Eurozone Govt Bond	110.04	-0.19	-	-	-0.34	-0.64

CREDIT INDICES	Index	Day's change	Week's change	Month's change	Series high	Series low
Markit iTraxx						
Crossover 5Y	515.20	-2.73	-26.04	-121.42	688.92	514.38
Europe 5Y	105.04	-1.83	-5.67	-26.93	142.08	104.99
Japan 5Y	93.95	-4.24	-8.89	-11.05	119.29	93.79
Senior Financials 5Y	114.23	-0.94	-5.34	-31.60	155.06	114.13
Markit CDX						
Emerging Markets 5Y	271.82	-10.55	-24.72	-45.05	335.29	271.82
Nth Amer High Yld 5Y	514.28	-8.77	-5.88	-67.90	625.47	501.79
Nth Amer Inv Grade 5Y	88.46	-1.58	-1.81	-13.08	110.98	87.58

Websites: markit.com, ftse.com. All indices shown are unhedged. Currencies are shown in brackets after the index names.

COMMODITIES

www.ft.com/commodities

Energy		Price*	Change	Agricultural & Cattle Futures		Price*	Change
Crude Oil†	Dec	91.47	-0.32	Corn◆	Dec	674.00	-1.75
Brent Crude Oil‡		97.26	-0.66	Wheat◆	Dec	841.50	-4.25
RBOB Gasoline†	Dec	2.66	0.00	Soybeans◆	Jan	1447.25	-3.00
Natural Gas†	Dec	6.52	-0.43	Soybeans Meal◆	Dec	418.50	-0.50
Base Metals (◆ LME 3 Months)				Cocoa (ICE Liffe)⊕	Dec	2055.00	6.00
Aluminium		2344.50	5.50	Cocoa (ICE US)♥	Dec	2512.00	6.00
Aluminium Alloy		1675.00	-905.00	Coffee(Robusta)⊕	Nov	1874.00	4.00
Copper		8033.00	84.00	Coffee (Arabica)♥	Dec	167.45	-3.10
Lead		2027.00	-17.50	White Sugar⊕		517.00	6.30
Nickel		23660.00	280.00	Sugar 11♥		18.81	0.13
Tin		19620.00	505.00	Cotton♥	Dec	88.10	0.61
Zinc		2893.50	13.50	Orange Juice♥	Jan	216.35	0.45
Precious Metals (PM London Fix)				Live Cattle♣	Dec	153.03	1.38
Gold		1678.95	4.55	Feeder Cattle♣	May	134.88	-
Silver (US cents)		2067.00	70.50	Lean Hogs♣	Dec	86.90	3.93
Platinum		971.00	24.00				
Palladium		1859.00	-30.00		Nov 07	% Chg Month	% Chg Year
Bulk Commodities							
Iron Ore		87.14	1.98	S&P GSCI Spt	657.52	-1.88	22.02
Baltic Dry Index		1356.00	19.00	DJ UBS Spot	117.28	-4.01	20.36
Richards Bay ICE Futures		195.65	-13.35	TR/CC CRB TR	309.33	-1.02	31.03
				LEBA EUA Carbon	58.91	-1.98	129.94
				LEBA UK Power	1048.00	-37.43	-39.60

Sources: † NYMEX, ‡ ECX/ICE, ◆ CBOT, ⊕ ICE Liffe, ♥ ICE Futures, ♣ CME, ◆ LME/London Metal Exchange.* Latest prices, $ unless otherwise stated.

BONDS: INDEX-LINKED

	Price Nov 07	Yield Nov 07	Yield Prev	Month return	Value stock	Market	No of stocks
Can 4.25%' 26	110.20	1.639	1.570	-0.83	5.25	69716.93	8
Fr 0.25%' 24	103.53	-1.764	-1.775	0.48	17.92	248457.25	17
Swe 1.00%' 25	124.95	-0.382	-0.411	0.37	35.38	216759.63	6
UK 0.125%' 24	104.78	-3.255	-3.317	0.38	15.24	570421.89	31
UK 2.50%' 24	378.75	-2.161	-2.207	0.45	6.82	570421.89	31
UK 2.00%' 35	242.13	0.112	0.084	0.83	9.08	570421.89	31
US 0.625%' 24	98.27	2.115	2.091	-0.03	40.98	1574917.49	47
US 3.625%' 28	108.81	1.910	1.920	-0.54	16.78	1574917.49	47

Representative stocks from each major market Source: Merill Lynch Global Bond Indices † Local currencies. ‡ Total market value. In line with market convention, for UK Gilts inflation factor is applied to price, for other markets it is applied to par amount.

BONDS: TEN YEAR GOVT SPREADS

	Bid Yield	Spread vs Bund	Spread vs T-Bonds		Bid Yield	Spread vs Bund	Spread vs T-Bonds
Australia	3.90	1.70	-0.35	Netherlands	2.33	0.14	-1.92
Austria	2.78	0.58	-1.47	New Zealand	4.54	2.35	0.29
Canada	3.59	1.39	-0.66	Norway	3.51	1.31	-0.74
Denmark	2.60	0.41	-1.65	Portugal	2.59	0.40	-1.66
Finland	2.83	0.63	-1.42	Spain	2.99	0.80	-1.26
Germany	2.20	0.00	-2.05	Sweden	-0.08	-2.28	-4.33
Italy	1.78	-0.41	-2.47	Switzerland	1.03	-1.16	-3.22
Japan	0.22	-1.98	-4.03	United States	4.25	2.05	0.00

Interactive Data Pricing and Reference Data LLC, an ICE Data Services company.

VOLATILITY INDICES

[illegible]

BONDS: BENCHMARK GOVERNMENT

[illegible]

GILTS: UK CASH MARKET

[illegible]

GILTS: UK FTSE ACTUARIES INDICES

[illegible]

Tradeweb

All data provided by Morningstar unless otherwise noted. All elements listed are indicative and believed accurate at the time of publication. No offer is made by Morningstar, its suppliers, or the FT. Neither the FT, nor Morningstar's suppliers, warrant or guarantee that the information is reliable or complete. Neither the FT nor Morningstar's suppliers accept responsibility and will not be liable for any loss arising from the reliance on the use of the listed information. For all queries e-mail ft.reader.enquiries@morningstar.co.uk

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POWERED BY MORNINGSTAR

ARTS

Peerless rapper vents his truth

POP

Kendrick Lamar
O2 Arena, London
★★★★★

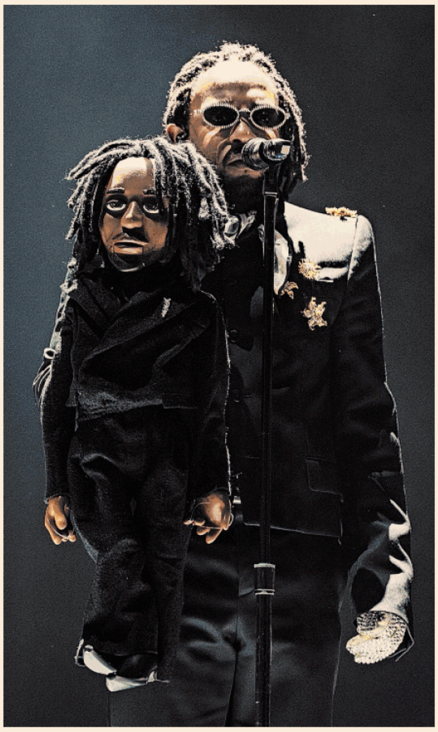
Ludovic Hunter-Tilney

Kendrick Lamar has gone on tour with an expensive-sounding English therapist. She is played by none other than Helen Mirren, whose pre-recorded voice rang out in the O2 Arena throughout the set, confronting the Californian rapper with therapeutic interventions about his behaviour. Or rather, the behaviour of his alter ego, Mr Morale, the central protagonist in the morality play that hip-hop's most intrepid star has devised for The Big Steppers tour.

Its setlist is similar to his triumphant headline appearance at Glastonbury this summer, although the staging is different. His festival show was more of a passion play with Christian themes of suffering and redemption involving a crown of thorns and much sacrificial shedding of blood. In contrast, his touring show presents him in a psychological context involving ventriloquism and mirrored identities, like an extended version of the analytic hour. The same message holds true, however. What is at stake, amid the pyrotechnic explosions and entertain-us atmosphere of the arena circuit, is the struggle to be a better person.

The first of three London dates began with 11 dancers lining up on a long lit-up catwalk that extended into the audience. The men wore black, the women white. The main stage was concealed by a set of curtains, like a vast box, which rose to reveal a scene of darkness. A lamp suddenly came on, like the flare of Harry Lime's match in a Vienna doorway in *The Third Man*. It revealed the figure of Lamar sitting at an upright piano. He was dressed in black and wore glasses. A ventriloquist's dummy that looked like him was placed on top of the piano.

His opening number was "United in Grief", the first song on his latest album *Mr Morale & The Big Steppers*. "The world that I'm in is a cul-de-sac," he rapped, playing a simple piano melody that tenaciously picked a way through a convulsive barrage of beats.



Kendrick Lamar incorporates ventriloquism into his The Big Steppers tour — Greg Noire

Then he headed to a microphone stand on the catwalk stage to perform "N95", also from the new album, while holding the ventriloquist's dummy. Its mouth moved up and down as Lamar rapped about social and personal breakdown, a world in which rap celebrity was portrayed as a false register of African-American success in a materialistic society scarred by racism.

"Can I vent all my truth?" he rapped. He had a single glove on his left hand, a nod to the complicated entertainment legacy of Michael Jackson — but also as if the other glove had been cast down as a challenge. Lamar has taken hip-hop's traditional onus on truth-telling, on keeping it real, and turned it into a highly stylised act of theatre about self-understanding. The challenge was willingly accepted by a fervent audience, who rapped along to back catalogue favourites such as "m.A.A.d city" and serenaded Lamar by singing his name between songs.

The dancers did exaggerated marching on the spot routines, running to stand still. Occasionally they ringed Lamar in circles and squares, illustrating the idea of his being boxed in. For "Mirror", he rapped inside an actual box, which was raised into the air and filled with smoke. Back on terra firma, he emerged from it to be presented by his support act and cousin Baby Keem, who stood facing him at the other end of the runway, also dressed in black, like a mirror image of Lamar. The pair proceeded to do three of Keem's tracks, rowdy affairs that sent the moshpits into a frenzy.

A set of backing musicians stood on one side of the main stage, adding a live element to the beats, which were both loud and vividly textural. "DNA" had a metallic jingling sound, like the bars of a cage, while "King Kunta"'s funk was amplified to industrial volume. Lamar rapped quickly, words twisting and turning in a rapid cascade of verses, a quicksilver presence. At times he crouched down, hand on knee, the other hand holding the microphone to his mouth, a rap version of Rodin's "The Thinker".

Lamar's mix of cerebrality and showmanship is unmatched by any of his contemporaries. "Can you stay out of the box?" Mirren's voice asked at the end. According to this gig, the answer has to be yes.

oklama.com

JAZZ

Immanuel Wilkins Quartet
Ronnie Scott's, London
★★★★☆

Mike Hobart

American saxophonist Immanuel Wilkins is part of a new generation of jazz musicians confidently fusing large chunks of African-American music into an organic whole. Wilkins stands in the lineage of Kenny Garrett and John Coltrane, but he articulates with the rhythmic awareness of hip-hop and R&B, and pulls the elements together in his own unique way.

This feisty one-night stand in London, featuring his working quartet, was part of an extensive European tour; the band played in Warsaw the night before and were due to fly out after the show for six gigs in Spain. At Ronnie Scott's, across two virtually uninterrupted sets, they exhibited the compressed energy of a band on the road.

The evening began with pianist Micah Thomas unaccompanied, introducing the central theme of "Waiting" from the club's concert grand. The pensive motif had a discordant upper-register tail that Thomas let hang before repeating it in a different key. The audience gripped, the rest of the band came on stage after a few minutes. Kweku Sumbry fired a loose roll of drums, bassist Rick Rosato alternated counterpoint with swing and Wilkins played with purpose and a pithy tone.

The seven-part *Waiting Suite*, based on a collaboration with Sidra Bell Dance, is full of twists, turns and reintroduced motifs. It began with a loose-limbed swagger that let the band limber up and establish the quartet's aesthetic core. Wilkins alternated precisely syncopated patterns and scales with quick-fire runs, low-register growls and phonics. Thomas probed the piano's middle range with taut lines, contrapuntal figures and a series of block chords. Bass and drums coaxed and cajoled with focus and power.

As the suite unfolded, a bustle of rimshots locked into figured bass and a complex repeating pattern had a hypnotic effect. The tempo accelerated, drums rattled and rolled and then, all of a sudden, sax and piano were playing a ballad with a minor-key theme. As the work progressed in a continuous stream, an upscale waltz morphed into a modern jazz bounce, the ballad returned, there was a burst of free jazz and the piece ended with a long, sensuous fade.

The second set was based on the 2020 album *Omega*. Thomas and Sumbry both featured on Wilkins's debut Blue Note release, and at this gig only Rosato was new. "Warriors" opened the set, followed by "Ferguson" and "Grace and Mercy". Here they were conjoined in a continuous set; once again, duets and trios emerged, and moods and tempo changed. As before, soloists probed harmony and rhythm and, conducted by the impressive Sumbry, dug deep and took wing. The drummer's rhythmic independence and combination of jazz subtlety and hip-hop power gripped throughout.

The performance closed with a pulsating ebb-and-flow vamp. A quiet cymbal ping was the final note before a rapt audience stood and shouted for more.

ronniescotts.co.uk

Saxophonist Immanuel Wilkins fuses African-American music styles into an organic whole
Peter Van Breukelen/Redferns

How games became an artists' playground

GAMING
Tom Faber

Uterus Man is an unlikely superhero. Sporting spiky white hair and armour the colour of muscle and sinew, he boasts several special attacks, the *least* outrageous of which might be "blood column" or "umbilical cord whip". He gets around riding a "sanitary pad skateboard" or sometimes the speedier "pelvis chariot". The exuberant film clip which introduces Uterus Man resembles a cutscene from a fighting game such as *Tekken*, though I first encountered him not on my PlayStation at home but at the Zabludowicz Collection, an art gallery in north London. It is part of a retrospective on Chinese digital artist LuYang, whose work sits at the fertile intersection of gaming and contemporary art.

Born in Shanghai in 1984 and based in Tokyo, LuYang is part of a generation of artists who grew up with video games and now deconstruct their themes and repurpose their visual language. They show how games are expanding the horizons of fine art, not just in subject matter but also by providing new tools that radically increase the scope and scale of what a single artist can create.

The exhibition centres around LuYang's half-hour animated film *DOKU the Self*, which premiered at this year's Venice Biennale and explores existential questions around reincarnation and the nature of consciousness. Its multiple characters and high-fidelity dance sequences might have taken millions of dollars and a huge team to produce 20 years ago, but can now be made by a single artist with a modest budget using game engines such as Unity and Unreal Engine.

whose game-like films are driven by sci-fi narratives exploring the future of technology in China, and Ian Cheng, whose work interrogating AI has been shown at MoMA and the Whitney in New York.

Down a corridor at the back of the LuYang exhibition is a surprise: a huge retro-futurist arcade with a checkerboard floor and pulsing neon lights, containing playable arcade machines made by the artist. They include a dancing game and a Uterus Man-themed racer in which you ride a life-size plastic motorbike. For a gamer, these experiences might feel unpolished, but they still offer a thrilling opportunity to become an active participant in LuYang's world and so grapple more closely with their recurring characters and ideas.

> LuYang's stories are hyper-colourful and highly camp but still ask important questions

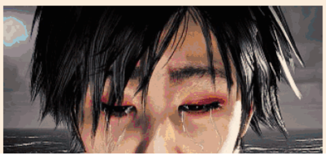
The ideas are fascinating. The characters in *DOKU* are presented as stylish fighters, but each in fact represents a different path to Buddhist reincarnation. The videos are great fun and highly fantastical, but they also engage with urgent contemporary questions: what becomes of the human soul in a digitally mediated world? And what is gained and lost when the body is recreated in virtual space, when flesh and blood become pixel and polygon? Even Uterus Man is not just played for laughs, but also prompts questions about gender and the reproductive system.

As a teenager who grew up with anime and games, I recognised that these questions were often present under the surface of convoluted Japanese role-playing games and sci-fi anime. Yet the gallery space encouraged me to consider the ideas more profoundly, particularly in a soul-quieting space like the Zabludowicz's main room, which was once the nave of a Methodist church.

The most joyous quality LuYang borrows from anime is the melodramatic tone, which enables stories to be hyper-colourful and highly camp but still ask important questions. A similar technique is used by Theo Triantafyllidis, whose film *Radicalization Pipeline*, made using a game engine, reimagines social media platforms as video game conflict zones where Trump supporters do battle with orcs wielding medieval weapons.

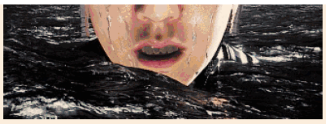
The artists at the vanguard of digital art are using software that will only become more powerful and accessible in the coming years. Their work will give art-lovers who have never understood gaming an opportunity to see what video games have to offer. The reverse is also true. At several points in the exhibition, I passed two young women with pink hair filming themselves dancing to LuYang's complex choreography while listening to his selections of techno-pop. They seemed delighted to have discovered art that truly spoke their language.

'LuYang NetiNeti' to Feb 12
zabludowiczcollection.com



A still from LuYang's animated film 'Doku the Self'
Courtesy of the artist and Société, Berlin

All artists are world-builders in a sense, creating their own aesthetic universes with characters, forms and concerns that recur across their work, but these tools allow digital assets to be generated, manipulated and reused with minimum fuss. Other artists using similar techniques include Lawrence Lek,



FT BIG READ. ASSET MANAGEMENT

Turmoil in the UK gilt market is causing investors to review their portfolio allocation. It could lead to reduced demand for private markets, including infrastructure projects backed by the government.

By Harriet Agnew, Josephine Cumbo and Jonathan Eley

The big pensions rethink

When UK pension funds started to buckle under the turbulence caused by the Truss government's "mini" Budget in September, senior executives at J Sainsbury were taking no chances.

The supermarket group's pension fund, which has more than 70,000 members, had weathered the initial market volatility. But the company, fearful of more ructions once the Bank of England stabilisation measures were withdrawn, hurriedly set up a loan facility for £500mn.

"We decided to put a short-term loan in place should [the pension fund] require it," said Sainsbury's chief financial officer Kevin O'Byrne. "If there was a spike [in gilt yields] . . . we didn't want them to have to do anything irrational like selling assets at the wrong time."

In the end, the trustees did not need to draw on the cash. Shortly after the loan facility was set up, Britain changed chancellor and the markets stabilised.

But the episode illustrates how wild swings in the gilt markets have taught UK pension funds an important lesson: assets that cannot be quickly converted to cash may deliver higher returns, but in a crisis pension schemes need assets they can sell fast.

"There'll be a new focus on liquidity," says Andrew Lewis, chief financial officer of FTSE 250 aerospace and defence group Chemring. "I don't think people really understood the liquidity risk, which is very different from the funding risk."

The immediate impact of the gilt market chaos has been to shine a light on liability-driven investing, which has become a widely used strategy over the past two decades among the UK's 5,200 defined benefit (DB) pension schemes — so called because they promise to pay employees' pensions at a fixed level. The LDI strategy typically uses derivatives to increase pension funds' exposure to UK government bonds while offering protection against moves in interest rates and inflation, and freeing up cash to invest in assets that can generate higher returns.

But as the dust settles, there are likely to be important reverberations throughout the rest of the investment world. The market chaos is accelerating the rethink that was already under way among pension funds about the so-called 60/40 allocation of assets between equities and bonds, which has performed poorly this year.

And the renewed focus on liquidity could reduce the amount that pension funds seek to allocate to private markets — despite a government push to get them to invest more in infrastructure projects. Market participants anticipate that pension funds will have a reduced appetite for more illiquid holdings, including property and private credit, and some may look to sell their stakes in buyout funds.

"In the aftermath of the LDI crisis the strategic asset allocation of DB schemes will change materially," says Michael Eakins, chief investment officer at Phoenix Group, one of the UK's largest savings and retirement businesses. "They will be less invested in private markets and more in liquid markets like bonds and gilts."

LDI managers — such as BlackRock, Insight Investment and Legal and General Investment Management — are reducing leverage and demanding that pension schemes put up more collateral to keep the same hedges in place, which means that there is less spare cash to invest in other assets.

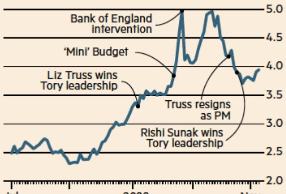
"The issue with private assets is that, in times of stress, they can't be mobilised," says Vincent Mortier, chief investment officer at asset manager Amundi. "There will be some new thinking about liquidity management in order to avoid being trapped and having to sell things in a desperate way."

The Bank of England stepped in to stabilise markets, with an official there pointing to 'poorly managed leverage' as a cause of the turmoil among pension funds

FT montage: Tolga Akmen/EFE-EPA/Shutterstock/Bloomberg

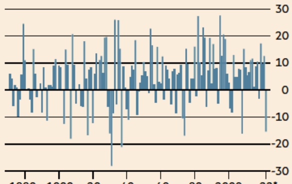
Turbulence in the UK gilt market

Yield on 20-year gilt (%)



60/40 model has one of its worst years

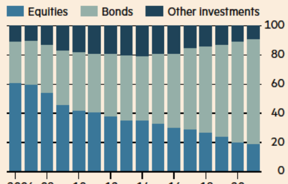
US 60/40 portfolio return per calendar year since 1871 (%)



* 2022 data is YTD return

Pension funds' shift into bonds

Weighted average asset allocation in UK defined benefit schemes (% of total assets)



Sources: Refinitiv; Robert Shiller online data; Berenberg research; Pension Protection Fund

'The issue with private holdings is that, in times of stress, they can't be mobilised'

Vincent Mortier, chief investment officer at Amundi

assets under management. At the end of 2021, they were 72 per cent allocated to bonds, 19 per cent to equities and the rest to other investments such as property and hedge funds, according to the Pension Protection Fund, the lifeboat scheme for the sector. This contrasts with 2006, when they were 62 per cent invested in equities and 28 per cent in bonds.

This trend reflects how regulation and politics have pushed DB pension funds out of equities to invest more heavily in bonds, which are considered "safe" assets that reduce the risk to the portfolio and sponsoring employer.

An important part of that approach has been the growing use of LDI by pension funds. But when gilt prices plummeted after the "mini" Budget announcement of unfunded tax cuts, counterparties made urgent demands for more cash as collateral to keep the hedging arrangements in place and the strategy came unstuck.

Pension funds became forced sellers of assets to meet these collateral calls. They dumped gilts, causing prices to fall further, and also slashed their holdings in the most liquid securities, such as corporate bonds and equities.

declined, as higher yields reduce outstanding obligations to retirees.

It means that schemes are now much closer to what is known as "buyout", when a fund pays an insurance company to take over the pension payout promises and the corporate sponsor offloads the pension fund risk. This has implications for their asset allocation.

"As pension funds get closer to buyout they will want to have less market risk, and higher capital buffers will be required for their LDI strategies," says Peter Harrison, chief executive at FTSE 100 asset manager Schroders. Both of these reasons "will force DB pension funds to be sellers of growth assets".

The momentum is likely to accelerate as schemes offload illiquid holdings, such as private equity and infrastructure, to position themselves for buyout.

£1.5tn	5,200
Assets under management at the UK's defined benefit schemes	Number of defined benefit schemes in the UK, with over 10mn members

A trustee at the pension scheme of Airbus, the world's largest aircraft maker,

"This is an exceptional year for asset allocation," says Stephen Cohen, head of Europe, Middle East and Africa at BlackRock. "It's the end of the Great Moderation," he adds, referring to the long period of steady growth, falling interest rates and lots of liquidity in the markets. "Conversations with investors are around high inflation, more volatility and rising interest rates."

In addition to these market forces, there is the war in Ukraine, global energy and food crises, supply chain disruption, and geopolitical tensions between the US and China.

Historically stocks and bonds were seldom correlated for long periods, but this year they have fallen in tandem, leaving investors questioning how to balance risks. "The difficulty you have as a multi-asset investor this year is that it's been virtually impossible to find diversification," says Jon Cunliffe, managing director of investments at pensions provider B&CE.

The positive correlation between equities and bonds has undermined the 60/40 balanced approach, where investors allocate 60 per cent to equities, for capital appreciation, and 40 per cent to bonds, to secure income and risk miti-

'The difficulty you have

pivot, equities reprice and inflation starts to come down. "Bonds and equities will have a negative correlation again."

Sonja Laud, chief investment officer at LGIM, says that a "regime shift" to higher yields on government bonds means there is less of a need for funds to move into illiquid but higher-returning credit assets. "With yields where they are now, a lot of government and corporate bonds will be more attractive."

Cohen at BlackRock says: "We're starting to see a lot of clients talking about fixed income becoming interesting again."

Pension funds pushed into riskier credit as a result of the hunt for yield but now that some sovereign bonds are yielding 4 or 5 per cent they do not need to go that far down the risk spectrum. "What that does to asset allocation could be pretty profound," says John Graham, chief executive of CPP Investments.

While the next few months look difficult, pension funds who have a longer-term time horizon say that they are beginning to see buying opportunities in both bonds and shares. Cunliffe says: "Bond yields are at the highest they've been since the global financial crisis and equity valuations are below the 20-year average, which is not a bad starting point . . . to get a decent return in the next three to five years."

Driving the economy

The gilt market turmoil was sparked by the government and it is a government plan that could be one of the casualties of the ensuing fallout.

Kwasi Kwarteng and Liz Truss's 'mini' Budget set off gilt market chaos that accelerated a pension fund rethink

With DB pensions being phased out by many companies, the bulk of pension savings are now invested in defined contribution (DC) schemes, where members draw a pension from their individual pot and take their own investment risk.

The UK government has identified the potential of the DC industry, with more than a trillion pounds of assets, to help drive economic growth and the transition to a green economy. A survey commissioned by the Department for Work and Pensions found that two-thirds of DC schemes do not invest in illiquid assets, while the remaining third invest less than 7 per cent.

In recent years Westminster has made successive attempts to encourage the schemes to redirect more of their cash to projects that will help drive the UK's economy, such as infrastructure projects, tech start-ups and wind farms.

State-backed pension fund Nest, one of the UK's largest workplace pension schemes, is among the DC plans ploughing money into private assets. "We think there is room for us to take on more exposure to illiquid assets, particularly for younger members," says Liz Fernando, deputy chief investment officer at Nest. However, the downside of such investments is they could result in millions of low- and middle-income savers paying the higher fees that such projects usually charge, with no guarantee of improved returns.

"Moving into illiquids does come at a cost, with no guarantee of improved returns, so you do have to take a leap of faith," says Steven Cameron, pensions director of Aegon, a pension provider with 3mn customers. He worries that the recent liquidity crisis in the DB world may give DC schemes pause for thought: "Trustees of DC schemes may be more wary of going into illiquid assets . . . this could impact the LTAF because DC trustees might be more cautious now on illiquids."

While the recent LDI crisis is concentrated in the UK market, there are wider ramifications. "The huge takeaway globally is liquidity, liquidity, liquidity and making sure you can meet all these margin calls," says Peter van Dooijeweert, head of multi-asset solutions at Man Group. "Everyone is taking a pause here to say look, if I can see a major developed bond market move 15-20 per cent in a day in the 20-year duration bucket, I need to make sure that my pension fund is OK for that."

Shifting allocation

Asset allocation by the UK's DB schemes has shifted dramatically over the past 15 years. These funds collectively have more than 10mn members and £1.5tn

"There's been more activity in pension schemes in the past month than there has been in the past five years," says Alex Millar, head of UK distribution at $1.3tn asset manager Invesco.

Sarah Breeden, a member of the BoE's Financial Policy Committee, said on Monday that LDI funds sold £30bn of gilts and raised over £40bn in funds during the period of market turmoil. "The root cause is simple," she said. "Poorly managed leverage."

But the irony for DB schemes is that while the sharp swings in the gilt markets wreaked havoc on liquidity, their overall funding positions have improved sharply. This is because the steep rise in interest rates has shrunk liabilities faster than asset values have

says it plans to reduce risk and add to its LDI hedge as it moves closer to buyout. It will gradually reduce its property and infrastructure portfolios.

The UK DB market is now on a £155bn surplus compared to a £600bn deficit a year ago, while liabilities have shrunk to £1.2tn from £2.4tn, according to professional services firm PwC.

Harrison says that pension funds will become "more circumspect" about investments in other assets. "The future fundraising for parts of private equity is going to be much tougher," he says.

The end of the Great Moderation

Even before the pensions drama in the UK, institutional investors were already revisiting many core assumptions.

gation. It's been "a nightmare for allocation", says Mortier at Amundi. "The 60/40 model has been broken for some time and totally broken for a year."

Investment managers do not believe, however, that the result will be a return to most assets being invested in equities — as was the case two decades ago.

Amundi says it is seeing more requests from clients for diversification, both across sectors and beyond developed markets to Latin America, China and India. "People are thinking differently," Mortier says. Instead of thinking in terms of equities and fixed income, investors are thinking about "risk factors" that cut across asset classes.

He believes that 60/40 will "make a comeback" next year as central banks

> ... as a multi-asset investor this year is that it's been virtually impossible to diversify'
>
> Jon Cunliffe, managing director at B&CE

While DC schemes have a long-term time horizon, they offer daily pricing to allow investors to transfer in and out of funds at will using up-to-date valuations for those assets. This could be hard to square with the government's push to encourage more investment in inherently hard-to-sell assets, which are valued far less frequently.

Others worry UK political turbulence has become an obstacle. LGIM's Laud says: "If you want to attract private capital you have to provide certainty that the regulatory framework is not going to be subject to random change and reassure investors that economic considerations of these projects won't be derailed by the political outlook."

Additional reporting by Adrienne Klasa

The FT View

FINANCIAL TIMES
'Without fear and without favour'
ft.com/opinion

Europe should not be complacent on energy security

The continent may avoid the worst this winter but next year looks troubling

Not so long ago, apocalyptic forecasts abounded on the outlook for European energy supplies this winter. Now it seems the worst-case scenarios for widespread blackouts and rationing may have been averted. Natural gas prices have fallen sharply from an all-time peak in August. The EU's gas storage has been filled to 95 per cent capacity. An unusually mild autumn has helped. Fears that Europe might run short of energy reserves to get households and businesses through the colder months have been assuaged by rapid action to build up stocks, boost efficiency and procure alternate supplies. But the region is not out of the woods yet. Getting through winter 2023 could be an even greater challenge.

Europe must not be lulled into a false sense of security. This time next year, storage sites may only be 65 per cent full, given the difficulties it could face in refilling them from the spring, according to the International Energy Agency. For starters, weather conditions could quickly turn and deplete stores. There may be little or no Russian gas to rebuild reserves too. Before Vladimir Putin reduced exports to a trickle in September by indefinitely closing Nord Stream 1 — the main pipeline carrying gas from Russia to Europe, Russian gas had been important in meeting storage targets.

The EU has also replaced missing Russian pipeline gas with bountiful imports of liquefied natural gas so far this year — including from Russia, albeit from a low base. This has been made possible by weaker demand elsewhere. China is a big gas guzzler, but weak economic activity linked to its Covid lockdowns have curbed its appetite for now. If its LNG imports rebound, China could absorb a significant amount of the expected increase in supply in 2023. With planned increases in global LNG export facilities not set to come into operation for a few years, Europe should expect stiffer competition for the gas.

Non-Russian gas supplies — including from Norway, Azerbaijan and Algeria — have also helped to plug the shortfall. But there may be limited scope to extract more from these sources. With the French nuclear industry beset by maintenance issues and little political desire to boost fossil fuel generation, banking on alternative EU energy sources would not be wise either. Altogether, supply uncertainty and ample demand means European natural gas prices are still projected to be higher than current levels toward the end of next year, and are expected to remain well above prewar prices for a while.

The many risks to energy security next year mean efforts need to be redoubled to avoid shortfalls next winter. Faced with uncertainty over supply, industry in particular is struggling to plan ahead. The rapid deployment of renewable energy, heat pumps and energy efficiency measures will remain important, along with strengthening initiatives to constrain gas demand. Many governments have so far favoured price caps to cushion the high cost of living, but they dull incentives to reduce gas consumption. Some EU nations are also pushing for a misguided price ceiling on gas imports, which might simply drive gas cargoes away to better-paying buyers elsewhere.

> The bloc has made enormous progress in adapting to life without Russian supplies in a short space of time

The continent has made enormous progress in adapting to life without Russian energy in such a short space of time. Russian pipeline supplies now only account for 9 per cent of EU supply, down from 40 per cent last year. But the tighter, pricier energy market has caused significant damage: factories have closed down and households are suffering a drop in living standards. Such efforts and sacrifices have been hard but they will intensify if the continent comes up short next winter. Now is not the time for complacency.

Opinion Science

Renewables future may be blown off course by ill winds

Andy Carter

Anjana Ahuja

We tend to think of an extreme weather event as a moment of high drama. It is the waist-deep flood, the perishing heatwave or the famine-inducing drought.

One climatic extreme, called a wind drought, has largely escaped attention, perhaps because it is the very absence of drama. A wind drought — a prolonged period of slow wind — happened in Europe in summer 2021, with some countries recording their lowest wind speeds for decades.

The slowdown may have been due partly to natural variability but also tallied with predictions that climate change will cause wind speeds to drop over the long term, a phenomenon known as "global stilling". As wind power spins its way into the European energy mix, operators will need to plan how to keep the lights on in a warming world girdled by lazy winds.

> Energy operators will need to plan how to keep the lights on in countries affected by 'global stilling'

Europe is blazing an unfortunate trail when it comes to climate change. A report published last week by the ... that were 20 per cent slower than the annual average (the UK average is just under nine miles an hour).

Low winds are becoming a specific climate-related challenge for Europe because of the continent's increasing dependence on wind power. This month, a record 20GW was generated in the UK in a half-hour period from both onshore and offshore wind, accounting for 53 per cent of the National Grid's output.

Power generated is proportional to the cube of near-surface wind speed, meaning even a modest slowdown can have a significant impact. This mathematical truth was reflected in energy company statements around the time of 2021's wind drought: SSE in the UK and Orsted in Denmark blamed, in part, the limp breeze for shortfalls in energy production between April and September last year.

"These wind droughts have highlighted a new resilience challenge for energy operators," says Hannah Bloomfield, a climate research analyst at Bristol University, who studies the impact of meteorological phenomena on energy generation. "Everything we build depends on the weather."

Bloomfield points out that wind is a complex phenomenon and accurately attributing an anomalous year is not easy. "The big buzzword is global stilling and it might be playing a part," she says. Some of the most pronounced "low wind events" have come over the past decade, "but the year-to-year variability is also very high."

Different climate models, she has found, also disagree about whether warming will ultimately increase or decrease wind speeds overall. The key message, Bloomfield says, is

Letters

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Here's how regulators and the regulated can stress test scenarios

In her Markets Insight column on financial regulation (Opinion, November 2), Laura Noonan explores some of the limits of stress tests which are based on "severe but plausible" scenarios. Time and again financial markets produce shocks that would have been considered "implausible" until they materialised. The issue is how do we "think the unthinkable" and, having done so, act on it?

Part of the answer is already in the Prudential Regulation Authority's "rule book" and supervisory statements. The PRA expects banks and insurers to undertake reverse stress tests and scenario analysis that test their business plans to the point of failure. These complement the more familiar "severe but plausible" tests.

If the results identify a risk of business failure that is unacceptably high relative to the firm's risk appetite, it should take action to mitigate that risk. This does not necessarily mean that the firm should hold even more capital — other mitigants, such as better controls or changing the business or funding mix, may be more effective. This should result in firms thinking the unthinkable and, having done so, considering what action to take.

All this is of course easier said than done. The challenges of designing a system-wide reverse stress test would be huge, given the number of possible scenarios, the diverse range of market participants, gaps in the data and challenges with modelling market sentiment and how different participants may react.

It would also require regulators to have, either implicitly or explicitly, a risk appetite for the financial system as a whole. However, difficult as it may be, reverse stress testing does in my view give regulators and the regulated a foundation on which they can build.

One final observation. It also bears remembering that circuit breakers are a strength of the system rather than a weakness. They are one of a portfolio of tools — alongside stress testing — helping to reduce risk in the financial system and to respond to disruption when it (inevitably) occurs.

David Strachan
Partner, Risk Advisory, Deloitte
London EC4, UK

In Thatcher's day Britain embraced US budget ideas

You refer to the "eye-watering decisions" and "painful cuts" envisaged in chancellor Jeremy Hunt's upcoming announcement ("Hunt eyes election war chest with options for finding £50bn saving", Report, November 2).

I hope the new Conservative leadership will embrace better systems of public spending management and control than the Treasury's traditional, blunt, across-the-board "percentage" methods.

Back in the early 1970s we borrowed techniques from the US Bureau of the Budget (later Office of Management and Budget) called PPBS (a planning, programming, budgeting system) with some success, at least for a time.

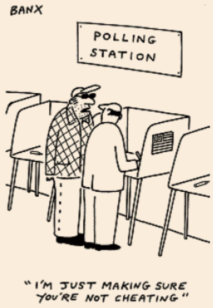
This involved systematic, penetrating and sustained questioning of all departmental functions and objectives and led to a distinct rebalancing process between the ever-swelling public sector of those days and the private sector, and — eventually — to the unravelling of most of the state's massive and stagnant industrial portfolio.

It also created stronger pressure to make "efficiencies" and gradually curbed civil service numbers.

I fear there are signs of returning to cruder methods in the present emergency — which experience tells us cause maximum pain, allow too much of the public sector to just go on growing and have the least effective impact.

David Howell
House of Lords, London SW1, UK

Victorian economy's debt to Slave Compensation Act



... of employment practice at the time and indeed the source of the capital that made it all possible. There is certainly something to be said for the government to pump billions of pounds into the economy to get it going again and to project the debt almost 200 years into the future, but politically I can't see that policy gaining traction with today's narrow-minded political elite.

David Sproxton
Bristol, UK

One critical factor omitted in this inflation analysis

Ruchir Sharma is correct to suggest that we should at least entertain the possibility that a recession is not inevitable ("Economists see recession coming, so maybe it's not", Opinion, November 7). It is always wise to allow for the unexpected, and particularly so

Why Moritz's stance on California tax is a bit rich

It's a bit rich for Mike Moritz (Opinion, FT.com, October 11), when discussing plans by Lyft, the San Francisco-based ride-sharing company, "to engineer a bailout paid for by Californian residents" to accuse others of self-interest when advocating against a small tax increase on billionaires like himself.

He and other billionaires who have poured money into stopping this proposition, appear to have fallen prey to the fallacy that keeping their taxes low is of the highest public interest.

Moritz would like us to think that the flight of Charles Schwab, an 85-year old billionaire and Republican super-donor, to Palm Beach, Florida, is a matter of statewide concern that trumps all other priorities.

Even though some billionaires in Moritz's social circle seem to have left California in a huff, studies by researchers at Stanford have repeatedly shown "little migration response to changes in top tax rates" in California.

Despite three tax increases over the past decade, California is now home to twice as many people who earn more than $2mn a year of taxable income, and they are collectively earning three times as much taxable income. Even after the work-from-anywhere revolution brought on by Covid-19, California, at the end of 2021, was home to more people who earn more than $2mn a year than before the pandemic in 2019.

Moritz is a generous philanthropist and a visionary businessman. Unfortunately, he will now forever be known as the anti-tax billionaire who stopped Californians from investing

An Iranian's cri de cœur

For 50 days now, internet access has been limited to national government-approved sites in Iran. International pages such as WhatsApp, Gmail and even GoogleMaps are all banned.

Thanks to VPN providers the coverage of the recent movement in Iran is communicated and, after the war in Ukraine, the unrest in Iran remains one of the top news stories.

Yes, Iranians are simply asking for basic human rights, again — including the right to life and liberty (Report, November 7).

Iran's situation on the one hand is very similar to Ukraine's; people are at war! But a war with their own regime — the Islamic Republic. Reviewing the background to the current crisis, you could say that extremists colonised the Iranian people with propaganda and they are still in power — after four decades.

For Iranians, however, this is not the first time people have been protesting against the Islamic Republic. During the past 43 years, the regime has used extreme violence against any opposing ideas.

This time, however, is different in many respects. The biggest difference is the leading role being played by women.

They were oppressed for all these decades, and now they have become a symbol of human rights.

While the nature of the protest has changed, the regime's attitude and reaction have remained completely the same: ignorance and killing!

What the powerful authorities of the political world might consider, especially the western sympathisers of Iran and Russia, is that these two game-changing oil producers are

A report published last week by the World Meteorological Organisation concluded that the continent is warming twice as fast as the global average, with an increase of 0.5C per decade over the past 30 years, compared with 0.2C a decade elsewhere. This accelerated warming has been ascribed to superfast Arctic heating — and the same process may underlie the unusual wind patterns identified in the European State of the Climate 2021 report earlier this year.

Global winds are driven by temperature differences between the poles and the tropics. The larger the difference, the stronger the winds. The Arctic is warming faster than the equator, narrowing the temperature difference — which, in turn, is weakening the jet stream.

Parts of northwestern and central Europe, the report noted, saw some of the lowest annual average wind speeds since 1979, with some regions showing drops of 10 per cent on previous years. Ireland, the UK, Denmark, Germany and Czechia were hit hard; in the third quarter of 2021, the UK and Ireland had prevailing winds

key message, Bloomfield says, is not that wind power is a mistake but that infrastructure planning needs to accommodate any fluctuations.

Future-proofing energy supply while meeting climate objectives means diversifying supply, including wind, solar, geothermal and nuclear; developing better storage options; applying long-term weather forecasting to the energy sector; and building more electricity interconnectors, the high-voltage cables that link the grids of different countries and allow energy to be imported and exported (the UK, for example, has seven as of March 2022, including to France, Belgium and the Netherlands).

The spectre of wind droughts, which will also make heatwaves harder to bear, shows that no continent can fully insulate itself from the ill-effects of climate change.

The symbols of global failure on this crisis multiply: the waist-deep flood, the perishing heatwave, the famine-inducing drought — and now the stilled wind turbine.

The writer is a science commentator

I read with interest John Warren's letter regarding Victorian industrial productivity in last Saturday's FT Weekend ("Harking back to the good old days of productivity", November 5).

What he doesn't mention is that this is the period during which the British government pumped roughly 40 per cent of the its budget into the economy through the Slave Compensation Act of 1837, giving about 40,000 slave owners large amounts of money which they reinvested into the Victorian economy. This is what supercharged the "productivity" of that period. Cheap, abundant, union-free labour and non-existent health and safety laws enabled industrialists to capitalise on this massive cash injection into the economy, resulting in much of what we see still in our major cities today. Who cared about how many people were killed building railway tunnels or massive ships when there's money to be made?

Warren's line that "it is clear we could do more to emulate past productivity" ignores both the horrors

for the unexpected, and particularly so in today's world of growing and heightened uncertainties.

Still, his analysis of the factors impacting inflation is notable by the omission of one critical consideration. Corporations now operate in the context of the massive market consolidations that have taken place in recent decades. Such consolidation bestows additional extractive capability on corporations, in terms of enhanced pricing power that is an enabler of their pursuit of profit maximisation.

As financial markets continue to exert pressure on corporations to maximise shareholder value, boards and executives may feel that they have little option but to continue to exercise that pricing power to the maximum extent possible, even if wage growth were to moderate somewhat. In such a scenario, inflationary pressures are less likely to substantially recede, with consequent impacts on the likelihood of a recession.

Professor Louis Brennan
Trinity Business School
Trinity College Dublin, Ireland

stopped Californians from investing $100bn to clean their air, fight catastrophic wildfires and prevent devastating climate change.

Sky Brown
Program Director, IE United
Ontario, CA, US

With Covid, did China get exactly what it wished for?

Thank you Thomas Hale, for giving us such a riveting insight into China's Covid lockdown regime ("Ten days in a Chinese detention centre", Magazine, November 5).

On the face of it, the policy is absurd. Am I the only one to think it is rather more sinister than even he portrays? Is it not possible that what began as a misjudged response to the virus has transmogrified into a long-term method of coercing the population into accepting "quarantine" as a normal part of life under China's Communist party rule? Another cultural revolution, in fact? Different only in degree from treatment of the Uyghurs.

Eric Chalker
Tonbridge, Kent, UK

game-changing on producers are creating instability regionally and globally, while innocent victims in Iran and Ukraine are paying the price with their blood, and the west does nothing.

Is it not time to reconsider this approach, otherwise we risk further violence potentially leading to conflict and possibly even another world war disaster?

Mahsa Reihani
Tehran, Iran

Even Caravaggio drew line under creative destruction

I found Jemima Kelly's article ("The case for creative destruction", Opinion, November 3) insightful and challenging.

The theme is of course not new. Michele Placido's new film *Caravaggio's Shadow*, set in around 1610, tackles the problem in a thought-provoking way.

Today, thankfully, we can still see Caravaggio's "Death of the Virgin" which luckily escaped creative destruction.

Alastair Fraser
Milan, Italy

Opinion

Putin's nuclear threats may hint at an electromagnetic pulse strike

Roger Pardo-Maurer

So far, Russia's threats of escalation against Ukraine have been largely interpreted as a veiled reference to the use of traditional nuclear weapons. But there is another tool which Vladimir Putin may be considering: a tactical electromagnetic pulse, or EMP, strike. These weapons — designed to create a powerful pulse of energy which short-circuits electrical equipment such as computers, generators, satellites, radios, radar receivers and traffic lights — could disable Ukraine's military and civilian infrastructure at a stroke and leave the country without light, heat, communications or transport.

EMP attacks have been explained, and clamoured for, on Russian state TV talk shows. A Russian colonel has demonstrated on air, with maps and charts, how such a blast over the Baltic Sea might work. It may be that Putin and his generals have been warning us about this possibility all along, with their enigmatic threats to unleash unspecified "military-technical measures".

A tactical nuclear weapon used to create an explosion would most likely be ineffective against the mobile, dispersed combination of guerrilla and conventional warfare that Ukrainians are deploying. But the use of a nuclear weapon for electromagnetic warfare is a different matter. The signature of this type of attack would not be a fireball and mushroom cloud but a weird electric blue medusa orb pulsing directly overhead, followed by silence. At that altitude, the sound will not carry.

A relatively small nuclear EMP, easily deployed at high altitude by Russia's hypersonic Zircon cruise missiles, might not destroy any buildings or kill anybody. But it could permanently disable electrical circuits over thousands of square miles of Ukrainian territory. Virtually all the defence equipment sent by Nato allies to Ukraine — such as radios, GPS navigation and aerial drones — are dependent on electronics, if not for operations, then for deployment, maintenance and integration. The lingering electromagnetic effects of a strike could destroy 90 per cent of the satellites over the afflicted zone within three months. However, it is likely that Russian information operations on the ground would also be affected.

> America and its allies are by no means oblivious to the dangers, but they have not war-gamed this properly

The US and its allies are by no means oblivious to the dangers of an EMP, and most military equipment has a degree of inbuilt defence against this eventuality. But a strike would create a new battlespace that negates the superiority of our information systems. We have not war-gamed this properly.

In Kherson, for instance, a tactical EMP could disable the systems that operate the region's dams, clog highways and bridges with miles of disabled vehicles and leave the civilian population struggling for food and heat. In the aftermath of a successful EMP strike, Ukraine would have to pause fighting to restock its ruined arsenal. Putin could meanwhile rebuild and resupply his forces and seize the newly depopulated areas during a spring offensive.

What is perhaps most concerning is that Russia and Nato have such different approaches to these weapons. Under Russian military doctrine, EMP strikes are a branch of information, cyber and electronic warfare rather than nuclear warfare. This lowers the bar and may render EMPs even more tempting to Putin's beleaguered generals.

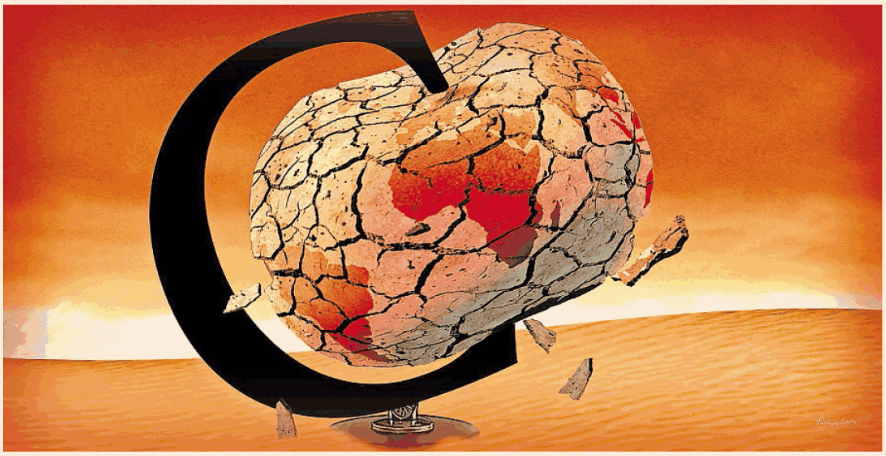
So, what next? First, we must warn Russia that an EMP strike against Ukraine, even if localised, would cross the nuclear threshold and trigger a collective defence response from Nato. The unpredictable effects of spillover on the atmosphere, the environment, satellites and downwind populations should suffice as a rationale for invoking Article Five (Nato's collective defence clause).

Second, we should help the Ukrainian military prepare. An EMP strike is survivable. We should support them in conducting live EMP drills with the participation of the civilian authorities. The Ukrainian people need to be educated about how to mitigate and overcome such an attack, including by stocking up on analogue radios, flashlights and batteries. Preparation, fortitude, ingenuity and self-reliance are already qualities with which Ukrainians have distinguished themselves in this war.

Finally, we must rethink our objectives. If Putin is contemplating the use of a tactical EMP, then what is at stake is not just Ukraine's liberty but the future of warfare. If we yield to the Kremlin's nuclear blackmail, there is a risk other countries will follow its lead: China and North Korea already have EMP capabilities. The situation in Ukraine offers a keyhole glimpse to a potentially more dangerous and uncertain future. We cannot afford to lose this fight.

The writer is a US Army Special Forces veteran who served in Iraq and Afghanistan and a former deputy assistant secretary of defence

Delay makes climate action more urgent



Martin Wolf Economics

A huge acceleration in investment is necessary to help emerging and developing nations

The priority of COP27 in Sharm el-Sheikh is to ensure a continuation of life on this planet as we know it. Yet some argue that the goal of limiting the increase in temperatures above pre-industrial levels to the recommended 1.5C should be declared dead: it is no longer realistic.

Adapting our goals to our failures is a defeat. If we fail to reduce emissions faster, we will end up having to spend far more on adaptation. We will also have to discover ways of removing vast quantities of carbon from the atmosphere. We may even have to adopt the fraught option of geoengineering. True, some, perhaps even much, of this might become inescapable in the end. Indeed, adaptation already is, as Pakistan's flood disaster shows. Yet we must stop pouring greenhouse gases into the atmosphere. This remains a priority.

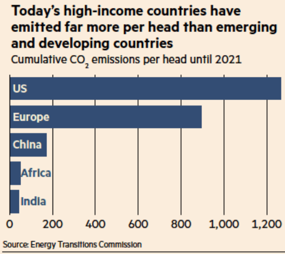
Again, some argue that those who have made free use of the global carbon sink for up to two centuries owe reparations to those who have not. The disparity in cumulative emissions per head is stark indeed. Yet once again, diverting attention from the priorities of today to compensation for injustices in the past will lead not to action but to endless and

under "business as usual"; only some 40 per cent of this shortfall is covered by (doubtful) commitments; progress towards making new net zero commitments and putting them in law has slowed; and the likely cumulative emissions of China, India and the high-income countries over the next half century will more than exhaust the residual global carbon budget, rendering large-scale carbon removal inescapable.

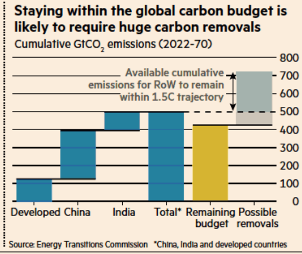
We are in sum all too likely to fail. The biggest difficulty of all lies in emerging and developing countries. How is the development their populations need to be combined with containing and ultimately eliminating emissions of greenhouse gases? Solving that challenge is not a sufficient condition for global success, but it is certainly a necessary one.

In the high-income countries and China, the challenge, albeit huge, is one of politics and policy. In developing countries it is also one of access to technology and finance. This is discussed in the report of the Energy Transitions Commission. It is also laid out in detail in *Finance for Climate Action*, which comes from a high-level expert group.

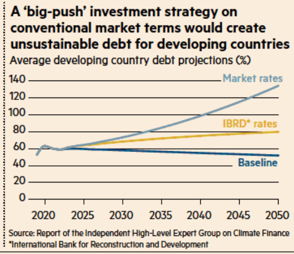
The problem is soberingly clear. We have a global challenge that can only be solved with huge investments, notably



Source: Energy Transitions Commission



Source: Energy Transitions Commission *China, India and developed countries



Source: Report of the Independent High-Level Expert Group on Climate Finance *International Bank for Reconstruction and Development

perately needed flows of private capital.

In brief, to achieve the necessary transformation in emerging and developing countries, there must be a huge acceleration in investment, a parallel surge in external private finance, a revamped and greatly enhanced role for multilateral development banks, a doubling of concessional finance from high-income countries by 2025 over 2019 levels, and imaginative ways of managing the debt problems of developing countries. In round numbers, the world will need to mobilise $1tn a year in external finance for emerging and developing countries, other than China. This is not about the $100bn a year that the high-income countries promised and have so far failed to deliver. This is about something far bigger than that.

Without all this, the targets laid out in the Paris agreement and Glasgow pact will not be achieved: they will be unaffordable. Some in the high-income group, frightened by these sums, may hope that these countries will spend less and grow less. But, quite apart from

and developing countries, other than China, will need to spend some 4.1 per cent of GDP on a "big-push" investment strategy in sustainable infrastructure by 2025 and then 6.5 per cent of GDP in 2030, up from 2.2 per cent in 2019. This will demand radical policy reforms, notably elimination of distorting subsidies to fossil fuels and carbon pricing. One way to achieve the latter might be to maintain domestic prices of fossil fuels at high level as and when world prices fall. A substantial part of the needed additional financing, per-

alistic. It is not. The bulk of the additional external finance will come from the private sector and more imaginative use of the balance sheets of MDBs. The high-level group does recommend that annual bilateral concessional finance for climate should rise by $30bn by 2025. But this would be a mere 0.05 per cent of the GDP of all rich countries.

Nobody can reasonably argue this would be unaffordable. Rather, it is not doing so that would be unaffordable. We are required to fight a war we just have to win. We cannot afford, practically or unproductive disputes. (See charts.)

So, what needs to happen if we are to hope even to stay close to the agreed temperature ceiling? The Energy Transitions Commission presents a sobering picture: by 2030, annual CO_2 emissions need to be 22 gigatonnes lower than

in new energy systems. But our capital markets are fragmented by country risk. The only solution is for rich countries to underwrite a substantial part of that risk by providing concessional finance, both bilaterally and multilaterally, thereby promoting the des-

The problem is soberingly clear. We have a global challenge but our capital markets are fragmented

being unconscionable, this would mean continuing growth along today's destructive path of high emissions and large-scale deforestation. The more transformative and more generous path is that of rational self-interest.

The needs are indeed huge. Emerging

haps as much as half, would, it is hoped, come from domestic resources. But a big part must come from external sources, via public and private partnerships that make the needed flows available.

Yet, as soon as all this is spelt out, people are likely to conclude that it is unre-

morally, to leave a world with an irreversibly destabilised climate to the future, possibly even the near future. We should not give up without trying. At COP27, we must do so, in earnest.

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Mining isn't living up to its own hype

COMPANIES

Helen Thomas

"Give me a break", said the US president last month. "Enough is enough." There is nothing wrong with getting a fair return, argued Joe Biden. But with profits soaring, he was fed up with companies shovelling money to their shareholders rather than increasing investment in what the country needs. Biden was talking about US oil and gas drillers. Someone, somewhere should be talking to the world's biggest miners.

The nonsense of energy's Biden issue is that the oil and gas majors are already spending cautiously on a product that the world has said it ultimately doesn't really want. The president's comments reflected the political realities of high prices at the pump and the midterm elections. But investment in oil extraction is close to that suggested by a genuine path to net zero, according to the International Energy Agency, despite the unfortunate fact that climate policies and spending on green alternatives are lagging behind.

In mining, the reverse is true. Any sector boss will happily tell you that the sector is crucial to meeting global climate targets. The electrification, renewables and storage required in the energy transition will vastly increase demand for copper, nickel, cobalt and lithium — which the industry likes to call "future-facing commodities" to distinguish them from the dirty but lucrative stuff of their past and present. Take copper: global demand could double by 2035, compared to 2021, thanks to a trebling of usage in energy transition markets. By then, according to S&P Global, need could outstrip supply by 9.9mn tonnes a year. There have been vanishingly few substantial copper mines built in recent years. But you would need more than 30 of Anglo American's new Quellaveco mine in Peru to fill that gap.

The industry is also paralysed by the last super-cycle's bust. Miners aren't trusted to build or explore

Just a few months ago, there was excitable talk about a new metals super-cycle. But miners aren't spending like it. Expansionary capital expenditure (as opposed to maintenance spending) by the biggest companies has been depressed for seven years, according to BMO Capital Markets. In the same period, their Ebitda has more than doubled. That put growth investment at less than a tenth of earnings last year, says BMO, compared to the fifth or higher routinely seen in the China-driven boom of the 2000s.

Nor are companies looking terribly hard for the fresh sources of metal they say the world desperately needs. Exploration spending on non-ferrous commodities is still half its 2012 peak, says S&P. More than half those dollars are looking for gold, rather than key battery metals. So-called grassroots exploration, rather than looking around existing sites, remains close to a record low as a share of overall spending.

The miners point to forces beyond their control. High inflation doesn't help, nor the recent drop in commodities prices as economies have wilted. Deposits are generally lower grade, or harder to mine. More fundamentally, standards around the environmental impact of mining have rightly risen, as have the expectations of what it means for communities and nations. Approvals and permits that once took three or four years now take decades. It means a greater risk of shortages, or that gaps are filled by centrally planned economies willing to invest now. Despite much talk about securing supplies of critical metals, senior industry executives fresh from meetings in Washington say this dynamic is not widely appreciated in policy circles.

The truth is the industry is also paralysed by the last super-cycle's bust. Miners aren't trusted to build or encouraged to explore by investors, who fear delivering metal into a downturn or splurging billions on ever-trickier projects. The post-crisis mantra of "value over volume" has served investors and companies well. A new copper mine might cost, say, $10bn to build. But as investment has stagnated, the six biggest miners returned over $60bn to shareholders in 2021 in dividends and buybacks, and will do nearly that again this year.

One solution could be a structure "that encourages the industry to partner with their customers", says Chris LaFemina at Jefferies, sharing project risk but locking in pricing. That will be anathema to some in a sector wedded to flogging at the prices set by markets.

But the miners appear stuck, hemmed in by tougher regulation, witless policymakers, troublesome geology and the short-termism of investors terrified by the next cyclical dip. The result is that the industry is talking a good game on its crucial role in providing the metals for energy transition, but isn't investing to match. As a future president might say, enough is enough.

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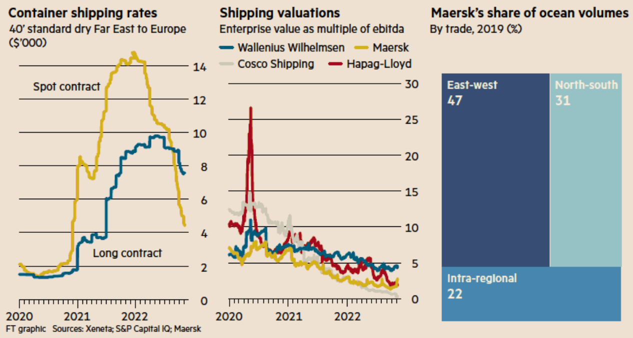
Shipping rates: tack talk

After a stratospheric rise in container rates during the pandemic years, these have reversed sharply in 2022. Investors had doubted the longevity of this rate surge for some time, as revealed by the low valuations of the largest listed shipping companies. Industry leader Maersk dominates East-West routes.



FT graphic Sources: Xeneta; S&P Capital IQ; Maersk

Container rates provide an insight into the dog-eat-dog business that is the world's shipping industry.

The cost of shipping a 40-foot container across the world has soared, then collapsed. Spot rates have been multiples of contract rates and vice versa. Shipping lines and their customers have batted pricing power back and forth. Both sides have been happy to tear up agreements to wield that power.

During the pandemic, spot rates jumped as the faster than expected recovery from lockdowns created bottlenecks. The average spot price to ship a container from Asia to northern Europe was less than $1,400 in May 2020, according to Xeneta, a data company. In January this year the average was more than 10 times that amount at almost $15,000.

Contract rates, which are agreed in advance, caught up only slowly. They peaked at slightly less than $10,000 for Asia-Europe routes in May.

Until January, shippers were chasing capacity. Even those with contracts saw it evaporate. Shipping companies pushed some clients from contract to spot rates. Xeneta reports premiums of $3,000 to $10,000 a container being charged, on top of contract rates.

Shipping lines were making so much money, they preferred to carry containers empty on some return routes rather than wait for cargo.

Spot rates have collapsed this year, putting the boot on the other foot. Logistics managers have demanded reductions. "Peoples' jobs are on the line," says Patrik Berglund, Xeneta's chief executive.

The shipping companies will not relinquish pricing power for long. The biggest are grouped in three oligopolistic "alliances". They have withdrawn only limited capacity in recent months as prices have fallen. More capacity will disappear soon as the world economy sputters.

At Maersk, the world's biggest shipping line by profits, enterprise value to ebitda collapsed from a pandemic peak of more than 6 times in August 2020 to less than 1.5 times this September. The ratio is now back up to 2.8 times. It should rise further in the medium term as shipping companies regain the whip hand.

Lyft: hail and farewell

Lyft talks up the virtues of its pure-play business model. Unlike larger rival Uber, which delivers people, meals and shopping, Lyft just does rides. It connects passengers to drivers, focusing mainly on the US market.

Lyft should have an edge as a localised and focused company with fewer business lines eating up capital, But ride-hailing businesses rely partly on network effects. Having more riders and drivers leads to a more efficient system. This means size still matters. Uber has the advantage here.

Americans are out and about again, spurring demand for rides. But competition from Uber is throwing up roadblocks to Lyft's post-pandemic recovery. The number of people using Lyft's service rose just 7 per cent year on year to 20.3mn during the third quarter. That was a marked slowdown from the 32 per cent and 16 per cent pace recorded in the first two quarters of the year.

Growth missed forecasts just days after Lyft said it would cut 13 per cent of its workforce.

Worse, while Lyft's passenger numbers remain below pre-pandemic levels, Uber last week said its passenger figures had surpassed them. It described the last quarter in bullish tones. Lyft instead spoke of "economic headwinds".

Amid a driver shortage, Uber's diversified model is attracting drivers by giving them more ways to earn money. That is helping Uber get ahead revenue-wise. But when it comes to making a profit, both companies are still stuck in traffic. This is partly reflected in the ceaseless battle to keep drivers sweet by offering incentives.

At Lyft, the net loss for the quarter was $422.2mn. Much of this was due to the cost of issuing more stock to its staff. The value of their shares have slid 80 per cent over the past 12 months. At Uber, the net loss totalled $1.2bn, both due to higher stock remuneration and for mark to market losses related to its equity investment in Didi.

Lyft's market value, which stood at nearly $22bn in March last year, has collapsed to below $4bn following another 20 per cent decline in the stock yesterday. Uber has fared better, with the stock down 37 per cent this year.

Investors should continue to give the ride-hailing business a cold shoulder. Network effects may be helping Uber to beat Lyft. But they are not providing the business with any prospect of sustainable profitability.

Primark/Germany: return to sender

When Primark opened its first German store in 2009, commentators said it could become the Aldi of the country's fashion sector. Its cheap, practical styles seemed suited to a nation that likes dressing down in jeans and a sweatshirt to go out on a Friday night.

It has not worked out that way. Yesterday Associated British Foods took a £206mn impairment against the German operations of its Primark subsidiary. It is considering shrinking its operations after their profitability fell to "an unacceptably low level".

ABF says it underestimated cultural differences. Its flexibility was cut by the need to sign off store management issues by works councils. Distrustful consumers thought low prices signalled unethical supply policies. Attempts to burnish its credentials with its "Primark Cares" vision of sustainable fashion were too little, too late.

The German market is not impenetrable. The country is H&M's largest market, accounting for 14 per cent of sales for the Swedish fashion chain. But Primark is not alone in struggling. Walmart booked a $1bn loss when it pulled out in 2006. It had battled trade unions and faced resistance from customers to US-style innovations such as assigning staff to pack shoppers' bags at checkouts.

Hotel group Whitbread says it will stay the course. The Premier Inn owner has invested £1bn in the German market since 2016, hoping to benefit — as in the UK — from customers shunning independent guesthouses for its budget branded hotels. Whitbread is targeting a long-term return on capital of 10-14 per cent. Sceptical investors are waiting to see if the hotels become profitable in 2024, as Whitbread hopes.

Germany is a magnet for inbound investment. The UK ranks as its third largest foreign source of new business operations, according to data providers GlobalData/Investment Monitor. But frugal shoppers, cultural differences, and strict labour laws make it a tough market to break into. The energy crisis will only add to that.

AIB/Irish banks: haymaker

No need to fear an ill wind if your haystacks are tied down. Irish banking bosses will remember the proverb with an economic storm on the way.

Loose bindings caught predecessors out during the Great Financial Crisis. A property collapse threatened to blow the Irish banking system out of the water. More than a decade has elapsed since then. Ireland has one of the strictest regulatory regimes in Europe. Markets are correspondingly sanguine.

The government will make the most of this by selling a further 5 per cent of its holding in bank AIB back to the market. It sold down the entirety of a smaller stake in Bank of Ireland in September. That netted taxpayers a €2bn profit.

Tightening financial conditions will make AIB a tougher sell. It helps that NatWest is leaving Ireland with large asset disposals from its subsidiary Ulster Bank. The UK government, for its part, still owns a large stake in NatWest, showing how hard such shareholdings are to shift.

Rate rises by the ECB provide another boost. Net interest income rose 10 per cent in the first nine months of this year at AIB. Its loan to deposit ratio of 61 per cent equates to roughly €40bn parked at the ECB, collecting the benefit of rising deposit rates. Borrowers are barely feeling the sharp end of higher rates. AIB was the first Irish bank to increase rates on new mortgages last month. But rates on five-year fixed deals remain below 3 per cent.

Just a tenth of the Irish mortgage stock is tied to rising rates. Pressure on borrowers is far lower than in the GFC, when the proportion was much higher. Tighter lending standards have contained house prices, which only surpassed their pre-GFC peak this year.

That also meant low returns for shareholders. Irish banks have outperformed by a third since the start of 2020. A growing cost of living crisis will limit further gains. But the last banking crash was too recent for Ireland to tolerate a repeat.

Carlyle Group: getting ratioed

The supposedly superior performance of private capital assets is a double-edged sword. The S&P 500 is down a fifth this year. US alternatives managers have, at least on current valuations, avoided such devastation. But that bounty is a complication for their limited partners like pension funds and endowments.

Those backers have limits on how much they can allocate to private assets, say 20 to 30 per cent of portfolios. The drop in public market values has arithmetically put the real ratios out of kilter. The phenomenon is known as the "denominator effect".

The beleaguered Carlyle Group has raised only $6bn in fresh capital in the quarter. It is without a permanent chief executive after the departure of Kewsong Lee in the summer. Analysts asked the company whether leadership turmoil had depressed fundraising. The company pointed instead to upheaval among pools of capital that it described as "congestion in the market" and the "denominator effect".

Several rivals of Carlyle, including Apollo, Ares and Hamilton Lane, have attributed slower fundraising to the denominator effect, too. The private assets sector increasingly looks to so-called "permanent capital" and retail investors as drivers of future growth. But traditional backers of private equity remain crucial.

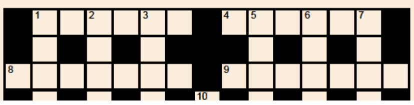
In the third quarter, returns across Carlyle credit and equity funds were flat or slightly positive, well ahead of public markets. Distributable earnings including cash from realisations were up on the previous quarter. However, assets under management fell slightly to around $370bn. So did profits from management fees, the steady income that shareholders prefer.

The shares are down by a half this year, worse than the S&P 500 and rivals such as Blackstone, Apollo and KKR. The private capital sector is prey to worries of higher interest rates and pending losses at portfolio companies.

The businesses themselves would like to be agile opportunists, taking advantage of dislocations in the market. But their ability to get busy is being frustrated by an arbitrary calculation at deep-pocketed institutions around the world.

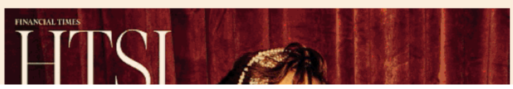
CROSSWORD

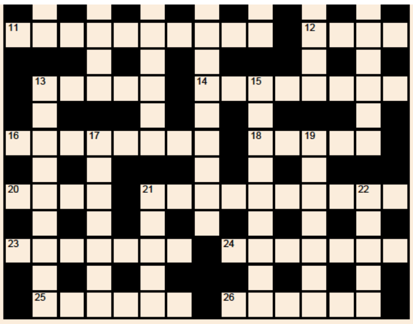
No 17,247 Set by AARDVARK



ACROSS

1 It's chewed by lower and upper class girl in club (6)
4 Game of throwing ball among leaves (6)
8 Mo, gutted, pulls muscle (7)
9 Representation of heavenly bodies at





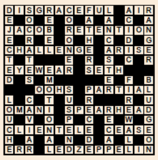
front of Portland Arms, mingling (4,3)
11 Load personal info, then stream 1970s film (4,6)
12 Reversing by crewman occasionally wrong (4)
13 On the phone, one's fired clerical worker (5)
14 Expert with brush always follows edges of lawns (8)
16 Excess prayer used engaging god (8)
18 Multiply by two hundred and fifty – anybody? (5)
20 Granny perhaps needing potassium? By no means (4)
21 Test burger grills that writers frequent (4,6)
23 Fine service alongside tea-making vessel that's very hot (7)
24 Swimmer, the greatest, visits hotel bar (7)
25 Mariner's tale about descent (6)
26 Caerphilly cheese sandwiches and fruit (6)

DOWN

1 Approaching spooky group outside church (5)
2 Choice of words novel, with duke taking over force (7)
3 Peers slammed army member over language (9)
5 Pure voice (5)
6 Progress at home pulling up yellow trailers (7)
7 The drink accompanying a piece of cake: alcoholic cocktail (3,6)
10 This writer's captivating Yankee student, fit for such an institution? (3,6)
13 Neal and Claud cultivated culinary herb (9)
15 Head, touring financial district with American, tracks money (9)
17 Two Greek characters in street mounted complaint (7)
19 Describing monster as old, rather ashen, heartless (7)
21 Famous label Charlie's repeatedly seen gracing half of Fender? (5)
22 Display English flower around centre of studio (5)

JOTTER PAD

Solution 17,246



An FT SPECIAL REPORT

Navigating Cyber Risk

Wednesday November 9 2022 www.ft.com/reports

Threats are inevitable and evolving

Inside

Held to ransom: is there a case for paying hackers?

Ransomware attacks are down, but victims who pay up have incurred lower average costs than those that do not, writes *Hannah Murphy*

To pay or not to pay? For companies unfortunate enough to be hit by a ransomware attack, that is the crucial question.

Ransomware attacks — in which cyber criminals lock up a victim's data or computer system and release it only if a ransom is paid — exploded in 2020 and 2021, in part because a shift to remote working during the pandemic left organisations more vulnerable to hacking.

But the tide appears to be turning. In its mid-year 2022 Cyber Threat Report, US security company SonicWall identified a 23 per cent drop in the number of ransomware attempts. It attributed this to several factors — including a "downward" trend in the number of organisations willing to pay cyber criminals.

That trend is borne out in the data gathered by those who help victims of ransomware handle the fallout. In 2019, 85 per cent of ransomware cases handled by cyber security group Coveware ended in a payment. But, in the first quarter of 2022, that proportion had fallen to 46 per cent.

"The majority of the cases we handle do not end in a ransom," says Bill Siegel, Coveware's chief executive. He adds that many find ways to recover their data via backups, or establish that certain data is not critical.

There are other factors at play in the slight decrease in ransomware attacks, too. For example, most hackers demand payouts in difficult-to-trace cryptocurrencies, but these have slumped in price this year, rendering the business of ransomware less lucrative.

Meanwhile, there has been increased government and law-enforcement focus on taking down ransomware criminals and the apparatus they use to support their business. This crackdown has come in the wake of several debilitating attacks on high-profile targets — such as the Colonial Pipeline attack in 2021.

Russia's invasion of Ukraine has also hit the sector, according to experts. Many Russian-based cyber hackers have turned their attention to attacks related to the conflict rather than ransomware, or have had their operations disrupted by sanctions against Russia.

Still, attacks continue to occur and the question of whether to pay ransomware hackers or not remains hotly debated.

Both the US and UK governments publicly recommend against it. They argue that it does not necessarily guarantee that victims will get their data or systems back, and also emboldens attackers by rewarding them, creating a vicious circle.

Some authorities are becoming more vehement about outlawing the practice. The US states of North Carolina and Florida have now explicitly banned state and local government agencies from paying hackers. Pennsylvania, Texas, Arizona and New Jersey are exploring similar policies. New York is proposing banning businesses, as well as government agencies, from paying ransoms.

Oren Wortman, vice-president of cyber security services for North America at cyber company Sygnia, recommends that business leaders conduct an "extensive risk assessment of cost benefit analysis of whether to pay or not".

Decisions tend to be made on a case-by-case basis, he says, weighing up the price tag of the ransom demand against the potential cost of not paying, which could include loss of data, business disruption, or legal risk if customers decide to sue if their data gets leaked by the hackers.

For example, he says "clients in the legal sector with confidential client data" often opt to pay to avoid the potential reputational hit to their firm. And in some cases, it may be cheaper to pay the ransom than to recover the data or systems from backups.

IBM Security's 2022 Cost of a Data Breach Report showed that the average breach costs for victims who opted to pay ransom demands were $630,000 lower than for those who chose not to pay.

According to SonicWall, some victims have become more reluctant to pay due to growing awareness that many ransomware criminals are linked to Russia. Targets could therefore risk violating sanctions — and incurring civil penalties — if they sent them money.

"Some [victims] may be worried that the money could fund the Russian government's actions, and object to paying a ransom on ethical grounds," SonicWall adds.

Others are sceptical of the hackers themselves. On average, in 2021, organisations that paid the ransom got back only 61 per cent of their data,

Motorists refuel in North Carolina in May 2021, when many East Coast filling stations ran dry following the Colonial Pipeline ransomware attack
Sean Rayford/Getty

> 'It depends on whether you trust the criminals to delete stolen data. Which would be a big mistake'

Machine-on-machine cyber defence edges closer

Artificial intelligence

The time it takes for AI to flag suspicious behaviour and detect potential attacks is speeding up, writes *Hannah Murphy*

Is the future of cyber security machines versus machines?

As hackers increasingly use automation and machine learning to launch cyber attacks at scale, cyber security defenders, too, are turning to artificial intelligence to detect hacks — and, in some cases, kill them dead automatically.

But the use of AI for cyber defence is still nascent, according to many experts, and must be deployed with care. Some argue there is a tendency for the cyber security industry to exaggerate AI's potential and successes, and use it as a buzzword.

Machine-on-machine cyber security is "far away", according to Sohrob Kazerounian, AI Research Lead at Vectra. "Having a fully automated system in the cyber security domain would mean essentially trusting the computer with decisions.

"There are critical things that would be hugely costly if done incorrectly," he says. "It's a question of 'how accurate is this thing relative to the human?' And, in the cyber security domain, it's just simply 'not very'."

So how far along are we?

Already, cyber security companies are using AI to help detect potential attacks by flagging suspicious behaviour.

Justin Fier, vice-president of tactical risk and response at Darktrace, says the UK-based company uses "various forms of machine learning to go into your digital estate and, quite simply, establish a sense of self, establish what is specific to an organisation".

He adds: "The minute something deviates — big or small — we can actually alert you to that."

Darktrace also has automated responses to known threats such as ransomware strains. "Now, the median time to detect and remediate ransomware is 45 minutes. In the next year or so, we're going to be talking in terms of seconds and nanoseconds," says Fier.

Meanwhile, researchers at Cardiff University recently devised a new method of wielding AI that it argues could automatically detect and kill malware in real time — in just 0.3 seconds, on average.

with only 4 per cent able to retrieve all their data, according to a report by Sophos. Hackers could also sell or leak stolen data at a later point; there are no guarantees.

"The question of whether or not to pay depends on whether you trust the criminals to delete the stolen data, which would be a big mistake," says Brett Callow, threat analyst at the cyber security group Emsisoft.

Callow's company tries to help victims find ways to re-access their data without having to pay a ransom fee — a tricky task, but one that can be possible if hackers have errors or weaknesses in their code.

"It generally can't be made public knowledge because, if it did, the ransomware gang would realise it has a technical problem, so the word is spread quietly. This is why companies should go to law enforcement because they may be aware of a technical solution to the problem," he explains.

Still, many experts warn that the total ransoms paid may be far higher than is currently known as there are no rules around disclosing payments.

Steve Tcherchian, chief information security officer at XYPRO, a cyber security solutions company, says that, in many cases, companies "don't have a choice but to pay a ransom". But he adds that "a lot of that is their own doing" due to lax cyber security practices. Having a clear incident response plan, and multiple backups of data is vital to guarding against having to pay out in the future, he says.

Lessons on how to respond to a cyber security breach

OPINION

Joanne Vengadesan

These days, it's not a case of what do to *if* a cyber security attack occurs, but *when*. Breaches are commonplace and come in many forms, and are alarming for the businesses affected.

Organisations can learn a lot from the experiences of others that have endured an attack.

A true team effort is required, as there are so many actions required for an attack to be spotted and managed as quickly as possible. Staff need to be trained and the business must have policies in place dictating the correct procedure. Organisations that do not have clear reporting lines can find themselves floundering.

A response plan is critical. This should identify who is responsible for co-ordinating the response and which third parties need to be involved. Running dummy attacks internally will also ensure stakeholders have some familiarity of their responsibilities.

An effective response involves being familiar with the organisation's own systems and carrying out regular penetration testing. It is not unusual to come across companies where old technology, or a failure to install updates, has left them vulnerable.

Regulators will want to see how employees reacted: how quickly was an attack spotted, was it appropriately escalated, were the individuals dealing with the attack aware of potential reporting obligations and, crucially, have the relevant employees received any training? Failures on these points increase the chances of enforcement actions from regulators.

Key stakeholders are the internal IT department, any in-house or external legal team, the data protection officer, and any cyber security experts. The benefit of instructing lawyers early on is that they can co-ordinate the disparate parts of a response, and potentially help claim legal privilege over certain elements of the response.

The response team can then consider what information each separate group needs to gather to determine exactly what has happened: where has the attack come in, what has been compromised, is the attack over or is it ongoing?

A common key ingredient in a bad response is not knowing which third parties need to be informed of the attack. Insurers may need to be notified immediately, otherwise any relevant policy risks being voided. The insurer may also require technical experts to be brought in to mitigate the threat.

Attacks of a certain severity that involve personal data need to be reported to the Information Commissioner's Office under UK law, and, potentially, to the individuals affected, too.

'Old technology can leave companies vulnerable to an attack' — **Joanne Vengadesan**

Regulators in other jurisdictions might also need to be notified of a breach. The timescale for notification is often tight — for example, 72 hours on becoming aware of a breach. Therefore, this is not the moment for businesses to be establishing, for the first time, which countries' data protection laws apply to them.

Reputation is key, as well. So liaising with PR consultants may be another part of the jigsaw to consider.

Ransom demands are an increasing feature of attacks. The ICO and National Cyber Security Centre advise organisations not to pay — even if to secure the restoration of personal data.

We were recently instructed to act for a multinational organisation, after it had received notification from a threat actor that personal data had been exfiltrated and placed on the dark web, and a ransom was demanded.

The organisation appointed a cyber security expert to contain the threat, and we advised on reporting obligations. The focus was to ensure that as full a report as possible was made to the regulator, also demonstrating that the individuals had reacted quickly when the breach was detected and that they had been trained to safeguard personal information.

Although no sensitive data was involved, the organisation informed the individuals affected and took out identity fraud insurance on their behalf. In this case, the regulator was satisfied that it had acted responsibly.

In another example, we were approached by a company that had received advice about its fallible system but ignored it. We advised that the company and directors were at risk of claims and that failing to report to the ICO could be extremely damaging.

What these, and other examples, have shown is that, where processes are established, systems are updated and invested in, and expert advice is adhered to, organisations will be better equipped to ride the wave of inevitable cyber attacks and mitigate their impact.

Joanne Vengadesan is a partner and data protection expert at Penningtons Manches Cooper

'There are critical things that would be hugely costly if done incorrectly'

The findings, published in the journal Security and Communications Networks in 2021, are based on building a profile of the behaviour of malware to predict how it might behave later, and then blocking that activity, rather than analysing what the structure of a piece of malware looks like, as is common in antivirus software.

While the research is cutting edge — the technique could stop damage in its tracks in ways that are not possible now — there are limits.

The researchers found that fast-acting ransomware is prevented from corrupting 92 per cent of files — but with a false-positive rate of 14 per cent, which is too high to be adopted in real life. It therefore remains a work in progress.

"Every day now, we're making inroads into . . . trying to refine the algorithms and the statistical filtering itself to reduce the amount of false positives, while still being accurate in killing the right processes and reducing file encryption," says Pete Burnap, a professor of data science and cyber security at Cardiff University, who worked on the research.

Cas Bilstra, who leads risk intelligence at Dutch security group Eye Security, says "the strength of AI is that it can explore many more possibilities than humans can, it can see patterns that are very deep".

But Bilstra notes: "It will only do what it has been trained to recognise. If you are a very smart criminal and you come up with some kind of malware that is totally different from all the malware that has been before, a system such as this won't recognise it, because it's trained on known malware samples."

Kazerounian says Vectra's engineers build AI and machine learning systems that still "keep in mind that the human is going to have to be in the loop".

Part of improving the systems in future will involve trying to utilise more data to train the machine learning models.

Accessing large data sets can be difficult, however, particularly in the realm of cyber security, where companies are concerned about falling foul of privacy laws, for example.

"Companies will have their own proprietary data sets — it's intellectual property and protected. It's tough for people to agree which information to share and how it should be processed," points out Kazerounian.

In the meantime, researchers will continue to try to simulate attacks and responses over the long term, to develop the automated cyber defences that today seem distant.

"Our five to 10 year challenge is to try and think about how we can script automated attacks on virtualised [simulated] networks . . . [and] to start bringing in this armoury of how do we defend against it," Burnap says.

National security
Russia's cyber attacks have been less effective than experts feared, writes *Nick Huber*

What Ukraine's tactics can teach other nations

Strong networks: Kyiv has utilised Elon Musk's mobile Starlink terminals, which connect to the internet via satellite
NurPhoto

One of the surprises of the Russia-Ukraine war has been that Ukraine's cyber security has, so far, proved as resilient as its military.

Kyiv's cyber tactics — including switching data to the cloud, partnerships with western companies, and using Elon Musk's mobile Starlink terminals to connect to the internet via satellite — have proved highly effective. Ukraine's defences have also been shored up by a £6mn package of IT support and help in detecting Russian cyber threats provided by the UK, according to an statement earlier this month.

And, as one of the earliest examples of a conflict with a major cyber component, this war — and these responses to it — can offer lessons to other countries, or companies.

At the start of the war in February, Ukrainians backed up as much data as they could into the cloud.

Then, when Russia invaded Ukraine, Liam Maxwell, director of government transformation at Amazon Web Services (AWS), met a Ukrainian official in London "and literally wrote down on a piece of paper" which of Ukraine's digital assets it needed to help save, he recalls.

Priorities included registers of properties, citizens and criminals, says Maxwell. "It's like Maslow's 'hierarchy of needs'."

AWS cyber security experts and IT professionals trained Ukrainians in cyber security, too, and how to switch data from on-premise IT systems to the cloud, where it could be better protected.

Specifically, they shared intelligence on cyber threats, such as malware from "state actors" — from Russia or elsewhere — that could affect AWS customers in Ukraine.

A decentralised network of Ukrainian IT volunteers, or "hacktivists", has further bolstered the country's cyber defences, says Pierluigi Paganini, adviser to the European Union Agency for Cybersecurity.

In modern war, the main aim of cyber attacks is to destroy or destabilise critical national infrastructure, such as banks, telecommunication networks and energy grids.

However, the fragmented nature of Ukraine's communications network for vital services means it cannot be knocked out or jammed as easily as a single node, such as a cell tower, experts say.

"Generally speaking, Russia's cyber attacks haven't had a destabilising impact on Ukrainian infrastructure," notes Bob Kolasky, a former assistant secretary specialising in cyber security within the US Department of Homeland Security. Kolasky is now senior vice-president for critical infrastructure at Exiger, which advises companies on risk. Moscow has, however, used missiles to disrupt Ukraine's energy infrastructure.

Although some security experts are surprised that Russia's cyber attacks have not been more effective, they also praise Ukraine's tactics.

The Ukrainians did a "couple of clever things" in moving data to the cloud and using Starlink to keep its own communication network operating, says James Lewis, senior vice-president and director of the strategic technologies programme at bipartisan think-tank the Center for Strategic and International Studies.

Lewis, who previously advised the UN on information security, highlights Kyiv's swift response to Russian cyber attacks.

He says: "Ukrainians told me that you had to respond within two to three hours to a [Russian] cyber attack to minimise the damage and stop it succeeding," — for example, by removing malware or security vulnerabilities.

> 'The key elements are sufficient funding, cyber hygiene at all levels and international co-operation'

Ukraine has had plenty of practice in dealing with cyber attacks.

In 2016, hackers brought down the power supply to hundreds of thousands of homes there.

And, in 2017, Russia's military was thought to be behind the "NotPetya" ransomware attack, which targeted Ukraine but also scrambled data from the computer systems of companies in more than 60 countries.

"Ukraine has built up very mature security operations and incident response," says Ray Canzanese, director of Netskope Threat Labs, which researches cloud-based security threats.

Since February, most of the attacks have been through malicious software known as a "wiper", says Robert Lipovsky, principal threat intelligence researcher at ESET, a cyber security company.

A wiper is similar to ransomware except that, in war, the aim is to destroy files rather than to encrypt them and demand that the victim pay a ransom for their return.

Yurii Shchyhol, head of Ukraine's cyber security agency, says that, approximately one month after Russia's invasion of Ukraine, his agency registered almost three times more cyber attacks on Ukrainian resources and infrastructure compared with the same period last year.

He says: "The key elements of [Ukraine's] cyber [defence] are: sufficient funding at the national level [and] at private companies managing critical infrastructure; cyber hygiene at all levels; and extensive international co-operation."

In March, Ukraine joined the Cooperative Cyber Defence Centre of Excellence, a Nato-accredited institution focused on cyber defence research.

Sharing "threat indicators" and joint training exercises for cyber defence specialists are crucial, Shchyhol says. "Those are the two primary aspects of the collective cyber security system."

Russia has denied carrying out any cyber attacks against Ukrainian infrastructure, but the EU, UK, US and other allies have claimed that it has been responsible for a series of them since the start of the invasion.

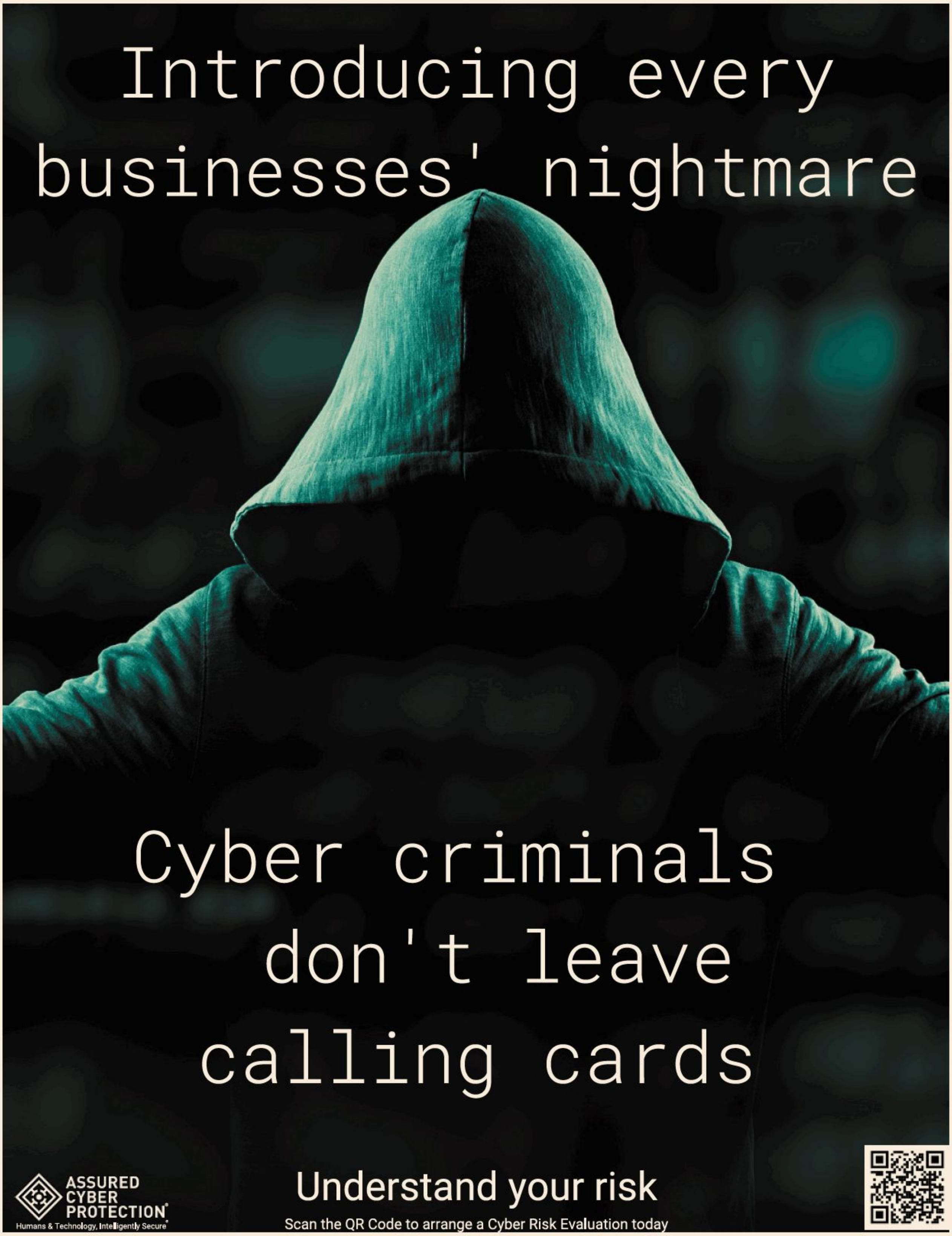
According to the UK government, citing UK and US intelligence, one such attack, in February, caused outages for several thousand Ukrainian internet customers, and affected wind farms and internet users in central Europe.

Russia has faced a barrage of cyber attacks itself since invading Ukraine, according to cyber security experts.

In future, as the technology improves, cyber attacks and defences powered by artificial intelligence could feature, the experts add.

In the meantime, governments and companies are being advised to study Ukraine's successful cyber security tactics and update their own security policies accordingly.

"There is no peace in cyber space," warns CSIS's Lewis.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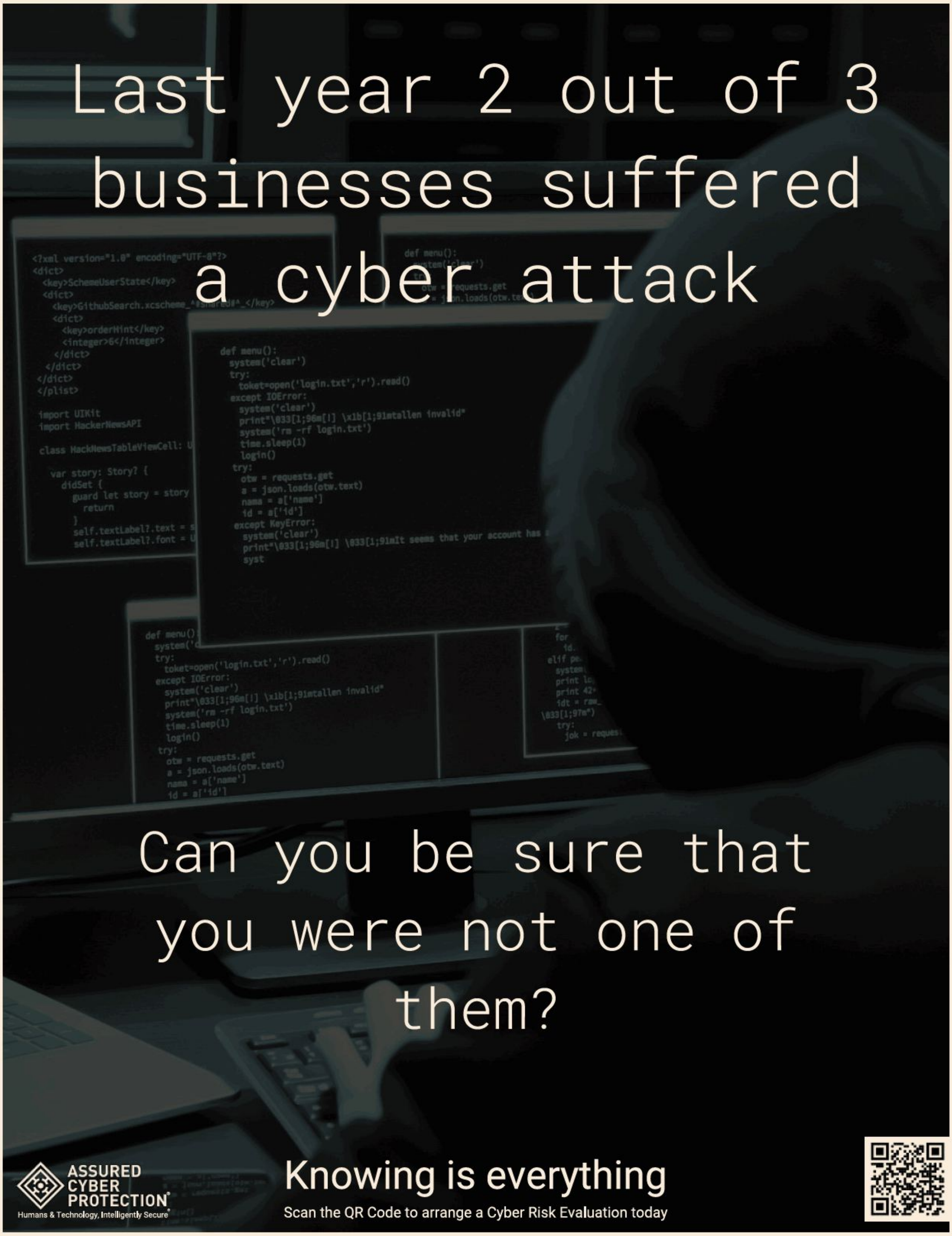
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Joe Sullivan, Uber's former security chief, failed to notify regulators of a cyber security incident in 2016 — Jim Wilson/Eyevine

Why a clear cyber policy is critical

Governance Leaders need to be alive to growing threats and tighter regulations, writes *Anna Gross*

In October, Joe Sullivan, Uber's former head of security, was convicted of covering up a 2016 data breach at the ride hailing giant by hiding details from US regulators and then paying off the hackers.

It was a trial followed nervously by cyber security professionals around the world — coming eight years after an incident that had compromised the personal information of more than 57mn people.

"Any news about another company dealing with a data security incident can strike a bit of fear across industries," notes Mary Pothos, chief privacy officer at digital travel company Booking.com. She adds that incidents like these cause "many companies to pause, rethink or revisit their internal processes to make sure that they are operating effectively".

These incidents, and threats, are growing at lightning speed, too. War in Ukraine is now being played out as much in cyber space as on the battlefield. The Covid pandemic has forced businesses to rethink where their employees work, and handle or access data. At the same time, the sheer number of web-connected devices is multiplying.

"We need to be people who can predict what is coming along the line, predict the future, almost" said Victor Shadare, head of cyber security at media company Condé Nast, at a recent FT event on cyber security.

Palo Alto Networks, a specialist security company, found that cyber extortion grew rapidly in 2021. Some 35 new ransomware gangs emerged, the average ransom demand increasing 144 per cent that year to $2.2mn, and the average payment rose by 78 per cent to $541,010.

Meanwhile, cyber security personnel have found themselves hemmed in by increasingly onerous regulations. These include threats of legal action if the right people are not informed about breaches, or if products come to market that are not safe enough. On September 15, for example, the European Commission presented a proposal for a new Cyber Resilience Act to protect consumers from products with inadequate security features.

"New domains of security have sprung up over the past years, so it's not just an information technology problem any more, it's really a full company risk issue," says Kevin Tierney, vice-president of global cyber security at automotive group General Motors. He warns that automated and connected vehicles have thrown up additional threats to be addressed.

"You have to start out with the right governance structure and the right policies and procedures — that's step one of really getting the company to understand what it needs to do," he says.

These include clear rules on how to disable access to tech equipment, on data protection and storage, on transferring and disposing of data, on using corporate networks, and on reporting any data breaches.

> 'We need to be people who can predict what is coming along the line, predict the future, almost'

Security experts also tend to agree that there need to be robust systems of governance and accountability, to prevent the sort of trouble that befell Sullivan at Uber.

Perhaps most crucially, staff across the organisation, from C-suite to assistants, need to know how to spot and manage a threat.

Research conducted by risk solutions provider Kroll in 2018 found that 88 per cent of data breaches were caused by human error — the most common of which were sending sensitive data to the wrong recipient, the loss or theft of paperwork, forgetting to redact data, and storing information in an insecure location.

But another piece of research in 2018-19, by accountancy firm EY, found that careless and unaware employees were companies' biggest security concern.

"Dry awareness training doesn't really hit the mark, people don't get engaged," says Shadare, who thinks animated and interactive awareness programmes and modules can often "really help".

Gamification — ie, applying game mechanics to staff training — is also proving an effective way to provide training, with research from Örebro University in Sweden finding that it can improve employee motivation and willingness to comply.

Shadare adds that training should be targeted at specific roles within an organisation, from HR to engineering, so that it has relevance to day-to-day tasks.

It is also incumbent on information security personnel to inform executives and board members about the nature of the threat, given that they can ensure the message is spread throughout the organisation, and finance efforts to enhance defences.

"The board controls the purse strings, the board controls the narrative and they control the direction of the organisation," Shadare points out.

Tierney agrees. "It's an education process truly for every employee," he says, "including senior leadership and the board."

When it comes to larger organisations that have complex supply chains — working with lots of different contractors and buyers — it is also crucial that security practices and policies are passed along the chain.

One approach that larger companies can take is to ask for evidence from their suppliers and vendors of the security policies they have in place and their staff training programmes, Shadare says. They may also share some of their own resources and training programmes.

Tierney stresses the importance of collaboration. "We work with tens of thousands of suppliers across our supply chain and . . . a lot of these companies just don't have the resources to have a big security programme. It's a challenge," he says.

"The weakest link will cause an issue, so we have to work together."

Finance Dependence on platforms and a concentration of providers leave institutions at risk, writes *Nicholas Fearn*

Reliance on cloud tech imperils banks

Distributing data across on-site servers and public and private clouds can help decrease cyber risk — Kolderal

By adopting cloud computing technology to make their systems accessible from multiple locations, financial services companies are launching new, improved digital products and streamlining their operations. But, at the same time, cyber specialists are warning that this cloud migration is exposing companies to a greater risk of cyber attacks and data breaches — as well as the fines and reputational damage they can bring.

In July, the Bank for International Settlements said that the financial sector's increased reliance on cloud computing was "forming single points of failure" and "creating new forms of concentration risk at the technology services level".

This was a reference to the fact that the vast majority of financial institutions use cloud computing services from the same major providers. Bank of England research in 2020 found that more than 65 per cent of UK-based banks and insurers relied on just four cloud services.

The Federal Reserve Bank of New York has also previously warned about the "transmission of a shock throughout the network" should financial services be "connected through a shared vulnerability".

Cyber experts have already witnessed the impact this can have. Milad Aslaner, head of the technology advisory group at cyber security group Sentinel One, warns that dependence on a single cloud vendor increases cyber risk "exponentially" for financial companies.

"We've seen how businesses can be seriously compromised by global outages and cyber attacks on cloud service providers like Microsoft or Amazon Web Services," notes Aslaner, a former principal product manager at Microsoft.

Cyber criminals can gain "direct access to the entire digital estate of an organisation" and "operate completely in the shadows" if they successfully hack a cloud system offered by a commonly used vendor. "It's a dangerous misconception that cloud service providers are the ones solely responsible for cloud security," says Aslaner. "In reality, there is a shared responsibility model between the CSP and the organisation."

The UK's National Cyber Security Centre provides advice for selecting, deploying and using cloud services in a secure manner. But, because financial companies are a "chief target for cyber criminals", they should also develop an IT security and risk programme for their cloud usage and other operations, advises Aslaner. This must include the cyber risks of people, processes and technologies, he explains.

The cost of cyber attacks to financial businesses is high, warns Prakash Pattni, managing director of digital transformation at IBM Cloud for Financial Services.

"The financial services industry paid the second-highest price [behind healthcare] for data breaches last year, averaging $5.97mn," he says. "In today's fast-moving digital economy, it's one of, if not the, biggest threat for the industry."

Pattni advises financial services companies to embrace a hybrid approach — distributing workloads across on-premises, public, and private clouds — to decrease cyber risk.

"We work with 19 of the top 20 Fortune 500 banks," he says. "While malicious attacks cannot always be avoided, a secure, hybrid cloud environment can help mitigate risk and reduce vulnerabilities," he says. This, he adds, can include the use of industry-specific clouds with built-in security and compliance controls.

Steve Newson, chief technology officer at Starling Bank, explains that, since it launched in 2014, it has "deployed its systems and services across multiple clouds" so that it is not dependent on one provider.

He says this ensures the bank's sensitive data is backed up right around the clock, decreasing the "impact of outages on the bank and the people that bank with us".

However, some industry experts remain sceptical about the benefits of multi-cloud approaches. Lydia Leong, an analyst at research company Gartner, argues that they are expensive, stifle innovation, and ultimately make it harder for organisations to use cloud services because they are more complex and costly. This approach "destroys much of the business case for using the cloud", she says.

> 'A breach in any of the major service providers would very quickly result in market turmoil'

Switching between their services also creates huge risk for financial businesses, adds Jake Moore, global cyber security adviser at security software company ESET.

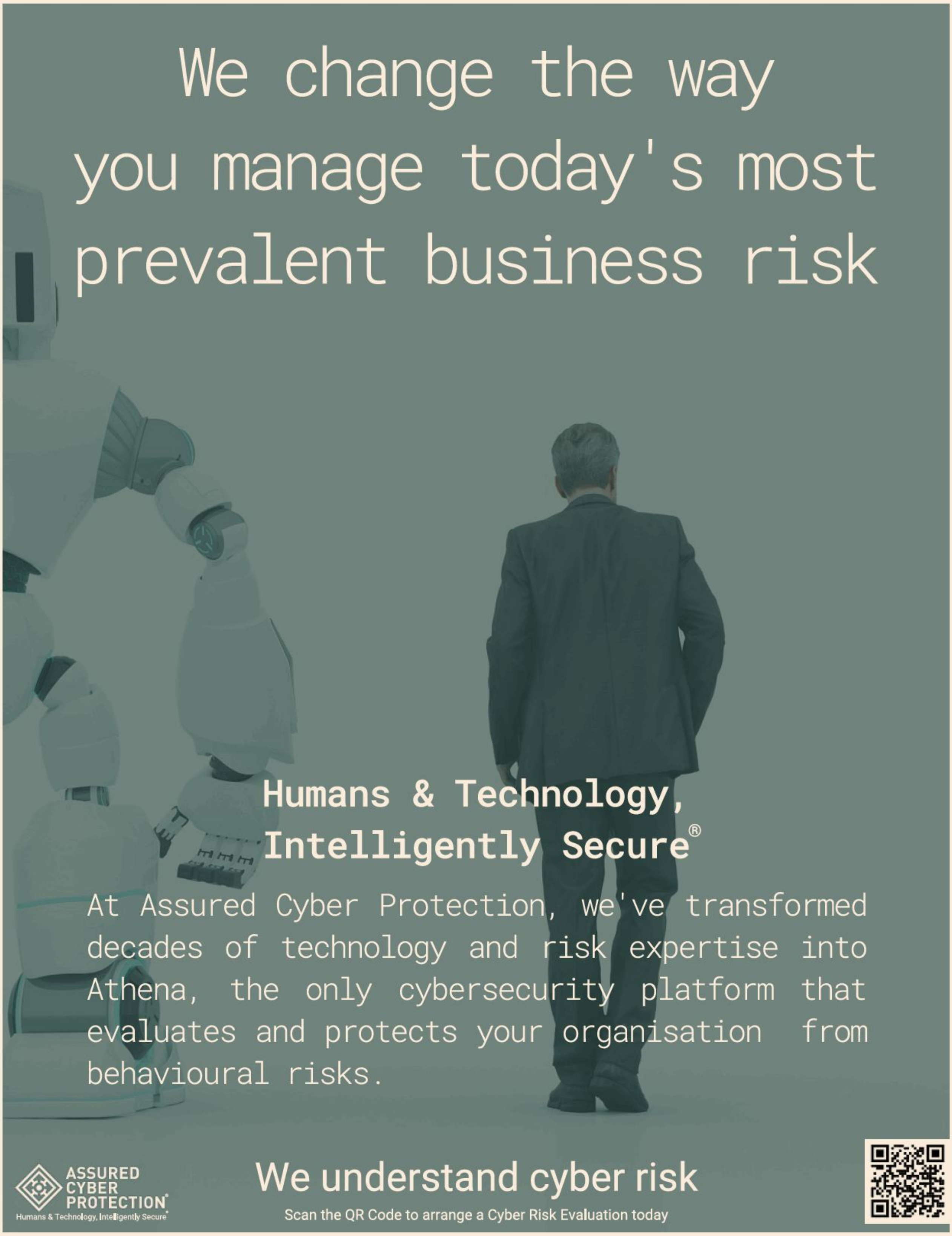
"Such technology serves a great purpose but must not be relied on solely should something go wrong," he says. "Contingency in business is key to its success and cyber security needs to work in silo with this mantra."

Moore warns financial companies to watch out for distributed denial-of-service (DDoS) attacks, in particular. These flood online services with large volumes of dubious traffic and render them unusable.

"Multiple DDoS attacks in huge numbers have attacked international companies in the past 12 months," he says. "Such impact could force banks offline should cyber criminals decide to infiltrate the finance industry with great force." But he adds that cloud platforms can work together to withstand such inevitable attacks.

Regardless of the cloud approach taken, financial groups need to be alive to the threats. Mark Brown, global managing director for digital trust consulting at the British Standards Institution, says: "The potential risks are severe, as a cyber breach or failure of availability in any of the major cloud service providers would very quickly result in market turmoil.

"Organisations and individual traders alike would be unable to function — not least given their inability to react to time-sensitive information, resulting in financial market instability and potentially devastating macroeconomic impacts."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Rising cost of attacks send policy charges soaring

Insurance Whether to buy cover is a tough decision, writes *Oliver Ralph*

When Lloyd's of London found problems in its IT systems in October, the 300-year-old insurance market took some of them offline temporarily, fearing it had suffered a cyber attack. After a thorough investigation, cyber specialists found nothing amiss and life returned to normal after a week or so.

But, even if there had been an attack, Lloyd's would have been covered — its management has cyber insurance in place to deal with the costs.

It is a form of cover that seems an obvious purchase for an organisation running a global market. However, for other companies, a decision on whether, or how much, cover to buy is a much tougher one — despite the rising profile and costs of ransomware attacks.

Premiums for cyber insurance have soared over the past few years. According to Sarah Stephens, head of international cyber insurance at broker Marsh, prices started rising in late 2019.

Marsh's market index shows that the cost of cyber insurance in the US was rising at a rate of more than 100 per cent year-on-year by the end of 2021, although that had moderated to 79 per cent in the second quarter of this year and 48 per cent in the third.

John Neal, chief executive of Lloyd's, says higher prices are a reaction to both an increase in claims and a long period of falling prices between 2010 and 2018. Since then, the cost of cyber claims has been pushed up by a sharp rise in the number and cost of ransomware attacks, in which criminals disable a company's systems and demand a ransom — often millions of dollars — to put them back online.

Cyber insurance, says Neal, "had become underpriced" and insurers were making losses on the products in 2018 and 2019. Prices needed to rise, he argues, "to more sensibly reflect the exposure".

Lloyd's of London detected unusual activity in its network last month — Dan Kitwood/Getty Images

Nevertheless, says Stephens at Marsh, some clients have become "very frustrated with the process", adding that many companies that had only recently started to buy cover found it "particularly jarring" to be hit with big price increases so soon.

On top of that, cyber insurers have become pickier about the business they will take on, insisting on reams of information about the security clients have in place, and excluding some types of incident from the cover they offer.

> Many companies say it's not worth the money and it's better to invest in compensatory controls

Andreas Wuchner, of cyber security monitoring group Panaseer, says that some insurance buyers are now asking questions about the value of the product.

"Lots of organisations say it's not worth the money in cyber insurance, and it's better to invest in compensatory controls," he says. "That's very valid."

Combine that with cost pressures elsewhere as inflation rises, he adds, and some companies are deciding to buy less insurance and hold on to more of the cyber risk themselves.

Stephens says that only a "very small percentage of clients" have stopped buying cyber cover entirely, although she adds that some have taken a hybrid approach: buying less insurance and making more use of so-called captive insurers, in-house insurance companies that many big corporations own as a way of cutting their insurance costs.

Insurers argue the benefits of their products go well beyond paying out money for a claim. They point out that also provide services to help companies deal with cyber attacks when they happen — from rescuing data and systems to negotiating with attackers, and dealing with customers and staff who have been affected.

"It's a very unique, stressful situation to have a cyber event, particularly ransomware," says Paul Bantick, head of global cyber and technology at insurer Beazley. "You want to have people by your side that have done that a lot of times, who know the drill, who can advise you and help you think through your options. If you don't have someone who can help you with that, it's a real challenge."

Preparation is all and insurers can advise on controls, he notes. "The one thing that will always ring true is that the better you are at responding and the processes and controls you have to mitigate this, the less likely it is that you will have to pay a ransom."

Bantick says that, although it is "not a great conversation" when insurers explain price rises to their clients, many of them understand the rationale. "What clients are massively aware of — more so than ever — are the threats."

Despite the price increases and the growing cost pressures companies are facing across their businesses, the insurance industry expects demand for cyber cover to rise.

According to Neal at Lloyd's, the global cyber insurance market is likely to grow from $12bn worth of annual premiums today to $60bn over the next five to 10 years as threats increase.

"Companies need to look at the risks they are facing," he says. "[They have to] get under the skin of their own protection and risk management measures."

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Meet the Chief Information Soapbox Officer

By Andy Ng

EY EMEIA Data Protection, Privacy and Cyber Alliances Leader

Widespread inflation fears, geopolitical tensions and the ongoing impact of the COVID-19 pandemic are critical threats occupying the minds of global CEOs. Meanwhile, 72% of executives say they must radically transform their operations during the next two years to compete effectively in their industry — as portrayed in the recently published EY CEO Outlook Pulse report.

Navigating this dual imperative of addressing the short-term risks, while designing and executing the transformations that will enable competitive footing as companies emerge from the turmoil serves to further fuel the common frustration all cybersecurity leaders share: all too often, their function is perceived as a barrier to innovation and growth by other parts of the organization — a restrictive department that product development or marketing, say, must navigate around. That's problematic in two different ways. Because of this perception, not only is the cyber team often left out of the loop, potentially increasing risk and vulnerability, but also, the organization may fail to harness its cybersecurity team's potential to be a key business enabler.

How, then, do Chief Information Security Officers (CISOs) change the narrative? A large part of the answer, as most CISOs will know, is to tell a more compelling story — and to shout it from the rooftops. CISOs must effectively become Chief Information Soapbox Officers.

It's easy, by the way, to assume that your business is less at risk with this challenge. Unfortunately, the reality looks a little different. In the recent EY Global Information Security Survey, more than half of cyber leaders (58%) said their organizations introduced new technology to timescales that do not give cybersecurity the space to properly assess and advise.

Moreover, too few CISOs enjoy good relationships with key functions across the business. Almost half (41%) describe their relationship with marketing as poor; 28% have unsatisfactory relationships with product development teams.

The success of many organizations has come courtesy of rapid adoption of new technologies. Confronted by a difficult issue, including the challenges of cybersecurity, the temptation is to throw technology at it, rather than being driven by business outcomes.

Key for CISOs as they seek to become strategic enablers is thus a change of mindset. The question is not which piece of technology has reduced the number of vulnerabilities (clearly still important in the right context); rather, CISOs should be focusing on how to arrive more quickly at the outcomes the business hopes to achieve.

The approach to data is one good example of where CISOs have a real opportunity to be business enablers. Across the sector, data is the key to unlocking value, from the intellectual property driving technology businesses to the customer data that often sits at the heart of the value proposition in media. But the impact of failing to manage that data safely and ethically can be significant — not least in jeopardizing consumer trust on which the business depends. As CISOs focus on data security and privacy issues, the business impact and opportunity are the lens through which to see the problem.

There are other opportunities where cybersecurity can be a business enabler or a driver of innovation, sometimes in the most routine way. Where the function invests in maintaining visibility and control of its crown jewels, and enforcing associated security policy, it is in a position to make more informed decisions, increase collaboration, enable automation, reduce user reliance, increase productivity, or embrace the cloud with confidence. A crude, yet effective analogy is that of a sports car with a high-quality braking system. It allows the driver to have the confidence to go faster, more securely.

More examples of this exist. Think about how the telecoms sector has supported cybersecurity-related innovations such as facial and voice recognition, and how that has improved the way customers verify their data remotely. Or consider how collaboration platforms with the right security governance, protection of data, management of third-party risk, and appropriate encryption, enabled workforces to operate remotely, almost overnight.

Trust and confidence in these examples are most effective when security is integral and by-design rather than retro-fitted. When the cybersecurity function has been involved with innovation from the start, it has a better chance of proving its value as a business enabler.Does the rest of the organization realize that? Probably not, unless CISOs have explicitly made their case — hence the importance of the soapbox.

Indeed, CISOs have every right to shout about the value of what they do, and for many it's a work in progress. A good place to start could be the cybersecurity maturity assessment that focuses on what business value or opportunity exists. That should include specific visibility that enables CISOs to present quantitative insight into their IT estate, security profile and culture, aligned to business risk, impact and opportunity.

Tone is crucial though. CISOs with a technical background may be more accustomed to talking in those terms; but adding the language of the boardroom will tell the story of cybersecurity in terms of commercial and strategic drivers, rather than with technical specifications and protocols.

By getting that right, the potential exists for every function of the business wanting to work more proactively with cybersecurity. CISOs who tell their colleagues how they can build safer products and services that will secure customer trust, while growing, differentiating, and innovating —and do so more quickly – will get a warm welcome throughout the organization.

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