FINANCIAL TIMES

TUESDAY 1 AUGUST 2023 | EUROPE

Silicon Valley aids Pentagon in AI arms race
BIG READ, PAGE 15

The real scandal of central bank digital cash
ANDY HALDANE, PAGE 17

World Cup
Australia reach knockout stage

Steph Catley, right, celebrates after scoring Australia's final goal in a 4-0 win over Canada in Melbourne yesterday that clinched a place for the co-host nation in the last 16 of the Fifa Women's World Cup.

Olympic champions Canada required just a draw to advance but instead exited at the group stage for the first time since 2011. Needing a win to keep home hopes alive, Australia took a half-time lead through two goals from Hayley Raso. Mary Fowler also struck after the break.

"A home World Cup — if we had gone out, let's not underestimate, it would have been a disaster," former Australia player John Aloisi told Channel 7. Co-hosts New Zealand have already been eliminated.

Nigeria also advanced after a 0-0 draw against Ireland, while Japan beat Spain 4-0, with both teams going through to the knockout stage.

Robert Cianflone/Getty Images

Briefing

▸ X Corp threatens to sue activists over Twitter claims
The Elon Musk-owned group has threatened to sue the Center for Countering Digital Hate after it suggested there had been a rise in hate speech on Twitter.— PAGE 6

▸ Eurozone back to growth
Eurozone inflation fell in July but hopes that the ECB might soon begin cutting rates were hit by price pressures in services, the EU's statistical office said.— PAGE 2

▸ Birkenstock IPO lined up
L Catterton, the buyout firm that owns German Birkenstock, is considering an IPO of the sandal-maker that might happen as early as September.— PAGE 6

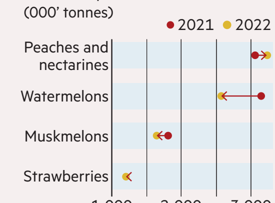
▸ China curbs drone sales
Beijing has put export curbs on a wide range of drones and drone components that could affect the Ukraine war and security applications globally.— PAGE 4

▸ Auditors battle US rules
The largest accounting firms are fighting to block US rules that would force them to take more responsibility against fraud at the companies they audit.— PAGE 7

▸ SEC made bitcoin request
Prior to suing Coinbase, the SEC asked the exchange to trade only in bitcoin, a sign of the agency's intent to assert authority over more of the market.— PAGE 9

Datawatch

Fruit fall
Harvested production in the EU (000' tonnes)



Source: Eurostat

The EU's production of summer fruits fell 6.3 per cent to 8.6mn tonnes last year. This drop was largely driven by a decline in the harvesting of watermelons and muskmelons, or cantaloupes, which fell 18.4 per cent and 9.5 per cent respectively.

Xi sacks commanders of rocket force in biggest military purge for a decade

● Anti-corruption sights turned on PLA ● Two top generals replaced ● Party demands total loyalty

KATHRIN HILLE — TAIPEI

China's leader Xi Jinping has replaced the two generals who had been commanding the country's missile forces, in effect confirming the largest purge at the top levels of the military in a decade.

General Li Yuchao, commander of the People's Liberation Army Rocket Force, and his deputy General Liu Guangbin disappeared from public view several months ago amid what foreign experts and intelligence officials said was a drive to crack down on corruption and enforce Communist party discipline.

State media said yesterday that Wang Houbin, deputy commander of the PLA Navy since 2020, was now head of the Rocket Force, the arm of the PLA responsible for land-based nuclear ballistic missiles. Xu Xisheng, an air force officer and party central committee member, was named as the Rocket Force's new political commissar.

Beijing has made no announcement on the whereabouts of Li and Liu but foreign officials briefed on intelligence regarding the matter believe the two generals are being investigated for allegedly leaking military secrets.

Their disappearance and now replacement come amid a string of announcements on new anti-corruption measures in the armed forces and a renewed push to ensure the PLA's absolute loyalty to the party and to Xi himself.

> The force controls China's conventional ballistic missiles and its land-based nuclear deterrent

The shake-up marks the biggest irregular change among military leaders since Xi had Xu Caihou and Guo Boxiong, both former deputy chairs of the Central Military Commission, removed more than a decade ago and prosecuted on corruption charges in 2014. That case was part of a broad purge reasserting the party's absolute control over the armed forces, which Xi found was slipping when he came to power in 2012.

The Rocket Force is a vital arm of the PLA because of its responsibility for both the land-based nuclear deterrent, which Beijing is rapidly expanding, and conventional ballistic missiles, which play a key role in deterring any US intervention in China's neighbourhood.

The announcement of the new Rocket Force leadership was made only indirectly yesterday when state media reported that Wang and Xu had been promoted to the rank of full generals, mentioning their positions only in passing.

The PLA, long viewed as opaque by observers as it does not disclose information on affairs such as strategy and spending in the same way as western militaries, has tightened control on information in the past few years.

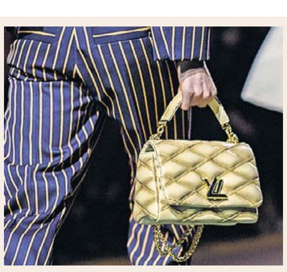
"So changes can now be made and an individual be moved or removed, but we won't see it for a while," said Rod Lee, research director at the China Aerospace Studies Institute at the US Air Force's university.

Chinese officials often disappear from view because of corruption probes or other reasons. Former foreign minister Qin Gang was absent from public view for a month before he was replaced by his predecessor, Wang Yi, last week.

Analysts said Xi's decision to appoint two generals from other parts of the PLA as new Rocket Force leaders indicated a desire to disrupt any networks of loyalty or corruption that had formed under the service's previous leaders.

Wang, the new commander, had rapidly risen in the PLA Navy, from deputy chief of staff in the fleet at the eastern theatre command to deputy navy commander and navy political commissar in the course of little more than a decade.

Crackdown claims first scalps page 4
Michael Miklaucic page 17



Luxury loses its lustre as post-pandemic spree ends
End of revenge buying ▸ PAGE 7

Beer drinkers and investors splutter as Heineken raises prices to offset costs

MADELEINE SPEED

Heineken has cut its annual profit forecast after beer drinkers balked at higher prices.

The world's second-largest brewer said its sales volumes fell 5.4 per cent in the first half — worsening to 7.6 per cent in the second quarter — hit by "the cumulative effect of pricing actions".

Revenues rose 6.3 per cent to €17.4bn in the first half but operating profit fell 22 per cent to €1.6bn as Heineken absorbed higher input and energy costs, spent more on marketing and recorded an impairment on its Russia business.

Heineken said it now expected operating profit growth for the full year to be stable in mid-single digits, down from a previous prediction of mid to high-single digits.

Shares in the Dutch group fell 6.5 per cent yesterday, erasing most of their advance this year.

James Edwardes Jones, an analyst at RBC Capital Markets, said he was "bemused by Heineken's unapologetic determination to push up prices into a worsening consumer environment".

"This seems like a massive test of the pricing power of Heineken's brands — a test that has been less than wholly successful if 1H's volume decline of 5.4 per cent is anything to go by," he said.

With competitors AB InBev and Diageo also reporting half-year earnings this week, analysts are paying close attention to volumes for signs of consumer pushback against price rises.

Like its rivals, Heineken has lifted prices to offset its own rising costs. Chief executive Dolf van den Brink said he expected price rises to ease in the second half of the year. Volumes fell in all regions but it said it had held market share and its premium brands — including Heineken and Moretti — grew.

Van den Brink told the Financial Times that the group had written down its Russia assets to zero: "We just want to be out." Heineken said it had taken an impairment loss of €201mn so far from its partial exit from Russia.

In April, Heineken announced that it had identified a buyer and submitted an application for approval to the authorities. However, its status in Russia has been complicated by the news this month that its rival Carlsberg, as well as French consumer-goods group Danone, have had their Russian subsidiaries seized by the Kremlin.

Van den Brink added that pending a transaction the company could not make further comment in case it had an impact on their chances of approval.

World Markets

STOCK MARKETS

	Jul 31	Prev	%chg
S&P 500	4581.75	4582.23	-0.01
Nasdaq Composite	14325.76	14316.66	0.06
Dow Jones Ind	35453.84	35459.29	-0.02
FTSEurofirst 300	1863.49	1861.26	0.12
Euro Stoxx 50	4475.67	4466.50	0.21
FTSE 100	7699.41	7694.27	0.07
FTSE All-Share	4198.02	4195.17	0.07
CAC 40	7497.78	7476.47	0.29
Xetra Dax	16446.83	16469.75	-0.14
Nikkei	33172.22	32759.23	1.26
Hang Seng	20078.94	19916.56	0.82
MSCI World $	3057.84	3034.41	0.77
MSCI EM $	1043.20	1035.15	0.78
MSCI ACWI $	705.51	700.10	0.77
FT Wilshire 2500	5942.12	5880.13	1.05
FT Wilshire 5000	46323.80	45835.50	1.07

CURRENCIES

Pair	Jul 31	Prev	Pair	Jul 31	Prev
$/€	1.103	1.104	€/$	0.907	0.906
$/£	1.287	1.286	£/$	0.777	0.777
£/€	0.857	0.858	€/£	1.167	1.166
¥/$	142.080	140.310	¥/€	156.650	154.839
¥/£	182.808	180.496	£ index	82.444	82.542
SFr/€	0.956	0.957	SFr/£	1.115	1.116

CRYPTO

	Jul 31	Prev	%chg
Bitcoin ($)	29240.14	29277.70	-0.13
Ethereum	1859.90	1861.58	-0.09

COMMODITIES

	Jul 31	Prev	%chg
Oil WTI $	81.63	80.58	1.30
Oil Brent $	85.39	84.41	1.16
Gold $	1954.25	1945.35	0.46

GOVERNMENT BONDS

Yield (%)	Jul 31	Prev	Chg
US 2 yr	4.86	4.89	-0.03
US 10 yr	3.94	3.97	-0.02
US 30 yr	4.00	4.03	-0.02
UK 2 yr	4.98	4.97	0.01
UK 10 yr	4.39	4.39	-0.01
UK 30 yr	4.42	4.44	-0.02
JPN 2 yr	0.00	-0.02	0.02
JPN 10 yr	0.60	0.55	0.05
JPN 30 yr	1.50	1.38	0.12
GER 2 yr	3.03	3.04	-0.01
GER 10 yr	2.49	2.49	0.00
GER 30 yr	2.57	2.56	0.00

Prices are latest for edition
Data provided by Morningstar

Austria	€4.50	Morocco	Dh50
Bahrain	Din1.8	Netherlands	€4.30
Belgium	€4.50	Norway	NKr45
Croatia	Kn33.91/€4.50	Oman	OR1.60
Cyprus	€4.20	Pakistan	Rupee350
Czech Rep	Kc125	Poland	Zl 25
Denmark	DKr46	Portugal	€4.20
Egypt	E£80	Russia	€5.00
France	€4.50	Serbia	NewD530
Germany	€4.50	Slovenia	€4.20
Greece	€4.20	Spain	€4.20
Hungary	Ft1450	Switzerland	SFr6.70
India	Rup220	Tunisia	Din7.50
Italy	€4.20	Turkey	TL110
Luxembourg	€4.50	UAE	Dh24
Malta	€4.20		

Subscribe In print and online

www.ft.com/subscribetoday
email: fte.subs@ft.com
Tel: +44 20 7775 6000
Fax: +44 20 7873 3428

No: 41,390 ★

Printed in London, Liverpool, Glasgow, Dublin, Frankfurt, Milan, Madrid, New York, Chicago, San Francisco, Tokyo, Hong Kong, Singapore, Seoul, Dubai

31>
9 770174 736128

Output

Eurozone economy returns to growth

Inflation falls to 5.3% but unchanged core rate damps hope of ECB cuts

MARTIN ARNOLD — FRANKFURT

The eurozone returned to growth in the second quarter and inflation fell in July but hopes that the European Central Bank might soon begin cutting interest rates were tempered by persistent price pressures in services.

Eurostat, the EU's statistical office, said inflation had slowed to 5.3 per cent in July, while core inflation, which excludes energy and food prices to give a clearer sign of underlying price pressures, was unchanged at 5.5 per cent.

Hopes of a soft landing for the eurozone economy were bolstered by separate figures from Eurostat showing it rebounded with growth of 0.3 per cent in the second quarter compared with the previous quarter, despite the ECB's unprecedented rise in borrowing costs over the past year.

But the good news was offset by services inflation rising to a record high of 5.6 per cent in the single currency bloc, while economists said the uptick in output was largely because of one-off factors and was unlikely to last.

The figures were a setback for the ECB, which raised interest rates for the ninth consecutive time last week. The central bank has said it will keep increasing borrowing costs until underlying price pressures are clearly falling towards its 2 per cent target.

"July's inflation data will have been a disappointment for policymakers," said Andrew Kenningham, an economist at consultants Capital Economics, predicting services prices would fall only slowly from a record high in July and "keep the ECB from pivoting to rate cuts until well into next year".

The eurozone stagnated in the past quarter and shrank in the final three months of last year. But its recent revival was weaker than the US, which last week reported annualised growth of 2.4 per cent for the period.

Eurozone growth was skewed upwards by a 3.3 per cent surge in Irish gross domestic product in the period, which has been volatile owing to shifts in intellectual property by large US pharmaceutical and technology groups with EU headquarters in the country.

Excluding Ireland, eurozone growth would have halved, according to ING economist Bert Colijn. Pointing to surveys indicating a fresh downturn in activity and bank lending, he said that "continued broad stagnation of economic activity remains the most likely outcome for the coming quarters".

French GDP growth accelerated to 0.5 per cent in the second quarter, but this largely reflected the export of a cruise ship.

Italy became the weakest performer of the eurozone's big economies in the second quarter after output contracted 0.3 per cent from the previous quarter because of a decline in Italian industry and farming output that outweighed slight growth in services.

The shrinking of Italy's economy marked a deterioration from 0.6 per cent growth in the first quarter and was below the stagnation forecast by economists in a Reuters poll. Italy's statistics agency said domestic demand made a negative contribution while foreign trade, including tourism, was neutral.

Economists said the Italian downturn was likely to have been triggered by the recent ending of a "superbonus" scheme, which had triggered a boom in home improvement after offering Italians tax credits worth 110 per cent of any energy efficiency work on their homes.

"We are confident that the biggest drag will have come from investment," said Melanie Debono, an economist at Pantheon Macroeconomics.

Environment. Geothermal quest

German cities dig deep for green energy

Experts say hot water pumped from far below ground could help heat up to 70% of homes

GUY CHAZAN — MUNICH

Piping hot: Christian Pletl, right, head of decentralised heat production and renewable energy at SWM, with colleague Thomas Gigl at a heat pump plant in Sendling, Munich — Laetitia Vançon Photography

Munich's Oktoberfest is a beer lover's paradise, with almost 6mn people enjoying its lederhosen-slapping revelry every year. Few of them would guess what is happening 3,000m beneath their feet.

Every day, thousands of gallons of hot water are pumped to Europe's largest geothermal plant from under the Oktoberfest's fairground venue, providing heat for 80,000 local people.

"It's all happening under the *Wiesn*," said Christian Pletl, head of renewables at Munich utility SWM, using the local name for the beer festival. "We have a borehole right below it."

Ever since Olaf Scholz's government unveiled a law this year banning gas-fired boilers in new houses, the question of how Germans should heat their homes has risen to the top of the political agenda.

The boiler ban was an attempt to address one of the biggest challenges Germany faces in its green transition: the vast amount of carbon dioxide emitted by its heating sector. Heating accounts for more than 50 per cent of Germany's energy consumption — and 85 per cent of it comes from fossil fuels.

Scholz's government must bring this down if Germany is to get even close to its goal of carbon neutrality by 2045.

The ban on new boilers is the centrepiece of those efforts. But another law requiring municipalities to find climate-friendly energy sources for local heating may prove even more consequential.

Cities are now frantically trying to figure out how to comply with the new law, which is due to be passed this year. Munich is a step ahead of them.

"Eleven years ago we committed to becoming the first big city in Germany with 100 per cent carbon-neutral district heating," said Thomas Gigl, head of SWM's south Munich site. Geothermal energy was "key" to that goal, he added.

Other locations could follow suit. Rolf Bracke of the Fraunhofer Institution for Energy Infrastructures and Geothermal Systems estimates that deep geothermal could supply as much as 200-400 Terawatt hours (TWh) of energy a year and cover a quarter of Germany's total demand for heating in towns and cities.

"Geothermal energy has enormous potential, especially in big cities where there are few alternatives," he said.

The potential for energy extracted from closer to the Earth's surface, between 100m and 1,000m deep, could be even greater. "In theory, 50-70 per cent of the existing housing stock in Germany could be heated using geothermal energy in conjunction with heat pumps," Bracke said.

The technology is simple: boreholes are drilled into subterranean lakes known as aquifers that lie 1-3km underground. The water is pumped to the surface and its heat passes via heat exchangers to normal, non-thermal water that is then used for heating in residential areas.

"It's not rocket science. The technology has existed for 150 years," said Pletl, standing next to huge pipes bringing up 100 litres of water a second at a temperature of nearly 100C from thousands of metres below Munich. "But the real art is in figuring out where to drill — where the porosity of the rock is at its highest and where most of the water is."

Bavaria's geothermal story began in 1983 in the small town of Erding, northeast of Munich, when prospectors drilling for oil found hot water instead. Three years later, the local council took over the drill hole and used the water to heat schools, hospitals and industrial zones, as well as for a spa and hot spring.

Twenty-nine more projects followed, all exploiting Bavaria's Molasse basin, a geological formation stretching across southern Germany. The area has a thick stratum of fractured limestone through which water can pass. Bavaria accounts for nearly 80 per cent of Germany's installed geothermal power output.

But Bavaria is no world pioneer. Around 250,000 households in France's greater Paris area receive geothermal heat, fed by aquifers first tapped in 1969.

Iceland is prolific in the field, with geothermal sources accounting for two-thirds of its primary energy use.

Compared with that, Germany is a minnow. In 2020 it had 42 geothermal plants, providing 359 megawatts of installed thermal capacity, a fraction of total heating demand. But some experts say the potential is much greater. Hot water aquifers were only found in areas targeted for oil and gas exploration, such as Bavaria, and much of the rest of the country is still uncharted territory.

> 'It's not rocket science. The technology has existed for 150 years'
>
> Christian Pletl

Bracke said many big cities could also have aquifers, pointing to Aachen where the Romans built the first geothermal heating network 2,000 years ago.

Berlin is another candidate. In June the city government said it would drill three test boreholes.

A project in Geretsried, Bavaria, by Canadian company Eavor Technologies, is also garnering attention. Rather than siphoning water from aquifers, it will circulate it through a U-shaped well, allowing it to be heated naturally by the rock deep underground and brought back to the surface in a "closed loop".

Eavor's technology can, in theory, be used anywhere, not just in sedimentary basins with underground reservoirs.

But Pletl is sticking to the traditional methods. He expects to be able to pump thermal water out of the aquifers under Munich for years. "This resource is virtually inexhaustible," he said.

West Africa

Niger junta accuses ousted government of authorising French rescue

DAVID PILLING AND SARAH WHITE
LONDON

The junta that seized power in Niger last week has accused the ousted government of authorising a French military operation to rescue deposed president Mohamed Bazoum.

The military government said yesterday that Bazoum's foreign minister, Hassoumi Massoudou, had signed a document authorising the French to storm the presidential palace. It offered no proof.

France has demanded the reinstatement of Bazoum, regarded as the west's staunchest ally in the troubled Sahel region, and warned that it would take unspecified action if French personnel or property were harmed.

Thousands of pro-junta demonstrators surrounded the French embassy in Niamey, the capital, on Sunday, chanting pro-Russia slogans such as "Long Live Putin".

The French foreign ministry said yesterday: "France reiterates that the only legitimate authority in Niger is President Mohamed Bazoum and democratically elected institutions. Our priority is the safety of our citizens and our interests, which cannot be the target of violence, in line with international law. We have no other objective than that."

> 'The junta in Niamey may have miscalculated. Ecowas has drawn a line in the sand — it's not bluff'

The ministry did not comment further on whether French forces had been authorised to carry out strikes. A person with knowledge of French thinking said Paris was unlikely to take action without US involvement.

France has 1,500 troops in Niger and a base with attack drones and fighter jets, while the US has 1,100 troops on the ground and two drone bases.

Alex Vines, head of the Africa programme at Chatham House think-tank, said France and the US would "tread very carefully" given the level of anti-French and anti-western sentiment in the Sahel. A military response from the Economic Community of West African States was more likely, he said. Ecowas on Sunday threatened force if Niger's junta did not restore civilian power within seven days.

"This is where the junta in Niamey may have miscalculated. They may have assumed a weak Ecowas response just like in Mali and Burkina Faso," Vines said, referring to the bloc's inability to reverse coups in either of Niger's neighbours. "But Ecowas has drawn a line in the sand. Defence planners have been tasked to plan an intervention — it's not bluff."

Ecowas has also threatened to cut off Niger's electricity, much of which is supplied from Nigeria, and to impose sanctions on members of the junta and their families.

Bazoum remains trapped in his residence but a photo showing him smiling alongside Mahamat Idriss Déby, Chad's president, who travelled to Niamey on behalf of Ecowas to try to broker a deal, has been released by Déby's office.

FINANCIAL TIMES
Bracken House, 1 Friday Street, London EC4M 9BT.

Subscriptions & Customer service
Subscription offers: www.ft.com/subscription
Contact: +44 207 775 6000, fte.subs@ft.com
Manage your personal account: mma.ft.com
Advertising
Tel: +44 20 7873 4000, advertising@ft.com
Letters to the editor
letters.editor@ft.com
Executive appointments
Tel: +44 20 7873 4909
www.exec-appointments.com

Published by: The Financial Times Limited, Bracken House, 1 Friday Street, London EC4M 9BT. Tel: +44 20 7873 3000; Fax: +44 20 7407 5700. Editor: Roula Khalaf.

Germany: Demirören Media, Hurriyet AS-Branch Germany, An der Brucke 20-22, 64546 Morfelden-Walldorf, +49 6105 327100. Responsible Editor, Roula Khalaf. Responsible for advertising content, Jon Slade.
Italy: Monza Stampa S.r.l., Via Michelangelo Buonarroti, 153, Monza, 20900, Milan. Tel. +39 039 28288201 Owner, The Financial Times Limited; Rappresentante e Direttore Responsabile in Italia: I.M.D.Srl-Marco Provasi - Via G. Puecher, 2 20037 Paderno Dugnano (MI), Italy. Milano n. 296 del 08/05/08 - Poste Italiane SpA-Sped. in Abb.Post.DL. 353/2003 (conv. L. 27/02/2004-n.46) art. 1 .comma 1, DCB Milano.
Spain: Bermont Impresion, Avenida de Alemania 12, CTC, 28821, Coslada, Madrid. Legal Deposit Number (Deposito Legal) M-32596-1995; Publishing Director, Roula Khalaf; Publishing Company, The Financial Times Limited, registered office as above. Local Representative office; C/ Infanta Maria Teresa 4, bajo 2, 28016, Madrid. ISSN 1135-8262.
UAE: Masar Printing & Publishing, P.O. Box 485100, Dubai. Editor in Chief: Roula Khalaf.
France: Publishing Director, Jonathan Slade, 46 Rue La Boetie, 75008 Paris, Tel. +33 (0)1 5376 8256; Fax: +33 (01) 5376 8253; Commission Paritaire N° 0919 C 85347; ISSN 1148-2753.
Turkey: Dunya Super Veb Ofset A.S. 100. Yil Mahallesi 34204, Bagcilar- Istanbul, Tel. +90 212 440 24 24.
Sweden: Responsible Publisher - Christer Norlander

The Financial Times and its journalism are subject to a self-regulation regime under the FT Editorial Code of Practice: www.ft.com/editorialcode

Reprints are available of any FT article with your company logo or contact details inserted if required (minimum order 100 copies).
One-off copyright licences for reproduction of FT articles are also available.
For both services phone +44 20 7873 4816, or email syndication@ft.com

Ocean ecosystems

Seabed miner criticised over Pacific slurry spill

KENZA BRYAN — LONDON

The supervisor of the world's seabeds has accused a company in line to become the first to start harvesting battery metals from the ocean floor of failing to follow its own risk management rules after it caused a slurry spill in the Pacific.

Nauru Ocean Resources (Nori), a subsidiary of Canada-based The Metals Company, spilled up to 72,000 litres of water with seabed sediment and metallic fragments in October while collecting nodules containing nickel, manganese, copper and cobalt.

An investigation by the International Seabed Authority, which was signed off for publication in May but has not been previously reported, found that the spill did not breach the regulator's rules or cause serious environmental harm.

However, the investigation concluded that the company's handling of the incident showed "insufficient risk awareness" and failure to follow its own risk management procedures.

TMC could not accurately estimate how much water was spilled, did not sample the water quality after the spill, did not take photos of the water "plume" dispersing in real time and took 16 days to notify the regulator, it said. A scientist consulted by the ISA recommended checking for damage to marine life up to 40km away.

The spill happened during a pilot exercise intended to test TMC's deep-sea mining technology on a scale too small to cause serious damage.

Scientists and activists have warned that mining could cause irreversible damage to ecosystems thousands of metres under water. Duncan Currie, a lawyer at the non-profit Deep Sea Conservation Coalition, said the judgment of the UN-backed authority was not harsh enough. "If [the ISA] does not consider a spill such as this to be a problem, this raises real concerns about their ability to regulate a full-blown mining operation," he said.

The accident showed deep-sea mining technology was "still vulnerable", said Andrea Koschinsky, a professor at Germany's Constructor University consulted on the spill by the ISA.

"If this happened on a larger scale with industrial mining, it would become a problem," she added, as such a spill could increase the concentration of metal in the water and the dispersed sediment could impede photosynthesis in the top layer of the ocean.

The head of the ISA compliance unit responsible for the investigation, Øystein Brunell Larsen, joined Norwegian deep-sea mining contractor Loke Marine Minerals as chief operations officer a month after the report's publication. Larsen declined to comment.

The ISA said its staff were bound by UN policies and rules and upheld the "highest standards of efficiency, competence and integrity".

Nodules: Nori engineers at sea examine polymetallic materials

It added: "From the findings of the investigation report and the peer review provided by five external international scientists, it was concluded that, apart from the late reporting of the Nori overflow, no non-compliance issue was identified."

Delegates gathered at the ISA's headquarters in Jamaica agreed in talks last week that rules for the industry are unlikely to be finalised until 2025. China repeatedly vetoed a proposal by countries including France and Chile to debate this year whether to pause deep-sea mining altogether. However, China conceded that the debate could take place in 2024.

Hervé Berville, France's secretary of state for the sea, told the Financial Times: "An energy transition that came at the cost of biodiversity would be smoke and mirrors, an illusion."

Berville called for a regular five-year review of the ISA's functioning, a legal obligation that is currently overdue, to be carried out.

INTERNATIONAL

South America faces El Niño economic storm

Weather phenomenon intensified by climate change could spark inflationary surge caused by food and energy shortages

JOE DANIELS — BOGOTÁ
CIARA NUGENT — BUENOS AIRES
BRYAN HARRIS — SÃO PAULO
CHRIS CAMPBELL — LONDON

Flooding: locals assess damage after heavy rain in Esmeraldas, Ecuador, in June
Santiago Arcos/Reuters

South America is bracing itself for the impact of El Niño, with flooding and droughts intensified by climate change forecast to deliver a $300bn hit to growth for the region's economies.

As the planet sweltered from the "hottest week on record" in early July, experts declared the return of El Niño, the weather event that warms the eastern equatorial Pacific Ocean's surface and causes global changes in temperature and rainfall.

The World Meteorological Organization advised governments in affected areas, including south-east Asia, Africa, Australia and southern US states as well as South America, to act now "to save lives and livelihoods".

South America, which is dependent on agricultural exports and already vulnerable to rising temperatures, is particularly exposed to the extreme weather that El Niño cycles can bring.

The phenomenon affects the region unevenly, bringing heavy rains to the Pacific coasts of Peru and Ecuador and droughts to parts of Colombia and Chile, while increasing the likelihood of wildfires in the Amazon rainforest.

Corficolombiana, a Bogotá-based financial services company, has forecast that growth will contract 1.7 per cent and 1.6 per cent in Peru and Ecuador respectively and 0.6 per cent in Colombia, with economists warning that food and energy shortages could cause another bout of inflation, spurring fresh interest rate rises.

"If inflation re-accelerates because of El Niño, it may interfere with central banks' capacity to shift their monetary stance from restrictive to neutral [which supports stable growth]," said Alberto Ramos, chief Latin America economist at Goldman Sachs.

El Niño warms the usually cool and nutrient-rich Humboldt current off the coasts of Peru and Ecuador and leads fish to migrate away from what are normally some of the world's most productive fisheries. Output in Peru's fishing industry is projected to shrink 19.3 per cent this year, according to Lima-based consultancy Thorne & Associates, after the production ministry cancelled the year's first anchovy fishing season.

The small fish is used for fishmeal, of which Peru produces 20 per cent of global supply. Total fish production in Peru fell 70 per cent in May from the same month last year.

El Niño's latest cycle is a serious threat to crops

Sources: FAO

Lima has announced emergency measures totalling $1.1bn to tackle the effects of El Niño, including funds for drainage systems, river defences and roads that might be damaged by torrential rain. Health authorities say floods will exacerbate an outbreak of the mosquito-borne dengue disease — already the country's worst in decades.

The measures are on top of a $2.1bn package to boost economic recovery after parts of Peru were shut down by unrest after the removal of leftwing president Pedro Castillo this year.

But the country had previously squandered funds allocated to mitigate El Niño's effects, said Alfredo Thorne, a former finance minister who runs Thorne & Associates, referring to stimulus packages of $8bn in response to the 2014-16 El Niño cycle. "Instead of using that money for the prevention of the effects of future El Niño events, the money went to building schools and other public spending," he said.

Ecuador, which lost 300 lives and $3bn in economic output to El Niño in 1997-98, also faces agricultural disruption. Banana growers report that 50,000 hectares are at risk, while sugar harvests have been delayed. The government has allocated $266mn to mitigate losses and damage.

In Colombia, droughts are expected to expose vulnerabilities in the energy grid, about 70 per cent of which is served by hydroelectric power. Economists predict that reservoirs could fall from 65 per cent of capacity to 44 per cent during El Niño, forcing officials to consider increasing generation from fossil fuels. Bogotá-based think-tank Fedesarrollo predicts a rise in energy bills in Colombia of 50-100 per cent, depending on the severity of El Niño.

In drought-hit Chile, scientists linked recent strong rains, the heaviest in 30 years, to a combination of El Niño and climate change. Authorities declared an agricultural emergency in two central regions, freeing up funds to help farmers feed animals and provide support for insurance claims. The National Agricultural Society called for significant improvements in water infrastructure and reservoir capacity so they could benefit from heavier rainfall.

In Brazil, El Niño is expected to bring more rain to the south but less further north, making the Amazon rainforest more susceptible to wildfires.

Scientists fear that the impact of El Niño will be amplified by changing climate patterns. "We have regions where during the dry season it is already 2.5C hotter and regions where there is 30 per cent less precipitation. El Niño happens on top of that," said Erika Berenguer, a Brazilian researcher at the UK's Oxford and Lancaster universities. "This increases the likelihood of having forest fires, where everything can go wrong."

> 'We have regions where in the dry season it is already 2.5C hotter and regions where there is 30% less precipitation'

In Argentina, increased rainfall might benefit the agricultural powerhouse. The 2022-23 soyabean harvest was less than half the preceding year and the government said drought wiped out more than $18bn in export earnings, increasing a severe shortage of dollars in a country hit by triple-digit inflation.

But, the UN's Food and Agriculture Organization has said that parts of Argentina might suffer excessive rains, with the impact on crops hard to predict.

In every region, "the costs of climate variability and climate change" will probably exceed countries' estimates, said Justin Mankin and Christopher Callahan of Dartmouth College in the US.

The academics estimate that this year's El Niño could cost the global economy $3.5tn in lost growth by 2029, with South America bearing about $300bn of that. Mankin said "strongly teleconnected countries" — those linked to the same weather phenomenon despite their disparate locations — "that are least culpable for global warming are disproportionately going to bear the costs of it, as well as the costs of natural climate variations like El Niño".

Security clampdown

China tightens controls on drone exports

Limits on military and commercial-use supplies may affect Ukraine war

KATHRIN HILLE — TAIPEI
QIANER LIU — HONG KONG

China has imposed export controls on a wide range of drones and drone components, a move with potential impact on the Ukraine war and on public security applications in many western countries.

"The risk of some high-specification and high-performance commercial-use drones being converted to military use continues to rise," the Chinese commerce ministry said yesterday.

As a leading drone producer and "responsible great power", China had decided to broaden restrictions on the export of unmanned aerial vehicles, the ministry added.

The controls, which take effect on September 1, follow repeated appeals by EU officials to China to restrict supplies of military or dual-use technology to Russia since Moscow's invasion of Ukraine. Ukrainian forces have successfully used commercial drone models with self-designed payloads to target Russian military units. Russia's military has also increasingly relied on UAVs for attacks on Ukraine.

China has urged both parties to seek peace talks but Beijing's growing military co-operation with Moscow, its refusal to condemn the invasion and its repeated statements in support of Russian security concerns have undermined its claim to be neutral.

China has a dominant role in the global drone supply chain and Shenzhen-based company DJI is the world's largest commercial drone maker by shipments.

One notice issued yesterday by four departments — the commerce ministry, customs administration, military-use technology regulator and the military's equipment development department — limits exports of drones carrying narrowly defined equipment suitable for military use such as powerful radars or hyperspectral cameras.

> 'The risk of some high-specification . . . drones being converted to military use continues to rise'

Another notice from the four departments covers a broad range of drone components and industry executives said this rule would have an impact on commercial-use drones. "The focus of the controls is dual-use components," said a DJI sales manager, adding that while ordinary DJI products would be unaffected, parts and some high-performance models might be restricted.

DJI said it had always strictly complied with export laws and regulations in China and any other jurisdictions. "While we are evaluating the specific impact to our business from these new regulations, we would like to point out . . . drones and drone-related equipment can be exported normally after fulfilling relevant compliance criteria as long as they are used for legitimate civilian purposes," said DJI.

The commerce ministry said: "China's modest expansion of the scope of its drone control . . . is an important measure to demonstrate our stance as a responsible major country, to implement global security initiatives and maintain world peace."

The controls would affect some drones for the consumer market and no civilian drones could be exported for military purposes, the ministry said.

See Opinion

Asia. Corruption claims

Xi military crackdown claims first scalps

Senior officers in PLA Rocket Force replaced as president aims to reassert party control

KATHRIN HILLE — TAIPEI
EDWARD WHITE — SEOUL

The replacement and continuing absence from public view of two army generals has offered confirmation of Xi Jinping's renewed campaign to enforce party discipline in the military as the Chinese president intensifies his decade-long push to exert tighter control over the armed forces.

The purge of General Li Yuchao and his deputy, General Liu Guangbin, from command of the country's Rocket Force — which controls China's nuclear and conventional missiles — comes amid what People's Liberation Army experts and intelligence sources believe is a new anti-corruption crackdown. Their disappearance, and now replacement, follows a string of announcements about new anti-corruption measures in the armed forces

At two high-level meetings in Beijing in June, Xi told military leaders they should "focus on solving the prominent problems that persist at party organisations on all levels with regard to enforcing the party's absolute leadership over the military".

The Central Military Commission, China's forces leadership body, which Xi chairs, last month called for the establishment of an "early warning mechanism for integrity risks in the military" and announced a probe into corruption in equipment procurement going back almost six years.

Questions about Li's whereabouts have been swirling for weeks. The commander of the Rocket Force was not mentioned in official reports of Xi's promotions of senior PLA generals late in June, an event which he would have been expected to attend. A person with knowledge of the Rocket Force's own general officer summer promotion ceremony said Li missed that event too, a situation PLA experts called "highly anomalous".

Last week the South China Morning Post revealed that several current and past PLA Rocket Force officers, including Li and his deputy, had been targeted in a probe. Despite the commanders' removal, an investigation has still not been officially announced and the Financial Times could not confirm the subjects of any probe.

Renewed focus: Xi Jinping, seen on a visit to a PLA garrison, has retrained his sights on graft in the military
PLA Pictorial/Eyepress/Reuters Connect

However, Cercius, a Canada-based consultancy tracking elite Chinese politics, has pointed to the detention and arrests late last year of lower-level officials with ties to the Rocket Force as an indication of a wider investigation. It is common for a crackdown on junior officials to be followed months later by arrests of more senior cadres for corruption.

In early June, the Central Commission for Discipline Inspection, the Chinese Communist party's internal watchdog, announced that more than 39 senior military and political cadres had been arrested since the 20th party congress last October, but it has not published the names of all of those facing prosecution.

Under Xi, China's most powerful leader since Mao Zedong, an anti-corruption crusade has served the dual purposes of eliminating political rivals and punishing endemic graft. Since 2012 nearly 5mn lower-level officials as well as thousands of higher-level "tigers" have been ensnared, as well as executives in the technology, finance and energy industries and even China's own anti-graft watchdogs.

It remains unclear whether Xi's renewed focus on the military was prompted by a particular case or bigger concerns over political loyalty. The Rocket Force is one of the PLA's most strategically important branches, with responsibility for China's rapidly expanding land-based nuclear deterrent as well as the missile systems critical to a potential attack on Taiwan and efforts to deny US forces access and free movement in the western Pacific.

> 'That they talk about these problems again is a code phrase for saying absolute loyalty to the party has not yet been achieved'

Two foreign senior government officials briefed on related intelligence said the Rocket Force leaders were being probed for leaking military information. "The trigger was the fact that we, outside China, have a quite detailed understanding of the Rocket Force's structure by now," said one of the officials. "It's about divulging secrets."

The military was one of Xi's first targets after taking power in an overhaul to assert authority over a force he judged had begun to fall into decay and slipped out of the party's control, according to Phillip Saunders, director of the Center for the Study of Chinese Military Affairs at the US National Defense University. Two former CMC vice-chairs, Xu Caihou and Guo Boxiong, faced prosecution for corruption in 2014.

"Ten years on, there's a new generation of leaders, some of that anti-corruption fear has worn off," Saunders said. "There's a need periodically to re-emphasise the drive against corruption and re-emphasise politically the theme of loyalty to the party."

Ahead of PLA Day today, which marks the founding of the CCP's armed services, official media have published a series of articles exhorting cadres to "strengthen military governance".

"That they talk about these problems again is a code phrase for saying absolute loyalty to the party has not yet been achieved," said Lyle Morris, senior fellow at the Asia Society Policy Institute's Center for China Analysis and a former China country director in the office of the US secretary of defence. "Xi has consolidated control of the PLA in unprecedented ways. But that doesn't mean it's complete."

Over the past decade, Xi has concentrated control over the military in his own hands, elevating the powers of the CMC chair and enshrining those changes in the Communist party charter. Some experts said the latest probe pointed to a failure of those reforms. "There were loose ends in selecting Rocket Force leaders. Since Xi selected these people himself, his leadership is compromised," said PLA analyst Andrew Yang. "He now has to defuse the negative impact in the military."

Economic data

Weakness in factories puts pressure on Beijing to boost support

WILLIAM LANGLEY — HONG KONG
JOE LEAHY — BEIJING

Manufacturing activity in China contracted for a fourth straight month in July while growth in services and other sectors slipped, bolstering calls for Beijing to take concrete measures to boost the flagging recovery of the world's second-biggest economy.

China's official manufacturing sector purchasing managers' index for July came in at 49.3, slightly higher than analysts' forecasts of 49.2 and above June's reading of 49 but still in contraction territory. The non-manufacturing PMI, which includes sectors such as construction and agriculture, fell to 51.5 from 53.2 the previous month. It was short of the 53 forecast by Goldman Sachs.

A reading below 50 indicates a month-on-month contraction, while one above 50 signals an expansion.

The July "data provides little encouragement that the economy is turning the corner", Robert Carnell, head of Asia-Pacific research at ING, the Dutch bank, wrote in a note.

An anticipated manufacturing and export-led rebound from pandemic

> The July 'data provides little encouragement that the economy is turning the corner'

restrictions has failed to materialise as global economic conditions have deteriorated. Growth in the huge services sector, an important source of employment, has weakened amid slowing consumer spending and investment, flagging exports, and a property sector liquidity crisis. Gross domestic product rose 0.8 per cent in the second quarter compared with the previous three months, well below forecasts.

The Chinese Communist party's senior decision-making body, the politburo, last week announced measures to try to boost growth, which it acknowledged was making "tortuous progress".

But analysts said Beijing would probably not unleash broader fiscal stimulus because of high debt levels, especially among local governments.

The PMI figures show "there is yet to be a significant turnaround in the softening recovery activity", said Erin Xin, economist at HSBC. "This puts more onus on policymakers to move swiftly to provide much-needed policy support."

China's state planner yesterday announced a consumption package targeting vehicle purchases and development in rural areas. The central bank has also eased monetary policy.

China's benchmark CSI 300 rose 0.6 per cent, while the Hang Seng China Enterprises index added 1.3 per cent, with technology and property stocks climbing sharply on expectations that policymakers would have to step up efforts to stimulate the economy.

Hong Kong yesterday reported second-quarter growth of just 1.5 per cent year on year, far below a 2.9 per cent expansion in the first three months.

Additional reporting by Hudson Lockett and Chan Ho-him in Hong Kong

National security

Israel says road to creating ties with Riyadh remains long

JAMES SHOTTER — TEL AVIV
SAMER AL-ATRUSH — DUBAI

Israel's national security adviser said the road to establishing ties with Saudi Arabia was "still long", despite increased efforts by the US to facilitate a formal relationship between the two long-term adversaries.

In an interview with Israel's public broadcaster yesterday, Tzachi Hanegbi said a full agreement was not under discussion but that Israel had been "positively surprised a few months ago when the White House . . . said it was exerting efforts to reach a deal with the Saudis".

"I can identify with what the US president said in an interview a few days ago, where he said that the road is still long but that he thinks that there will be a possibility of progress," Hanegbi said.

US president Joe Biden sent one of his closest advisers to the Saudi capital last week to discuss the topic, and said during a meeting with US campaign donors on Friday that "a rapprochement [is] maybe under way". It was the second trip by a US official to Riyadh in a matter of weeks.

Diplomats say Saudi Arabia has been seeking concessions from the US including security guarantees, support for a civilian nuclear programme and weapons sales in exchange for normalising ties with Israel. Saudi officials have said the kingdom would also need a gesture from Israel towards the Palestinians, although they have not spelt out what that would entail.

Asked about concessions, Hanegbi said Israel would not accept "anything that will erode its security".

However, in a sign of the difficulties that any deal would face in Benjamin Netanyahu's coalition, Orit Strook, an ultranationalist from the far-right Religious Zionist party who serves as the national missions minister, said the government would not make any concessions in the West Bank.

"There's a consensus in all the right-wing parties. We're done with withdrawals and settlement freezes in Judea and Samaria," she said, using the biblical name for the West Bank. "Netanyahu is a responsible prime minister and he won't sell the Land of Israel in exchange for a visit to the White House."

Republican party

Tycoon told Trump to drop presidential bid

DEREK BROWER — NEW YORK
LAUREN FEDOR — LONDON

Billionaire Republican donor Harold Hamm told Donald Trump to drop his bid for the White House as the party needed a candidate free of the "chaos" surrounding the former president, who faces several criminal investigations.

The Oklahoma oil tycoon, whom Trump considered making energy secretary in 2016, urged the former president in May to act as the party's "kingmaker", a role for him to be very influential", and back another candidate.

"I know he wasn't happy," Hamm told the Financial Times, referring to his phone conversation with Trump. "That's all I can do. How seriously he takes that recommendation, I don't know."

Trump and Hamm met for a dinner on Sunday at the former president's golf club in New Jersey. A Trump ally said the conversation had been "positive" and Hamm had "left the door open" to future support and had not yet endorsed any candidate. Hamm's office confirmed that characterisation.

Late last week, after telling the FT about his call with Trump, Hamm hinted he would nonetheless back the former president in an election if he was the nominee. "I will support anyone who's running against Joe Biden. Or [California governor] Gavin Newsom, or any other extreme-left candidate they can drum up," he said.

Trump has a huge lead over other Republicans running for the party's nomination, according to recent polls.

Hamm also said in the interview that he wanted Glenn Youngkin, the governor of Virginia, to make a bid for the White House. Hamm flew to Richmond, the state capital, to meet Youngkin this spring and met him again in Dallas, where he urged him to enter the race.

"He did a tremendous thing, getting

Harold Hamm: called on Trump to act as a Republican 'kingmaker'

elected in a purple state and he's very popular," Hamm said. Youngkin, a former Carlyle executive, has sent mixed signals about a White House bid this year. Dave Rexrode, a senior adviser, said: "We appreciate Mr Hamm's support of the governor, and from a lot of others, who look at Virginia and see what can be accomplished when you're focused on common sense results."

The comments from Hamm, one of US oil's most vocal figures, echo those made privately by others in the sector who supported Trump's pro-fossil fuel policies but soured on him after the January 6 Capitol riot and effort to overturn the 2020 election result.

"January 6 separated a lot of people in the [Republican] party . . . the fact that he wouldn't accept the result," Hamm said. The country now needed a "clean slate" and to get away from "division and chaos".

Hamm also called for a candidate who could be in office longer than the four-year term to which a second Trump presidency would be constitutionally limited. "You need somebody that could be there for eight years to undo the damage of the Biden administration."

Additional reporting by James Politi in Washington


capital·com
Online
Trading-
Platform

Splitting from the atom A reactor project in Georgia risks being the US's last hurrah after delays and cost overruns ➜ COMPANIES

Musk's X Corp threatens to sue anti-hate speech group

- Twitter rejects disinformation claims
- Letter follows sharp fall in ad revenue

CRISTINA CRIDDLE — LONDON

Elon Musk's X Corp has threatened to sue the Center for Countering Digital Hate, which has suggested there has been a rise in hate speech and disinformation on Twitter since the entrepreneur took over the platform.

The CCDH made "inflammatory, outrageous and misleading assertions about Twitter and its operations", according to a legal letter recently sent by the parent company of the social media network. "Twitter will employ any and all legal tools at its disposal to prevent false or misleading claims from harming its users, platform, or business," concludes the letter, which was released by the CCDH yesterday.

'Musk is targeting CCDH because we reveal the truth about the spread of hate and disinformation'

Twitter has come under growing pressure since Musk closed his $44bn acquisition of the company in October. He has slashed the workforce and cut costs, while radical policy changes have frustrated users and marketers, with advertising revenues falling sharply.

Under Musk's ownership, the company has also threatened to sue Facebook owner Meta, alleging it stole the company's trade secrets when creating its rival messaging app Threads.

Its legal letter to the CCDH refers to research published by the non-profit organisation in June, which reported a proliferation of violating content on Twitter, which was rebranded as X late last month.

One piece of research from the CCDH suggests that 99 per cent of 100 accounts, which subscribe to Twitter Blue, a paid service on the network, had posted content that amounted to hate speech.

The methodology included reporting 100 tweets from Twitter Blue accounts and checking to see if they had been removed or actioned four days later. Tweets flagged include alleged racist, homophobic and conspiracy-related comments. More tweets have subsequently been removed, but CCDH said "the majority" remained.

"Advertisers are fleeing his platform for one clear reason: Elon Musk has supported the proliferation of hate and racism on it, and he doesn't care to stop it," said Imran Ahmed, chief executive of the CCDH, in a statement. "Musk is targeting CCDH because we reveal the truth about the spread of hate and disinformation on Twitter under his ownership, and it's impacting his bottom line."

But X Corp's legal letter alleges the CCDH has "made a series of troubling and baseless claims that appear calculated to harm Twitter generally, and its digital advertising business specifically". The letter said: "CCDH's claims in this article are false, misleading, or both, and they are not supported by anything that could credibly be called research."

It also alleges that the CCDH was funded by the company's competitors or foreign governments "in support of an ulterior agenda", without providing further details. CCDH said it did not accept funding from tech companies, governments or their affiliates.

Twitter recently commissioned a report by software company Sprinklr, which suggested that more than 99 per cent of content was "healthy" and did not violate rules or laws.

The social media company did not respond to a request for comment but Musk tweeted yesterday that CCDH "should save their words for the jury".

Not game over UK competition watchdog reopens Microsoft-Activision deal to scrutiny

Line of fire: access to Activision's blockbuster 'Call of Duty' is a key competition concern — Daniel Krason/Alamy

CRISTINA CRIDDLE — LONDON

The UK competition watchdog has reopened its consultation on Microsoft's proposed $75bn acquisition of Activision Blizzard, in a move that could lead to a reversal of its decision to stop the blockbuster deal.

New documents submitted by Microsoft to the Competition and Markets Authority on July 25 and published yesterday argue that the deal warrants fresh consideration.

The US tech giant has asked the CMA to consider its recent agreements with the European Commission about the takeover, a new 10-year licensing arrangement with rival Sony for Activision's hit *Call of Duty* game, as well as additional evidence that led a US judge to overturn the Federal Trade Commission's effort to block the deal.

The CMA is now inviting responses from individuals and companies on Microsoft's submission. The deadline for comments is Friday.

"Submissions of this nature are possible but are very rare," the regulator said. "We will consider Microsoft's submissions carefully, along with other responses from interested parties." Microsoft declined to comment.

If the CMA reverses its position on the merger, it would be the first time since Brexit this has happened. That would allow one of the biggest tech acquisitions to close and reshape the global gaming market.

The CMA ruled in April the deal was anti-competitive over concerns it would prevent competition in cloud gaming, a nascent part of the industry. After the ruling, both companies criticised the UK for hampering tech innovation, with Activision accusing Britain of being "closed for business".

In its latest submission, Microsoft argued that licensing deals with cloud gaming services, including Nvidia, Boosteroid, Ubitus and Cloudware, should be taken into consideration.

The first three of these agreements were previously offered as potential remedies to the CMA's concerns but the UK regulator argued there was no guarantee Microsoft would not break, terminate or renegotiate the deals.

However, the EU's competition regulator approved the Activision deal in May, with the cloud gaming agreements accepted as remedies, as well as a binding 10-year obligation that the company would honour the licences and not amend the terms without the consent of the European Commission.

Microsoft argued to the CMA that the additional measures had materially changed the circumstances behind the deal. In July, a US federal judge rejected the FTC's attempts to halt the deal. The deadline for the CMA's final ruling is August 29.

Additional reporting by Javier Espinoza in Brussels and Kate Beioley in London

Birkenstock owners line up IPO at $8bn valuation

WILL LOUCH — LONDON
NICHOLAS MEGAW — NEW YORK

The private equity owners of German sandal maker Birkenstock are considering an initial public offering of the company that could take place as soon as September, according to people familiar with the matter.

If L Catterton decides to go ahead with the listing, Birkenstock could be valued at more than $8bn, the people added.

An exit at that valuation would mark a bumper return for the private equity firm backed by French luxury fashion house LVMH, which has invested in consumer brands including Scandinavian fashion company Ganni and fitness company ClassPass.

It would also see L Catterton complete the second listing of one of its portfolio companies in a matter of months at a time when many private equity firms are struggling to cash out.

Last month, L Catterton-backed online beauty products retailer Oddity Tech raised more than $400mn when it listed on Nasdaq. One of the people said that Birkenstock's IPO may take place later than September.

Goldman Sachs and JPMorgan are advising on the potential listing.

Birkenstock traces its roots back to 1774. It took private equity money for the first time when L Catterton bought a majority stake in the company in 2021 in a deal valuing Birkenstock at €4bn. Two members of the Birkenstock family retain a minority share.

At the time, the company said the money would be used to pursue growth in markets such as China and India, as well as expand its ecommerce business.

Birkenstock employs about 3,000 people and makes most of its footwear in its own factories in Germany. The company's products, which include sandals and other footwear, are sold in some 90 countries across the world.

Bloomberg News earlier reported on Birkenstock's IPO plans.

L Catterton was formed in 2016 when LVMH and Bernard Arnault's family holding company merged with US private equity firm Catterton. Since then, the firm has grown substantially and now manages about $30bn in assets.

L Catterton was also considering a listing, the Financial Times reported last year, following in the footsteps of some of its peers, including London-based Bridgepoint, Stockholm-based EQT and New York-based Blue Owl.

Worldcoin's success hinges on building an unpleasant future

INSIDE BUSINESS
FINANCE
Tabby Kinder

Last week, I joined a group of 2mn people and counting who have given up their irises to Sam Altman's dystopian cryptocurrency project, Worldcoin. OpenAI chief executive Altman, who has already had a busy year with ChatGPT, started the global rollout of his latest venture last week, scanning eyeballs in 35 cities across 20 countries.

At its core, Worldcoin is a private company embarking on mass biometric data gathering. It is based in San Francisco and Berlin, and backed by venture capitalists including Andreessen Horowitz. In some countries, in exchange for a scan of your eyeball, Worldcoin will issue you some of its cryptocurrency tokens (currently participants receive 25 but that number has fluctuated), which can be traded on crypto markets and, at the time of writing, were worth $2.18 each.

Altman claims that Worldcoin is a tool for a near-future in which OpenAI's artificial intelligence surpasses human intelligence, rendering most jobs redundant and meaning global society has to be restructured around a universal basic income model.

Its iris-scanning technology — carried out using "the Orb", a bowling ball-sized chrome device — can deduce that you are a human and not a robot, issuing you a kind of digital passport called a "World ID" through which you can, in theory, receive your share of the economic growth produced by a society in which robots do all the hard work.

Many of the finer details, such as how Worldcoin would work with governments and how the company makes money, remain unclear.

Altman, and Worldcoin's 29-year-old co-founder and chief executive Alex Blania, freely assert that their lofty goal is to have 8bn users. Their company aims to solve a problem that doesn't yet exist and the likelihood of which will seem absurd to most. And that's just the start of Worldcoin's potential problems. I arrived for my eye scan at a shared working space in Shoreditch, London, aware of several core issues with the company's plans.

First, its mission is extremely contradictory. Digital currencies were created as a rejection of centralised finance and to stop governments and corporations from having total control of personal data — an aim that seems ideologically opposite to Worldcoin's goal of uniting citizens and their governments through its crypto token. In the same vein, eye scanning will be complete anathema to most crypto libertarians.

With the eye scan I went for, you can in theory sign up for your share of the growth in a society where robots do the hard work

Second, Worldcoin is not available in the US, where uncertainty persists over the treatment of crypto assets as securities and regulation is expected to be far stricter in the aftermath of the FTX collapse. This seems like an existential catastrophe for Worldcoin's ambitions. "We didn't think it would end up as 'world minus the US coin'," Altman told the Financial Times last week.

Third, there are unanswered privacy concerns in this project. Imagine a world where criminals use biometric data leaks to steal identities rather than credit card details. (Worldcoin says it converts scans to code before deleting the raw data but there is little information available about how this works.)

Yet I left my three-minute appointment with no more clarity regarding what my iris data would be used for, and convinced of a far more simple roadblock to the company's success: most people won't care enough to sign up.

Worldcoin lives or dies on its ability to persuade people to get their eyes scanned. Even for those who regularly buy and sell crypto, free tokens currently worth about $50 are unlikely to bring hundreds of millions of people through the door. Videos of people queueing up for scans after the launch circulated online but diehard fans, the curious and journalists won't make for the sort of numbers the company wants.

Worldcoin is already under scrutiny for the way it incentivises participants in developing countries, where it has offered people free cash and gifts such as AirPods in exchange for a scan. That scrutiny will increase as the company expands.

No one could accuse Altman of a lack of ambition. The problem is that Worldcoin's success hinges on OpenAI bringing about a reality that is an unpleasant thought for most. Creating both the problem and the solution is an uncomfortable premise, even if Worldcoin turns out to be a damp squib. Until that is more clear, the question remains: even if you feel comfortable giving up your biometric data to a Silicon Valley start-up whose founder is working to bring about robot super intelligence, should you?

tabby.kinder@ft.com

Financial services

Auditors resist US plans on fraud-finding

Accounting firms seek to block rules widening scope, saying fees will soar

STEPHEN FOLEY — NEW YORK

The largest accounting firms are fighting to block rules in the US that would force them to take more responsibility for rooting out fraud at the companies they audit.

With days to go before the end of a consultation period on the proposal from the Public Company Accounting Oversight Board, they are trying to sign up clients to oppose the plan, saying audit fees will soar if it goes through.

The PCAOB's new rules would widen auditors' responsibility to scrutinise whether a company is complying with laws and regulations, and to communicate more of their concerns to a company's board.

The proposal comes amid frustration in Washington that audit firms are not living up to their duty to protect investors from wrongdoing by their clients.

The Center for Audit Quality, a group representing firms led by the Big Four of Deloitte, PwC, EY and KPMG, is asking corporate directors to sign on to a letter attacking the plan.

"Auditors are not lawyers, and as a result, the proposed amendments would expand the auditor's role to include knowledge and expertise outside their core competencies," the letter reads. "The proposal will substantially increase the cost of the audit without a commensurate benefit."

Existing standards require auditors to detect and report only wrongdoing that directly affects the accuracy of financial statements, while the new rules would mean they have to check for behaviour that could have an indirect effect, for example by putting a company at risk of large fines.

In the PCAOB, the proposed rules won support from only three of the five board members. Two members who had previously worked for the Big Four opposed the changes; one called them a "breathtaking expansion of the auditors' responsibilities".

Lynn Turner, a former chief accountant of the Securities and Exchange Commission, now an adviser to the PCAOB, said existing standards provided too much "wriggle-room" for auditors to avoid confrontation when they saw potentially illegal behaviour.

"The current standard doesn't serve the capital markets in any way, shape, fashion or form," he said. "I've told the people at the PCAOB that this is a war and the war has begun. It'll test those three board members and we will see if they've got a spine or not."

Business lobby groups and the accounting firms are expected to put in letters opposing the rules before a deadline on August 7. The CAQ said it was not opposed to reform of existing requirements but the proposal went too far.

Sandra Hanna, a lawyer at Miller & Chevalier who has represented audit firms, called it an attempt to turn auditors into "fraud examiners" and impose a "forensic" standard where the smallest concern would have to be investigated. "I worry for auditors that they are never going to be able to live up to the standard," she said.

Tony Thompson, one of the three PCAOB board members who voted in favour of the proposal, said he was open to feedback, especially regarding smaller audit firms that may not have the resources of the Big Four. But he defended the principle behind the proposal. "We are not asking auditors to become lawyers . . . If you see things of concern, don't just unsee them."

Personal goods. Growth outlook

LVMH, Kering and Hermès face end of revenge buying

Sector luxuriated in consumer spree after pandemic but now enters phase of normalisation

ADRIENNE KLASA — LONDON
ANDREW EDGECLIFFE-JOHNSON AND SILIN CHEN — NEW YORK
COLBY SMITH — WASHINGTON

The luxury market is expected to more than double its size by 2030, but annual growth for this year is expected to be 5% to 12%

FT montage/Reuters/Shutterstock/Alamy

Luxury groups are braced for the end of the post-pandemic recovery boom as Chinese and US consumers become more selective in their purchases.

The sector has had several years of exceptional growth driven by two engines: China and the US, luxury's biggest market, where pandemic-era savings and stimulus generated new shoppers in droves.

Now there are signs that the pace of growth may be reaching its peak, particularly in the US.

Michael Kliger, chief executive of luxury ecommerce platform Mytheresa, said: "There is a slowdown in the US, but compared to an absolutely crazy base. People got out of the pandemic and went bonkers."

> 'There is a slowdown in the US, but compared to an absolutely crazy base. People went bonkers'

Hermès and LVMH have posted strong growth so far this year. Gucci owner Kering, which has struggled to reboot its flagship brand, has lagged behind. Companies ranging from LVMH to Prada to Richemont — owner of Cartier — have reported slower sales growth in the US.

The rebound in China from last year's lockdowns is continuing but has been slower than some had expected.

"The global mood is not one of revenge buying like we saw in 2021 and 2022, so we're talking more about normalisation than anything else," said Jean-Jacques Guiony, chief financial officer at LVMH, the biggest luxury group and the sector bellwether. "In the United States, we see it's not as good as it was."

The sector broke records in 2022, growing by about a fifth to €345bn, according to consultancy Bain and Italian industry group Altagamma, as demand for indulgences ranging from Birkin handbags to luxury travel exploded.

Luxury is expected to more than double its size by 2030, but annual growth for 2023 is expected to be at a far lower 5 to 12 per cent.

Much to the surprise of policymakers and economists, consumer spending in the US has held up well despite central bankers' efforts to damp demand through sharply higher borrowing costs.

However, as labour markets have cooled, wage gains have slowed and the spectre of a recession looms, some buyers have begun to pull back at the margins.

Spending on boats, aircraft, jewellery and other discretionary goods has softened, retrenching to pre-pandemic levels.

Investors have reacted to the latest set of earnings.

Richemont shares fell 9 per cent last week, pulling other names in the sector down with it, after reporting lacklustre US sales in its most recent quarter. LVMH grew sales 17 per cent to €42.2bn in the first half but investors balked at a 1 per cent contraction in the US in the second quarter, sending shares down nearly 4 per cent after it released its results this week.

Luca Solca, analyst at Bernstein, sees a change in what investors look for in the sector, "from a momentum play chasing one positive surprise after the other to a steady state, as consumer demand normalises after the post-pandemic euphoria.

"This transition is likely going to produce some turbulence, as we have seen recently with Richemont. But, in the absence of a hard-landing recession, the sector should soon find an even keel."

Hermès is the exception, where long waiting lists for products, lesser dependence on tourist spending in favour of local clientele and ultra-premium positioning produced another set of bumper results with no fall-off in sales in the US, according to the company.

A dip in China owing to lockdown restrictions at the beginning of the year was also less pronounced than for competitors.

Kering, which owns brands including Saint Laurent, Gucci and Bottega Veneta, is hoping that some dealmaking, including an agreement to take a 30 per cent stake in Italian fashion house Valentino, and a leadership reshuffle at Gucci will help revive its fortunes.

Its first-half sales grew only 2 per cent to €10.1bn while those at Gucci, which accounts for half of group revenue, contracted.

> Investors are looking at an industry shift 'from a momentum play chasing one positive surprise after another to a steady state'

Federica Levato, partner at Bain in Milan, said there was no "one-size-fits-all performance for the market in the US right now.

"The performance of the brands is very fragmented and dispersed. There are brands that are growing 30 per cent in the US and there are brands that are decreasing 30 per cent."

She said the categories suffering most were streetwear, small bags and entry-level trainers — exposed to aspirational consumers, who have been more affected by inflation.

A salesperson at Bergdorf Goodman, the Fifth Avenue department store in New York, offered a mixed picture of spending. Tourists from Canada, China and India were still willing to spend $10,000 or more in a single transaction. "I haven't been making many transactions that are discounted . . . [but] people are a little bit more careful than before, for sure."

James Knightley, chief international economist at ING, said that "economic realities" were setting in, especially with credit card borrowing rates above 20 per cent. "People are still spending on luxury, just at a more normal rate."

Financials

Investment business tied to Buffett buys stake in IMA

JAMES FONTANELLA-KHAN AND WILL LOUCH — LONDON

A US investment and advisory firm with ties to billionaires including Warren Buffett has agreed to buy a 45 per cent stake in Italian machinery maker IMA in a deal valuing the company at about €6.5bn, according to people familiar with the matter.

BDT & MSD Partners' investment, which was set to be announced yesterday, is a sign of its dealmaking ambitions and a rare big money transaction in an otherwise slow market.

"We believe BDT & MSD's long-term view and deep expertise in supporting family enterprise makes it an ideal partner to help us reach these goals and accelerate global growth, including in the US market," Alberto Vacchi, chair and chief executive of IMA, said.

The IMA deal provides an exit for its current private equity backer BC Partners and marks the firm's second sale in the past week after it offloaded a minority stake in US petcare retailer PetSmart to Apollo Global Management.

BC would more than double its money on IMA after taking a 45 per cent stake in 2020, one of the people said.

The IMA transaction is one of the largest in Europe so far this year, according to Standard & Poor's data, at a time when rising inflation and concerns over the state of the economy have weighed on dealmaking. Buyout firms have been hit hard as the cost of the debt they use to fund deals has increased.

> The machinery maker cited the 'deep expertise in supporting family enterprise' of BDT & MSD

The number of $1bn-plus deals globally so far this year is on track to be the lowest since 2019, the S&P data shows.

Founded in 1961, IMA designs and manufactures machines for the processing and packaging of pharmaceuticals, cosmetics and food, among other things. The business is majority-owned by the Vacchi family, which built the business through acquisitions.

BC Partners invested in IMA during the early stages of the pandemic in 2020, in a deal valuing IMA's equity at about €3bn, the Financial Times previously reported. It had €2bn in revenues in 2022, according to a press release.

"The company is widely considered a jewel in the manufacturing world in Europe and northern Italy," Stefano Ferraresi, a partner at BC Partners, said.

The deal signals the clout of BDT & MSD Partners, founded last year by the merger of Byron Trott's BDT merchant bank with the Michael Dell-backed investment group MSD Partners.

"This investment is emblematic of our flagship strategy of providing long-term, aligned capital to family business owners and founders to help them achieve their objectives," co-chief Trott said.

The firm was raising its latest flagship fund and had gathered $13bn from investors, according to a person familiar with the matter.

Trott, a former Goldman Sachs executive, is known as the billionaires' banker and is a close adviser to Buffett.

BDT & MSD is also co-led by former Goldman rainmaker Gregg Lemkau, who joined MSD in 2021 after a career in which he advised Silicon Valley executives, including Elon Musk. The combined entities have invested more than $50bn since 2010.

Media

Disney taps old heirs apparent to advise Iger

CHRISTOPHER GRIMES — LOS ANGELES

Disney has hired two former executives who were seen as potential successors to Bob Iger during his first stint as the company's chief executive, according to people familiar with the situation.

The executives, Kevin Mayer and Tom Staggs, have been brought on to advise Iger on how to deal with the company's legacy television businesses, including the ESPN sports network.

The moves were first reported by online news site Puck.

The renewal of their Disney ties comes just weeks after the company's board extended Iger's contract for two years, raising questions about succession planning at Disney.

Staggs and Mayer were well liked by Wall Street while they were at Disney but left as their chances of getting the CEO job faded. They run Candle, a media group they founded with backing from private equity group Blackstone.

Staggs held numerous roles at Disney, including chief financial officer, chief operating officer and head of theme parks. Mayer worked closely with Iger on a series of acquisitions and was an architect of Disney's streaming strategy.

After the launch of Disney+, Mayer was seen as a likely successor to Iger, who surprised many observers by choosing Bob Chapek to run the company. Chapek was forced out last November after less than three years, prompting Iger's return for what was said to be a two-year term. But this month Disney said the board had given Iger a two-year extension and a bump in potential bonuses.

> The pair who run Candle will be consulted on how to address the legacy TV business, including ESPN

Iger delayed his retirement several times during his original 15-year tenure as chief. Under the new contract, he will step down in 2026 at the age of 75.

In addition to advising Iger, Mayer and Staggs will work with ESPN president Jimmy Pitaro to examine strategic options for the sports channel.

ESPN was once the profit engine of Disney but is declining with the rest of US cable networks. Iger made ESPN a standalone unit as part of a restructuring and said recently he would like to find a strategic partner for the group.

Iger has said finding his successor is a priority. The Disney board has appointed a four-person committee for the task, led by Mark Parker, the former Nike chief who took over as chair in April.

Potential internal candidates for the CEO job are thought to include Dana Walden, co-chair of Disney Entertainment, film chief Alan Bergman, and theme parks head Josh D'Amaro.

Automobiles

Bosch head seeks a more competitive Europe

PATRICIA NILSSON — STUTTGART

The head of car parts supplier Bosch has urged European governments to spend more time improving the continent's competitiveness than on citing the risks companies face doing business in China.

The call from Stefan Hartung, who has led Bosch since last year, comes as European capitals grow increasingly concerned over the exposure of the region's businesses to China.

Last month, Germany warned its companies to reduce their dependence on Beijing as it adopted its first China strategy, stressing that the government would not pick up the bill if they fell victim to mounting geopolitical risk.

Asked about "de-risking" from China, Hartung said: "What are we doing for the unified market of Europe? That has recently not been so much discussed."

Governments should target improvements to the single market "if we, as Europeans, want to be competitive", he said.

Hartung pointed to the red tape facing businesses in the 27-country EU, such as filling out social insurance forms, as an "issue".

"In various areas, you find barriers between countries and import-export relations that [. . .] are actually sometimes worse than [when doing business] outside of Europe," he said.

Stefan Hartung: call to concentrate on Europe rather than China

Privately owned Bosch is among Europe's largest employers and last year made roughly half its €88.2bn in sales outside the continent.

Alongside its car supplies business, its biggest division and the driver of profits, Bosch makes products from home appliances to power tools.

Hartung said that "de-risking is not really a great term, because it sounds so easy" and "you can't de-risk by isolating yourself".

However, he said that the focus on the issue at least meant that politicians in Europe were examining the broader question of "what our [companies'] interests actually are".

Hartung's call comes as the number of enforcements against breaches of EU internal market rules tumbled between 2020 and 2022.

Failure to adhere to the rules can lead to member states adopting different standards that stymie cross-border business.

US nuclear reactor launch risks being the last

Delays and cost overruns at Georgia plant's twin project leave investors unlikely to back a renaissance in atomic power

MYLES McCORMICK — HOUSTON

The US nuclear energy industry has reached a watershed moment. Plant Vogtle's unit 3 has started delivering commercial electricity to the Georgia power grid, becoming the first nuclear reactor the country has built from scratch in more than three decades.

Unit 3 and a twin reactor to open in the coming months may also be the last. Years of delays and billions of dollars of cost overruns have made the mega-project as much a cautionary tale as a new chapter for atomic investment.

Georgia Power, the utility driving the project, said yesterday that the reactor had entered commercial operation. "It marks the first day of the next 60 to 80 years that Vogtle unit 3 will serve our customers with clean, reliable energy," chief executive Kim Greene said.

The 1,100-megawatt Vogtle unit 3 was initially supposed to enter service in 2016, however. Its launch was delayed once more in June after a degraded seal was discovered in its main generator.

"It turns out nuclear construction is hard," said Bob Sherrier, a staff attorney at the Southern Environmental Law Center, which challenged the project in court. "Along the way the company kept ratcheting up the cost estimates, pushing back the deadlines a bit at a time. Every time it was raised just enough where it was still within the bounds of justification that it made sense to proceed. But they were wildly off in their estimates every single time."

Vogtle was conceived amid a flurry of interest around nuclear energy in 2008, as legislators and policymakers seized on it as a reliable form of power that is free from carbon emissions.

"The resurgence of America's nuclear industry starts here in Georgia, where you've just got approval, for the first time in three decades, to build new nuclear reactors," then US energy secretary Steven Chu said as Vogtle was authorised in 2012.

The Georgia project was supposed to be the first among dozens of new reactors across the country. But the renaissance faded as safety concerns after the 2011 Fukushima disaster in Japan coupled with plunging prices for natural gas. In the end only four reactors moved ahead and two, Vogtle units 3 and 4, have been built. Unit 4 is scheduled to come online by early 2024.

Soaring costs at Vogtle, along with new reactors at the VC Summer nuclear project in South Carolina, forced engineering contractor Westinghouse into bankruptcy in 2017. While South Carolina utilities pulled the plug on their project, Georgia ploughed ahead.

Power play: Plant Vogtle unit 3 and unit 4 reactors in Georgia were supposed to be the first of dozens of new reactors across the country
Yusuke Tomiyama/The Yomiuri Shimbun

"We've showed that even though we've got a lot of bruises and been called a lot of names . . . we'll stay the course," said Lauren "Bubba" McDonald, a member of the Georgia Public Service Commission utilities regulator since the time the Vogtle project won approval.

The $14bn original cost of Vogtle units 3 and 4 has ballooned to more than $30bn. The cost for Georgia Power, with a 45 per cent share of the project, will be about $15bn.

How the company's costs are shared with its customers will be decided by the commission once unit 4 is operating: the law allows only costs deemed "prudent" to be passed on to ratepayers. McDonald said the company should not expect an easy ride. "They are guilty until they prove themselves innocent," he said.

Georgia Power, a division of New York-listed Southern Company, did not respond to requests for an interview.

The opening of units 3 and 4 will make the Vogtle complex, including two existing units, the US's second-largest power plant by capacity after Washington state's Grand Coulee Dam. More than half of Georgia's electricity will be generated by zero-carbon sources, most of it nuclear, according to the Nuclear Energy Institute, a trade group.

> 'If this project is not completed, there won't be another built in the US in decades'

Nuclear advocates hope that the lessons learnt will pave the way for more projects at a time when efforts to tackle climate change have been thrust into the spotlight. Lawmakers have already funnelled billions of dollars into propping up ageing nuclear plants in the US and granted big breaks for the development of advanced nuclear technologies.

"While certainly the Vogtle experience has gone differently than hoped at the outset, it's resulted in a whole lot of learnings that are going to benefit any number of nuclear projects to come," said John Kotek, vice-president of policy and public affairs at the Nuclear Energy Institute.

But while a host of advanced nuclear technologies are being developed — from micro reactors to small modular reactors — there are no other traditional large-scale light water reactors under way in the US. Critics say that investors have been turned off.

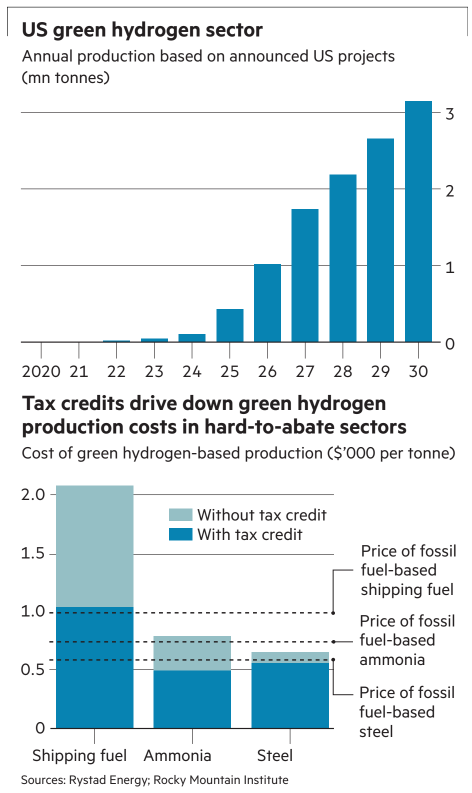
"The only reason there's a nuclear renaissance is because the federal government is throwing tens of billions of dollars at nuclear," said David Schlissel at the Institute for Energy Economics and Financial Analysis. "Investors aren't interested."

For Georgians, an immediate concern is what the project means for utility bills. Georgia Watch, a consumer group, estimates ratepayers have already each paid $900 extra since construction began to cover financing costs. Bills are set to rise by another $3.78, or 3 per cent, on average when unit 3 comes online.

But the ultimate impact will not be felt until unit 4 comes online. Georgia Watch estimates the final increase will add anywhere between 10 and 13 per cent to bills.

For the US nuclear industry, however, getting the project over the line is an existential question.

"If in the state of Georgia, this project is not completed, there won't be another nuclear plant built in these United States in decades," McDonald said.



Energy. Renewables

Washington's green hydrogen rules spur 'make or break' fears

Oil majors and utilities want projects powered partly by fossil fuels to gain subsidies

AMANDA CHU — NEW YORK

Energy companies have launched a lobbying blitz in Washington over pending rules they say will make or break the case for tens of billions of dollars' worth of investment in hydrogen fuel.

The production of green hydrogen — achieved by splitting water molecules with clean electricity — received generous subsidies in last year's landmark US climate law. The Treasury department next month is due to issue tax guidelines that determine which types of hydrogen projects will qualify.

But with renewable energy still supplying only a fraction of the nation's power grid, groups are pushing to allow some hydrogen made from fossil fuel-generated electricity.

The debate comes down to how hydrogen makers prove the power they buy is "clean". The Treasury's most stringent proposal involves certifying every hour of hydrogen production is powered by a zero-carbon source.

Industry lobbyists say this would force hydrogen plants to shut down when clean electricity is not available. Instead, they want the Treasury to use an "annual matching" system that allows producers to purchase credits for renewable electricity in amounts equal to their yearly energy consumption.

Such a scheme would make investment in US hydrogen more attractive, they say, enabling companies in effect to store up green power generated at times of surplus — such as when the midday sun shines on solar farms — for use later.

"The question based on how the regulations are written [is], 'Will we continue to accelerate in the United States or put more emphasis in Europe?'" said Andy Marsh, chief executive of Plug Power, who signed an industry letter this week urging the Biden administration to take a "pragmatic approach" with the Treasury guidance.

Hydrogen, which emits no carbon dioxide when burnt, is considered a critical fuel for cleaning up heavy industries such as steelmaking and trucking. However, 95 per cent of US hydrogen is produced with natural gas in a process that creates large amounts of CO_2.

US energy secretary Jennifer Granholm has hailed clean hydrogen as an alternative to conventional production and outlined a strategy to slash its costs by 80 per cent by 2030. The subsidies in last year's Inflation Reduction Act amount to $3 per kilogramme.

Opinions are mixed over the hourly or annual accounting approach. A Princeton University study found that unless hydrogen production was fired by clean energy on an hourly basis and from newly built renewable projects located nearby, the process could have higher emissions rates than hydrogen produced from fossil fuels.

"Our business is based on the need to decarbonise," said Raffi Garabedian, chief executive of Electric Hydrogen, a manufacturer of hydrogen electrolysis systems. "If we're doing things, building things and taking advantage of the incentives that are provided without actually decarbonising, that would be a travesty."

> '[The risk is you] invest in a project and the framework comes in a way that is not going to benefit that route'

But some investors say the hourly standard would kill the viability of many clean hydrogen projects, which rely on electricity from the grid and would have to shut down during hours of the day when renewable power such as wind and solar is not available.

Roughly $11bn has been committed to US green hydrogen projects through to the end of the decade, according to estimates from Rystad Energy. The energy consultancy found green hydrogen capacity announcements have risen 53 per cent since the IRA's passage. A Plug Power study found projected investment would fall two-thirds by 2035 if rules were too stringent.

Electrolyser stacks at the Plug Power facility in Concord, Massachusetts

"Right now is probably one of the riskiest moments in hydrogen development if you decide to invest in a project and the framework comes in a way that is not going to benefit that route you chose," said Marina Domingues, Rystad's lead hydrogen analyst.

Phil Musser, vice-president of government affairs at NextEra Energy, the US's largest clean energy developer, said the Treasury guidance would be a "make or break" moment for green hydrogen in the country. Under more lenient regulations, the company expects a $70bn market for green hydrogen by 2025 and plans to invest $20bn in the US sector.

Big oil groups have also joined the lobbying effort, with BP and Woodside Energy among fossil fuel companies that recently wrote to the government to "act prudently" in its guidance. The Edison Electric Institute, which represents utility companies, and the American Clean Power Association have called for the Treasury to apply less stringent time matching rules in the short term, similar to the approach taken in the EU.

Requiring projects to meet hourly matching rules would "martyr" the sector before it had a chance to flourish, said Shannon Angielski, president of the Clean Hydrogen Future Coalition, whose board includes members from BP, Chevron, ExxonMobil and Shell.

Hydrogen developers have taken their argument to John Podesta, the official in charge of implementing the IRA, and won the support of Joe Manchin, the fossil-fuel friendly Democratic senator who helped push the IRA through Congress last year. "Treasury is focused on providing clarity to businesses as soon as possible and ensuring this incentive advances the goals of increasing energy security and combating climate change," the department said.

Threats to ditch investment mark a change in tone from a clean energy sector that has rushed to capitalise on the subsidies in the IRA, committing more than $200bn to new manufacturing projects since the bill passed last year.

The Treasury guidance "will greatly dictate where the level of interest is and how much of that investment goes towards the US versus other parts of the global economy," said Adam Peters, North America head at Air Liquide, the French industrial gas group.

Additional reporting by Derek Brower

Fixed income. Shock decision

Investment flows set for historic shift following BoJ's 'giant leap'

Long-dated bond yields hit nine-year high amid 'de facto abolishment' of trading cap

KANA INAGAKI AND LEO LEWIS — TOKYO
MARY MCDOUGALL AND KATIE MARTIN
LONDON

Japanese government bond yields jumped yesterday as global debt, currency and equity markets began to absorb a landmark shift by the Bank of Japan to allow yields to rise more freely.

Analysts said BoJ governor Kazuo Ueda's decision to loosen the central bank's grip on long-term bond yields marked a significant step towards unwinding decades of ultra-accommodative monetary policy.

The benchmark yield on 10-year JGBs rose to a nine-year high yesterday.

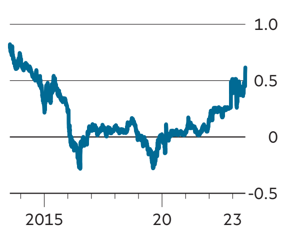
The shock decision, which the BoJ denied represented a policy change, was tantamount to calling time on a controversial seven-year monetary experiment known as yield curve control that set Japan's central bank far apart from global peers, analysts said.

Ueda's move, which initially stirred investor confusion and was described as "opaque", in effect widened the band within which 10-year JGB yields would be allowed to move to 1 per cent from 0.5 per cent.

The bank added that it would officially retain as a "reference" its 0.5 per cent cap on yields.

"This is 'de facto' abolishment of yield curve control, at least for the time being," UBS chief Japan economist Masamichi Adachi wrote in a report. "No introduction of the policy rate guidance suggests that the bank left open the near-term policy rate hike optionality."

Japanese yields leap to nine-year high
10-year government bond yield (%)



Source: Refinitiv

The decision opened the way for a potential shift in Japan's status and fundamental changes in global investment flows.

The practical end of yield curve controls marked what investors said was a definitive step towards policy normalisation after decades of deflation and economic stagnation and seven years of negative interest rates.

"What is clear to us is that, with this change today, there will be a repatriation of money from abroad into Japan, which will affect equities as well," said Luca Paolini, chief strategist at Pictet. "Japan is ending deflation so Japan becomes a more normal place to invest."

But veteran BoJ watchers warned against concluding that the central bank was on the brink of tightening.

The relaxation of the yield band was intended to signal concern to markets about the rising risk of inflation and the long-term distortion of bond markets.

The BoJ added on Friday that its overnight interest rate would remain minus 0.1 per cent — Japan is the only country to maintain negative rates — while calling for more time to settle at its 2 per cent inflation target.

Peter Tasker, co-founder of Arcus Investment said: "Does it presage a full-blown tightening? Almost certainly not. So as long as rates are negative at the short end, there is a limit to how far the 10-year yield can rise."

The 10-year JGB yield rose to a nine-year high of 0.607 per cent yesterday before falling back to 0.59 per cent after the BoJ announced unscheduled purchases of ¥300bn ($2.1bn) in five- to 10-year government bonds.

The yield had risen to as much as 0.572 per cent on Friday, also a nine-year high. Still, analysts said the yield was unlikely to breach the new ceiling of 1 per cent.

Most experts do not expect the BoJ to abandon negative interest rates until next year at the earliest, when the central bank has forecast inflation will fall back below its 2 per cent target.

Headline inflation hit 3.3 per cent in June and the BoJ on Friday upgraded its core inflation projection for fiscal 2023 from 1.8 to 2.5 per cent, while lowering its fiscal 2024 forecast to 1.9 per cent.

Ueda also said the yen's recent volatility against the dollar had played a part in the BoJ's decision.

Some analysts said this statement — the first acknowledgment linking the currency's recent weakness to a change in yield curve controls — could create significant market uncertainty over the possibility of political intervention in the level of the yen.

"It's not good if there is suspicion that the BoJ is responding to complaints from the government that they do not want the weaker yen," said Tetsuya Inoue, a former BoJ official who is now a senior researcher at Nomura Research Institute.

Bold gesture: Bank of Japan governor Kazuo Ueda's decision to loosen the central bank's grip on long-term bond yields initially stirred investor confusion
Kiyoshi Ota/Bloomberg

'Japan is ending deflation so becomes a more normal place to invest'

Several currency analysts argued that, while the psychological significance of the BoJ's move was high, it was unlikely to trigger a major investor rethink on the yen, predicting a brief phase of currency volatility but no lasting change to the currency's weakness.

After choppy trading on Friday, the yen went into the weekend at about ¥141 against the dollar, roughly its level ahead of the BoJ's decision.

Kamakshya Trivedi, a currency strategist at Goldman Sachs who described Ueda's move as a "giant leap" for the BoJ but only a "small step" for the yen, said that, while the currency could climb higher in the coming days as the market explored the parameters of the central bank's flexibility, sustained appreciation was probably not on the cards.

"It would take a more substantial policy turn to offset stronger global risk sentiment, which tends to weigh on the yen, and the rate differential makes it unlikely that this will prompt significant repatriation back to Japanese assets," Trivedi wrote in a report to clients.

Ueda emphasised that the BoJ intended to sustain easing measures while it determined whether recent wage rises would continue into next year.

Robert Tipp, chief global investment strategist and head of global bonds for PGIM Fixed Income, argued that the central bank was buying time.

"It wants to see whether wage growth is organic or the result of pressure from government," he added.

See FT View

Crypto

SEC asked Coinbase to trade only in bitcoin, says bourse chief

SCOTT CHIPOLINA

The US Securities and Exchange Commission asked Coinbase to halt trading in all cryptocurrencies other than bitcoin prior to suing the exchange in a sign of the agency's intent to assert regulatory authority over a broader slice of the market.

Coinbase chief executive Brian Armstrong told the Financial Times that the SEC made the recommendation before launching legal action against the Nasdaq-listed company last month for failing to register as a broker.

The SEC's case identified 13 mostly lightly traded cryptocurrencies on Coinbase's platform as securities, asserting that, by offering them to customers, the exchange fell under its remit.

But the prior request for Coinbase to delist every one of the more than 200 tokens it offers — with the exception of bitcoin — indicates that the SEC, under chair Gary Gensler, has pushed for wider authority over the industry.

"They said . . . we believe every asset other than bitcoin is a security," Armstrong said. "And, we said, well how are you coming to that conclusion, because that's not our interpretation of the law."

If Coinbase had agreed, it could have set a precedent that would have left the vast majority of the US crypto businesses operating outside the law unless they registered with the commission.

'Delisting every asset other than bitcoin would have essentially meant the end of the industry in the US'

"We really didn't have a choice at that point, delisting every asset other than bitcoin . . . would have essentially meant the end of the crypto industry in the US," he said. "It kind of made it an easy choice . . . let's go to court and find out what the court says."

Oversight of the crypto industry has hitherto been a grey area with the SEC and the Commodity Futures Trading Commission jockeying for control.

Gensler has previously said he believes most cryptocurrencies with the exception of bitcoin are securities.

Ether, the second-largest cryptocurrency, was absent from the SEC's case against Coinbase. It also did not feature in the 12 "crypto asset securities" specified in the SEC's lawsuit against Binance.

The SEC said its enforcement division did not make formal requests for "companies to delist crypto assets", adding: "In the course of an investigation, the staff may share its own view as to what conduct may raise questions for the commission under the securities laws."

Stocks, bonds and other traditional financial instruments fall under the SEC's remit but US authorities remain locked in debate as to whether all — or any — crypto tokens should do so.

The SEC declined to comment on the implications for the rest of the industry of a settlement involving Coinbase delisting every token other than bitcoin.

Automobiles

France predicts Chinese EVs will lose lustre with emissions-based subsidy law

JOE LEAHY — BEIJING

France's motor industry subsidies are "paving the way" for Europe's car industry to withstand the threat of an influx of cheaper Chinese electric vehicle imports, according to finance minister Bruno Le Maire.

Under measures outlined in May to support green industries, Paris will only pay subsidies for new electric vehicles based on the emissions of their producers.

That will hit manufacturers from China, where the industry relies on electricity largely generated using coal.

Speaking in Beijing, where he met Chinese leaders to discuss trade and investment at the weekend, Le Maire said he was "not concerned" about the threat to Europe's carmakers from Chinese electric vehicle imports. "I think with our new legislative decisions, we pave the way in Europe for a less naive approach, taking into account the level of emissions of the industry," he said.

European manufacturers are alarmed by Chinese advances in EVs, with the country taking the lead in battery production and its carmakers outselling western rivals in China's domestic market. While Chinese EV sales are still at an early stage in Europe, they could reach 1.5mn vehicles by 2030, equivalent to 13.5 per cent of the EU's 2022 sales, according to Allianz.

For European carmakers, the loss of market share at home and in China would have a severe impact. The groups face additional pressure from an EU policy requiring the phasing out of internal combustion engines by 2035.

But, under the new French law due to be adopted by parliament by year-end,

Bruno Le Maire: finance minister wants a 'less naive' industrial policy

Chinese-made electric vehicles would probably not qualify for incentives, which are worth between €5,000 and €7,000 per car for new electric vehicles.

"Each year I'm spending €1.2bn to support the green industry and to support the EVs, never mind whether they have been produced by industry which is emitting a lot of CO_2 or by industry that is emitting less CO_2," Le Maire said, explaining his policy change. "I'm determined to support the European car industry and the French car industry."

But Le Maire said he would welcome more Chinese direct investment in Europe's EV industry. China's XTC New Energy Materials has announced joint ventures with French nuclear group Orano to produce battery materials.

China's EV leader, BYD, based in the southern technology hub Shenzhen, is considering building a factory in Europe, while China's Envision is building a battery plant in the north of France as part of a partnership with Renault.

"We need China as a key partner for global growth," Le Maire said.

Additional reporting by Sarah White in Paris, Peter Campbell in London and Edward White in Seoul

Currencies

State support puts renminbi on course for best monthly gains since January

HUDSON LOCKETT AND CHENG LENG
HONG KONG

China's renminbi is on track for its best monthly performance against the dollar in half a year after policymakers deployed direct and indirect support measures to fend off downward pressure on the currency, traders and analysts said.

The renminbi rose about 1.5 per cent in July to Rmb7.1475 per dollar, putting a floor under the exchange rate after a three-month sell-off in which the Chinese currency tumbled more than 5 per cent on intensifying concerns over economic growth.

Traders said both official limits on the exchange rate's movement and indirect intervention from state banks buying the currency had helped snap the renminbi's protracted losing streak.

The communist party's politburo voiced support for a "basically stable" exchange rate at an "appropriate level of equilibrium" in a statement on July 24.

Analysts at Citigroup said the new language reflected official "unease" with the renminbi's rapid weakening in recent months and currency traders in China said support for the currency from state lenders had intensified following the politburo statement.

"We've seen a lot of dollar-renminbi selling right after the market open, especially from the Chinese banks," said one veteran currency trader at a foreign lender based in mainland China.

Another forex trader at a European bank in Shanghai said state banks had become heavy net buyers of the renminbi after the politburo's statement.

'We've seen a lot of dollar-renminbi selling after the market open, especially from the Chinese banks'

"The signals sent by the politburo meeting [statement] were stronger than expected," the trader said, adding that the time was ripe to buy the Chinese currency "since the Fed's rate hikes are almost done for 2023".

If that widely anticipated end to rate rises materialises this year, it would stop US Treasury yields from pushing even further above their Chinese counterparts — a trend that has prompted global investors to dump holdings of renminbi-denominated debt over the past 12 months.

China's central bank, the People's Bank of China, has also nudged the currency higher against the dollar through its daily fixing of the renminbi's trading band in recent weeks, repeatedly setting the midpoint for that range more strongly than markets expected.

"The fixing deviation was quite obvious," said Ju Wang, head of greater China foreign exchange and rates strategy at BNP Paribas, who also pointed to language in the politburo's statement calling for strong "countercyclical" measures to support the economy.

"These are all strong signs that they do not want the market to believe the renminbi will depreciate significantly from here," Wang said.

Zhou Hao, economist at Guotai Junan Securities, said the market was primed to expect a stronger renminbi in the third quarter in part due to a weakening dollar and tipped trading to pick up whenever the exchange rate neared critical thresholds of about Rmb7.15 and Rmb7 per dollar.

Multipolar world need not be a bad thing for investors

Daniel Blake

Markets Insight

The global economic paradigm is shifting quickly and the "de-risking" of supply chains is a crucial topic. Some have argued that de-risking — while attempting generational leaps in technology and decarbonisation — is not a realistic objective.

Critics of such a push suggest that it will result in a breakdown of trade and investment, guaranteeing higher inflation. But we are optimistic that it can happen without causing a major shock to the global economy.

The shift towards a multipolar world has been developing over the past five years and this regime is now entrenched.

Security rather than economic efficiency is the new imperative for policymakers amid hegemonic US-China rivalry and the reverberations of Russia's war in Ukraine.

Stark lines of sovereignty are being drawn over technology that has been produced by highly globalised research and development programmes over recent decades.

Significant imbalances and concentrations in global market shares have built up across many segments of the international economy since the 1990s and it is clear from the disruptions that occurred during the Covid-19 pandemic that this needs to change.

The scale of the new investment required to de-risk supply chains will be enormous. Our analysts project a cost of \$1.5tn to support friendshoring and onshoring of supply chains, including those for advanced semiconductors and critical minerals.

The global electric vehicle battery industry will require \$7tn of capital expenditure over the next 20 years.

Committed investment in clean energy has exceeded \$2tn since 2021, helped by government incentives of more than \$500bn.

A multipolar policy toolkit is emerging to channel resources into this endeavour, encompassing large subsidy programmes, expanded export and investment controls and new regulatory frameworks.

For a successful transition away from the globalised regime, policymakers must continue to work with the corporate sector and focus on the most critical nodes. Careful implementation will be needed to preserve the collaboration that has been key to breakthroughs such as the development of extreme ultraviolet lithography, the technology used in advanced microchips.

> De-risking supply chains can be achieved through higher inventory buffers and greenfield capex

Given the challenges, why are we more sanguine about the inflation and growth dangers of supply chain de-risking? We see three reasons for optimism.

First, global growth will be boosted by the immense capex programmes from a variety of companies around the world.

Second, intense competition for emerging technologies is likely to boost productivity. Consider the examples that came out of cold war-related research and development, including semiconductors and satellite communications, and the potential of artificial intelligence.

Finally, the higher costs of alternative supply chains will be mitigated by the additional capacity they bring. As examples of the positive feedback loop between policy support and technological progress, our analysts see green electricity generation costs falling through 2030 with capital costs for wind and solar generation dropping 50 per cent, making them 35 per cent cheaper than fossil fuels on average at that point.

We also see the cost of lithium-based electric-vehicle battery storage falling almost 40 per cent below current levels by 2030 with potential sodium ion batteries being potentially 20 to 30 per cent more cost-effective than that.

But the risk of widespread global decoupling is high, given the temptation to weaponise economic interdependence amid conflicts. The high stakes of success or failure in emerging industries such as AI, advanced semiconductors, quantum computing and renewables are motivating protectionism.

Indeed, current policy trends could fuel a cycle where the defensive actions of one country to reduce supply chain risks reinforce the concerns of trading partners, leading to industrial policy tit-for-tats that leave us all worse off.

International communication and compromise will be key to avoiding this scenario. Rather than indiscriminate reshoring and economic isolation, we believe the end goal of de-risking supply chains can be achieved through a combination of higher inventory buffers and greenfield capex, which would boost and diversify production capacity.

Such an outcome could put a multipolar economy on an even more resilient and balanced footing than the globalised world that is being left behind.

Daniel Blake is Asia EM Equity Strategist at Morgan Stanley

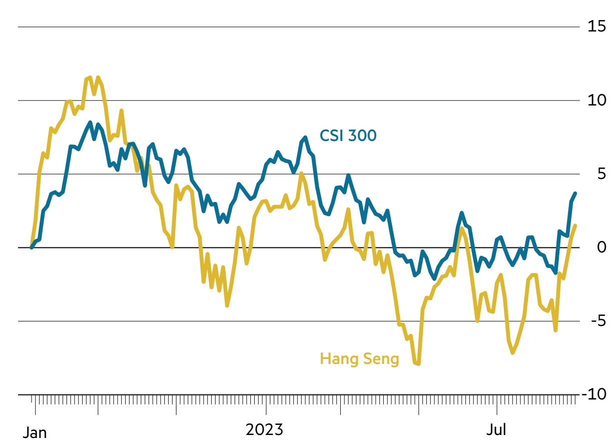
The day in the markets

What you need to know

- **Global stocks edge higher after eurozone returns to growth**
- **Investors look forward to big US tech earnings this week**
- **ECB president moves away from hawkish forward guidance**

Chinese equities rise as investors hope for economic stimulus

Indices rebased



Source: Refinitiv

Global stocks made cautious gains yesterday following better than expected growth figures for the eurozone, ahead of a string of high-profile US corporate earnings later in the week.

Wall Street's tech-focused Nasdaq Composite advanced 0.1 per cent by midday in New York, extending gains from the previous week, while the benchmark S&P 500 traded flat.

Investors prepared for more big US tech companies including Apple and Amazon to report earnings this week, offering more insight into the health of Wall Street's high-flying tech sector.

Across the Atlantic, the region-wide Stoxx Europe 600 ended the day 0.2 per cent higher while the CAC 40 in Paris added 0.3 per cent and Frankfurt's Xetra Dax traded flat, having hit an all-time high earlier in the day.

Investors responded with a measure of enthusiasm to data showing that the eurozone economy grew 0.3 per cent in the three months to July after stagnating in the previous quarter.

The reading came in above the 0.2 per cent forecast in a Reuters poll of economists. Separate figures showed that annual inflation in the 20-country currency bloc slowed to 5.3 per cent in July, down from 5.5 per cent in the previous month.

The reading could ease the pressure on the European Central Bank to raise rates, a week after policymakers lifted the region's benchmark deposit rate to 3.75 per cent, its highest since 2001.

After the policy meeting, ECB president Christine Lagarde confirmed that the central bank's ninth successive rate rise may have been the last, moving away from the hawkish forward guidance she gave in past meetings.

Still, core inflation, which excludes food and energy prices, was unchanged at 5.5 per cent in July, marginally exceeding analysts' expectations.

"For the data-dependent ECB, this GDP reading will not be a dovish argument at the September meeting, leaving a further hike on the table," said Bert Colijn, senior eurozone economist at ING.

Asian equities rallied as investors bet on more economic stimulus from China's government after fresh data showed activity in the country's services sector missed expectations in July, and manufacturing weakened.

Hong Kong's Hang Seng index gained 0.8 per cent while the CSI 300 index of Shanghai and Shenzhen stocks rose 0.6 per cent as both reached their highest levels since early May. **Daria Mosolova**

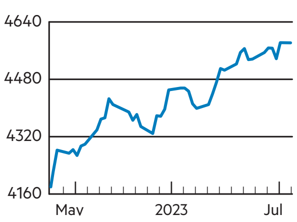
Markets update

	US	Eurozone	Japan	UK	China	Brazil
Stocks	**S&P 500**	**Eurofirst 300**	**Nikkei 225**	**FTSE100**	**Shanghai Comp**	**Bovespa**
Level	4581.75	1863.49	33172.22	7699.41	3291.04	121873.89
% change on day	-0.01	0.12	1.26	0.07	0.46	1.40
Currency	**\$ index (DXY)**	**\$ per €**	**Yen per \$**	**\$ per £**	**Rmb per \$**	**Real per \$**
Level	101.704	1.103	142.080	1.287	7.147	4.757
% change on day	0.081	-0.091	1.261	0.078	-0.241	0.751
Govt. bonds	**10-year Treasury**	**10-year Bund**	**10-year JGB**	**10-year Gilt**	**10-year bond**	**10-year bond**
Yield	3.943	2.489	0.598	4.386	2.702	10.474
Basis point change on day	-2.480	0.100	5.310	-0.600	0.600	-7.300
World index, Commods	**FTSE All-World**	**Oil - Brent**	**Oil - WTI**	**Gold**	**Silver**	**Metals (LMEX)**
Level	465.41	85.39	81.63	1954.25	24.23	3846.40
% change on day	0.11	1.16	1.30	0.46	-3.14	1.19

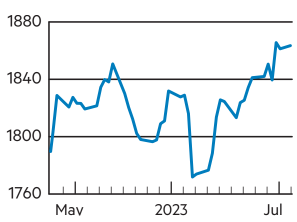
Yesterday's close apart from: Currencies = 16:00 GMT; S&P, Bovespa, All World, Oil = 17:00 GMT; Gold, Silver = London pm fix. Bond data supplied by Tullett Prebon.

Main equity markets

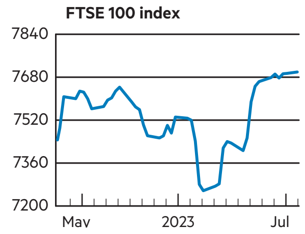
S&P 500 index



Eurofirst 300 index



FTSE 100 index



Biggest movers

%	US		Eurozone		UK	
Ups	Paramount Global	5.61	Galp Energia	4.27	Int Consolidated Airlines S.a.	3.60
	Adobe	4.21	Novo Nordisk	3.35	Centrica	2.87
	United Rentals	4.04	Adp	2.85	Weir	2.51
	Walt Disney (the)	3.23	Arcelormittal	2.63	Scottish Mortgage Investment Trust	2.19
	On Semiconductor	3.11	Unicredit	2.52	Rightmove	2.08
Downs	Dexcom	-4.52	Casino Guichard	-13.38	Rolls-royce Holdings	-4.37
	Johnson & Johnson	-3.71	Heineken Holding	-7.57	Ocado	-3.89
	Mettler-toledo Int	-3.67	Bollore	-3.28	Coca-cola Hbc Ag	-2.68
	Baxter Int	-3.23	Carlsberg	-2.59	Hargreaves Lansdown	-2.52
	Agilent	-2.84	Ab Inbev	-2.41	Sainsbury (j)	-1.84

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

Walt Disney rallied on news that two former executives who had been seen as potential successors to Bob Iger during his first stint as chief executive had been hired by the entertainment conglomerate.

The Financial Times said Kevin Mayer and Tom Staggs, who were well-liked by Wall Street, had been brought back to advise Iger on how to deal with the group's legacy TV businesses.

Johnson & Johnson fell after a New Jersey court ruled against its effort to use a newly formed subsidiary to settle lawsuits linked to claims that its talcum powder products caused cancer.

In October 2021, J&J split itself into two and announced that LTL, one of the entities, had filed for bankruptcy — a move that placed all talcum-related litigation on hold.

Replying to the ruling, J&J said it had "commenced its bankruptcy case in good faith" and reiterated that LTL proposed "an unprecedented \$8.9bn settlement to resolve all talc claims".

New business sent electric truckmaker **Nikola** surging.

Transportation and logistics company JB Hunt said it would buy 10 battery-electric and three hydrogen fuel cell vehicles from Nikola.

This follows on from another order secured from hydrogen supplier BayoTech in July. *Ray Douglas*

Europe

Healthcare group **Mithra** surged on news it had signed a licensing deal with speciality pharma company Searchlight for the Canadian rights to Donesta, its treatment for menopausal women.

The Belgian group would be eligible to receive up to €17.05mn in licensing fees alongside regulatory and sales-related milestone payments, plus royalties on Canadian sales.

Broker KBC Securities described the agreement as a "step in the right direction", although "the key catalyst for the stock this year is the anticipated commercial deal for Donesta in the US".

Dutch brewer **Heineken** fell sharply following the release of half-year results described as "extremely disappointing" by Citi.

Operating profit of €1.9bn was more than 7 per cent below the broker's estimate, dragged down by a weak performance in its most profitable Asia-Pacific region, notably in Vietnam.

Beer volumes fell 5.6 per cent organically as shoppers balked at higher prices, leading the brewer to trim its full-year outlook to "much worse than even the bears expected", said Citi.

Bank of Ireland climbed after lifting its full-year guidance and reporting profit attributable to shareholders of €849mn for the first half of this year — 18 per cent ahead of analyst forecasts. *Ray Douglas*

London

Heading the FTSE 250 index was energy explorer **Ithaca**, which rallied on news that the UK government planned to allow more oil and gas drilling in the North Sea.

Prime Minister Rishi Sunak said the move would help Britain become more energy independent.

The announcement buoyed Ithaca's peers, including **EnQuest**, **Diversified** and **Harbour**, with the latter lifted further by news that two of its carbon projects had been awarded so-called "track 2 status" by the UK government.

The development meant Harbour could begin talks with Whitehall over the terms of the economic licences for the schemes, it said. These projects form part of plans to develop a domestic carbon capture and storage sector aimed at cutting emissions.

Joining Ithaca and Harbour in the upper reaches of the mid-cap index was **Dr Martens**.

Sky News reported that activist investor Sparta Capital had "quietly accumulated stock worth tens of millions of pounds" in the boot brand and was now a top-10 shareholder.

In the bottom half of the FTSE 250 was subprime lender **Vanquis Banking**, formerly Provident Financial, which slid after announcing that it had bought money-saving fintech group Snoop for an undisclosed sum. *Ray Douglas*

MARKET DATA

WORLD MARKETS AT A GLANCE — FT.COM/MARKETSDATA

Change during previous day's trading (%)

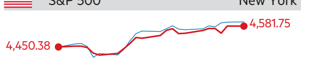
S&P 500	Nasdaq Composite	Dow Jones Ind	FTSE 100	FTSE Eurofirst 300	Nikkei	Hang Seng	FTSE All World $	$ per €	$ per £	¥ per $	£ per €	Oil Brent $ Sep	Gold $
-0.01%	0.06%	-0.02%	0.07%	0.12%	1.26%	0.82%	0.11%	-0.091%	0.078%	1.261%	-0.117%	0.82%	0.46%

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

AMERICAS

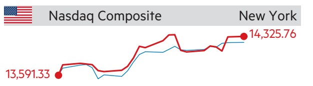
Jul 01 - - — Index — All World

S&P 500 — New York



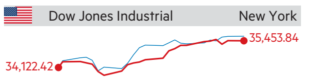
Day ↘ -0.01% Month ↗ 2.95% Year ↗ 10.93%

Nasdaq Composite — New York



Day ↗ 0.06% Month ↗ 3.89% Year ↗ 15.61%

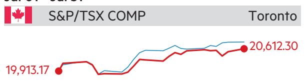
Dow Jones Industrial — New York



Day ↘ -0.02% Month ↗ 3.03% Year ↗ 7.93%

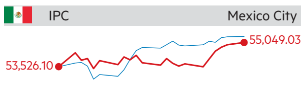
Jul 01 - Jul 31 — Index — All World

S&P/TSX COMP — Toronto



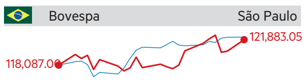
Day ↗ 0.55% Month ↗ 2.36% Year ↗ 4.76%

IPC — Mexico City



Day ↘ -0.03% Month ↗ 2.65% Year ↗ 14.12%

Bovespa — São Paulo

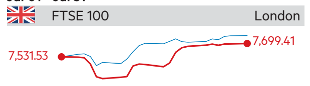


Day ↗ 1.40% Month ↗ 3.20% Year ↗ 18.13%

EUROPE

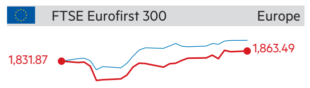
Jul 01 - Jul 31 — Index — All World

FTSE 100 — London



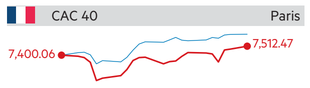
Day ↗ 0.07% Month ↗ 2.28% Year ↗ 3.77%

FTSE Eurofirst 300 — Europe



Day ↗ 0.12% Month ↗ 1.79% Year ↗ 8.27%

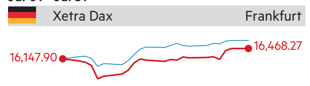
CAC 40 — Paris



Day ↗ 0.29% Month ↗ 1.32% Year ↗ 16.27%

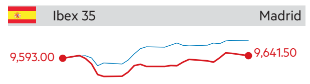
Jul 01 - Jul 31 — Index — All World

Xetra Dax — Frankfurt



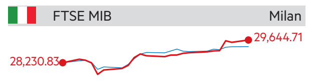
Day ↘ -0.14% Month ↗ 1.67% Year NaN%

Ibex 35 — Madrid



Day ↘ -0.45% Month ↗ 0.51% Year ↗ 18.21%

FTSE MIB — Milan

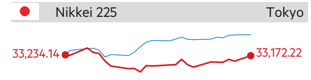


Day ↗ 0.49% Month ↗ 5.01% Year ↗ 32.31%

ASIA

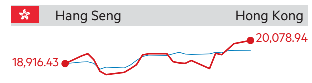
Jul 01 - Jul 31 — Index — All World

Nikkei 225 — Tokyo



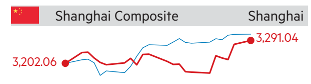
Day ↗ 1.26% Month ↗ 0.07% Year ↗ 19.47%

Hang Seng — Hong Kong



Day ↗ 0.82% Month ↗ 5.97% Year ↘ -0.55%

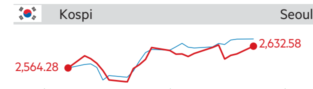
Shanghai Composite — Shanghai



Day ↗ 0.46% Month ↗ 2.78% Year ↗ 1.16%

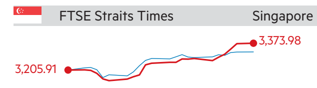
Jul 01 - Jul 31 — Index — All World

Kospi — Seoul



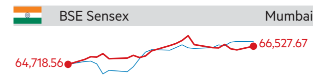
Day ↗ 0.93% Month ↗ 2.66% Year ↗ 7.39%

FTSE Straits Times — Singapore



Day ↗ 0.08% Month ↗ 5.38% Year ↗ 5.20%

BSE Sensex — Mumbai



Day ↗ 0.56% Month ↗ 2.77% Year ↗ 15.53%

Country	Index	Latest	Previous
Argentina	Merval	456833.98	457787.74
Australia	All Ordinaries	7622.20	7616.10
	S&P/ASX 200	7410.40	7403.60
	S&P/ASX 200 Res	6165.10	6160.00
Austria	ATX	3245.98	3214.55
Belgium	BEL 20	3776.61	3788.39
	BEL Mid	10279.60	10230.56
Brazil	IBovespa	121873.89	120187.11
Canada	S&P/TSX 60	1237.28	1230.98
	S&P/TSX Comp	20631.83	20519.37
	S&P/TSX Div Met & Min	1782.65	1721.27
Chile	S&P/CLX IGPA Gen	32718.00	32321.45
China	FTSE A200	10526.99	10478.79
	FTSE B35	9000.71	8988.96
	Shanghai A	3450.02	3434.22
	Shanghai B	277.52	275.12
	Shanghai Comp	3291.04	3275.93
	Shenzhen A	2164.87	2147.22
	Shenzhen B	1225.67	1213.39
Colombia	COLCAP	1261.61	1260.21
Croatia	CROBEX	2013.05	2011.29

Country	Index	Latest	Previous
Cyprus	CSE M&P Gen	68.46	68.68
Czech Republic	PX	1360.47	1354.41
Denmark	OMXC Copenahgen 20	2030.75	1991.29
Egypt	EGX 30	17554.56	17339.06
Estonia	OMX Tallinn	1893.18	1895.98
Finland	OMX Helsinki General	9874.16	9857.54
France	CAC 40	7497.78	7476.47
	SBF 120	5711.64	5701.20
Germany	M-DAX	28837.05	28706.20
	TecDAX	3328.67	3302.53
	XETRA Dax	16446.83	16469.75
Greece	Athens Gen	1335.48	1333.86
	FTSE/ASE 20	3233.86	3232.38
Hong Kong	Hang Seng	20078.94	19916.56
	HS China Enterprise	6899.31	6808.47
	HSCC Red Chip	3844.32	3839.07
Hungary	Bux	53375.90	53339.84
India	BSE Sensex	66527.67	66160.20
	Nifty 500	17059.00	16948.35
Indonesia	Jakarta Comp	6931.36	6900.23
Ireland	ISEQ Overall	9066.10	9036.01
Israel	Tel Aviv 125	1861.85	1817.92

Country	Index	Latest	Previous
Italy	FTSE Italia All-Share	31678.51	31530.12
	FTSE Italia Mid Cap	42896.26	42785.09
	FTSE MIB	29644.71	29500.20
Japan	2nd Section	7228.27	7239.06
	Nikkei 225	33172.22	32759.23
	S&P Topix 150	2024.22	1995.29
	Topix	2322.56	2290.61
Jordan	Amman SE	2449.62	2435.43
Kenya	NSE 20	1577.75	1577.75
Kuwait	KSX Market Index	6633.44	6603.51
Latvia	OMX Riga	1375.50	1375.50
Lithuania	OMX Vilnius	982.45	980.89
Luxembourg	LuxX	1521.80	1511.98
Malaysia	FTSE Bursa KLCI	1459.43	1450.35
Mexico	IPC	54927.75	54945.27
Morocco	MASI	12058.66	11993.58
Netherlands	AEX	792.00	794.27
	AEX All Share	1066.58	1071.01
New Zealand	NZX 50	12056.15	11946.74
Nigeria	SE All Share	65056.39	65482.91
Norway	Oslo All Share	1017.37	1006.88
Pakistan	KSE 100	48034.60	48034.60

Country	Index	Latest	Previous
Philippines	Manila Comp	6591.47	6677.92
Poland	Wig	72436.27	71965.41
Portugal	PSI 20	6135.31	6161.99
	PSI General	4528.81	4540.21
Romania	BET Index	13227.10	13244.23
Russia	Micex Index	2436.57	2445.30
	RTX	1245.71	1212.57
Saudi-Arabia	TADAWUL All Share Index	11789.28	11847.72
Singapore	FTSE Straits Times	3373.98	3371.17
Slovakia	SAX	320.96	320.96
Slovenia	SBI TOP	-	-
South Africa	FTSE/JSE All Share	78977.89	78506.90
	FTSE/JSE Res 20	64264.98	63326.59
	FTSE/JSE Top 40	73634.07	73120.28
South Korea	Kospi	2632.58	2608.32
	Kospi 200	345.62	344.03
Spain	IBEX 35	9641.50	9685.10
Sri Lanka	CSE All Share	11386.72	11312.19
Sweden	OMX Stockholm 30	2250.92	2253.85
	OMX Stockholm AS	844.63	845.79
Switzerland	SMI Index	11309.25	11317.74

Country	Index	Latest	Previous
Taiwan	Weighted Pr	16915.54	16942.30
Thailand	Bangkok SET	1556.06	1543.46
Turkey	BIST 100	7197.82	7067.28
UAE	Abu Dhabi General Index	9222.93	9251.11
UK	FT 30	2826.40	2834.50
	FTSE 100	7699.41	7694.27
	FTSE 4Good UK	6996.13	6995.82
	FTSE All Share	4198.02	4195.17
	FTSE techMARK 100	6582.14	6583.49
USA	DJ Composite	12044.18	12060.16
	DJ Industrial	35453.84	35459.29
	DJ Transport	16636.21	16695.32
	DJ Utilities	931.30	932.74
	Nasdaq 100	15744.95	15750.93
	Nasdaq Cmp	14325.76	14316.66
	NYSE Comp	16400.56	16363.26
	S&P 500	4581.75	4582.23
	Wilshire 5000	42053.18	41446.59
Venezuela	IBC	35528.05	35582.23
Vietnam	VNI	1222.90	1207.67

Country	Index	Latest	Previous
Cross-Border	DJ Global Titans ($)	529.07	529.37
	Euro Stoxx 50 (Eur)	4475.67	4466.50
	Euronext 100 ID	1401.34	1400.61
	FTSE 4Good Global ($)	11521.56	11522.56
	FTSE All World ($)	465.41	464.92
	FTSE E300	1863.49	1861.26
	FTSE Eurotop 100	3699.96	3692.20
	FTSE Global 100 ($)	3111.55	3114.07
	FTSE Gold Min ($)	1842.95	1841.69
	FTSE Latibex Top (Eur)	4440.00	4432.20
	FTSE Multinationals ($)	3219.70	3187.44
	FTSE World ($)	848.94	848.39
	FTSEurofirst 100 (Eur)	5023.09	5020.53
	FTSEurofirst 80 (Eur)	6043.45	6045.77
	MSCI ACWI Fr ($)	705.51	700.10
	MSCI All World ($)	3057.84	3034.41
	MSCI Europe (Eur)	1893.03	1894.08
	MSCI Pacific ($)	2887.26	2885.63
	S&P Euro (Eur)	1970.00	1970.78
	S&P Europe 350 (Eur)	1912.93	1910.47
	S&P Global 1200 ($)	3376.88	3372.37
	Stoxx 50 (Eur)	4054.24	4038.12

(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	119.0	267.10	0.66
Nvidia	59.2	466.90	-0.60
Meta Platforms	35.8	322.23	-3.25
Microsoft	35.6	334.34	-4.03
Apple	29.6	196.13	0.30
Advanced Micro Devices	28.5	113.22	0.26
Amazon.com	25.1	133.09	0.88
Johnson & Johnson	17.1	168.00	-6.48
Netflix	15.0	437.52	11.74
Alphabet	14.6	132.70	0.12

BIGGEST MOVERS	Close price	Day's change	Day's chng%
Ups			
Paramount Global	16.19	0.86	5.61
Adobe	551.13	22.26	4.21
United Rentals	464.07	18.00	4.04
Walt Disney (the)	88.91	2.78	3.23
On Semiconductor	108.36	3.27	3.11
Downs			
Dexcom	126.40	-5.98	-4.52
Johnson & Johnson	168.00	-6.48	-3.71
Mettler-toledo Int	1260.52	-48.00	-3.67
Baxter Int	45.49	-1.52	-3.23
Agilent	122.47	-3.58	-2.84

Based on the constituents of the S&P500

LONDON

ACTIVE STOCKS	stock traded m's	close price	Day's change
Shell	180.8	2366.00	24.50
Astrazeneca	161.5	11186.00	128.00
Rio Tinto	145.7	5150.00	25.00
Bp	117.1	483.00	7.60
Hsbc Holdings	106.2	646.30	-0.50
Diageo	95.6	3397.50	-36.00
Unilever	92.6	4191.00	-32.50
Glencore	90.4	473.55	7.05
British American Tobacco	68.7	2615.50	-31.00
Gsk	67.3	1384.60	1.60

BIGGEST MOVERS	Close price	Day's change	Day's chng%
Ups			
Ithaca Energy	176.40	12.00	7.30
Harbour Energy	266.50	13.70	5.42
Tui Ag	630.00	29.00	4.83
Watches Of Switzerland	753.50	34.00	4.73
Aston Martin Lagonda Global Holdings	395.40	17.00	4.49
Downs			
Rolls-royce Holdings	184.85	-8.45	-4.37
Ocado	938.40	-38.00	-3.89
C&c	138.00	-5.00	-3.50
Helios Towers	90.45	-3.00	-3.21
Bridgepoint	188.90	-6.00	-3.08

Based on the constituents of the FTSE 350 index

EURO MARKETS

ACTIVE STOCKS	stock traded m's	close price	Day's change
Unicredit	329.9	23.00	0.57
Stellantis	287.8	18.64	0.06
Intesa Sanpaolo	270.4	2.63	0.02
Nestle N	261.2	111.83	-0.50
Novartis N	219.5	95.29	0.86
Novo Nordisk B A/s	214.2	146.56	4.75
Eni	202.7	13.88	0.23
Asml Holding	193.4	653.20	0.20
Roche Gs	176.8	283.13	1.26
Heineken	150.9	89.58	-7.28

BIGGEST MOVERS	Close price	Day's change	Day's chng%
Ups			
Novo Nordisk B A/s	146.56	4.75	3.35
Unicredit	23.00	0.57	2.52
Sanofi	97.13	2.17	2.29
Infineon Tech.ag Na O.n.	40.02	0.78	1.99
Eni	13.88	0.23	1.65
Downs			
Heineken	89.58	-7.28	-7.52
Ab Inbev	52.23	-1.29	-2.41
Holcim N	63.41	-1.38	-2.13
Bbva	7.21	-0.12	-1.66
Muench.rueckvers.vna O.n.	343.80	-5.50	-1.57

Based on the constituents of the FTSEurofirst 300 Eurozone index

TOKYO

ACTIVE STOCKS	stock traded m's	close price	Day's change
Mitsubishi Ufj Fin,.	1595.4	1146.00	10.00
Softbank .	1093.1	7242.00	144.00
Keyence	1077.1	63760.00	-2910.00
Toyota Motor	1053.0	2386.00	76.00
Advantest	1034.1	19525.00	-275.00
Sumitomo Mitsui Fin,.	963.3	6694.00	65.00
Fast Retailing Co.,	906.1	35560.00	690.00
Tokyo Electron	878.1	21245.00	335.00
Mitsubishi	701.3	7265.00	197.00
Kawasaki Kisen Kaisha,	661.3	4282.00	-8.00

BIGGEST MOVERS	Close price	Day's change	Day's chng%
Ups			
Toyota Tsusho	8295.00	746.00	9.88
Hitachi,	9298.00	588.00	6.75
Daiichi Sankyo ,	4347.00	232.00	5.64
Nec	7183.00	379.00	5.57
Seiko Epson	2332.50	114.50	5.16
Downs			
Sumitomo Dainippon Pharma Co Ltd	589.40	-66.10	-10.08
Fanuc	4348.00	-341.00	-7.27
Keyence	63760.00	-2910.00	-4.36
Screen Holdings Co Ltd	15340.00	-480.00	-3.03
Otsuka Holdings Co.,	5225.00	-162.00	-3.01

Based on the constituents of the Nikkei 225 index

UK MARKET WINNERS AND LOSERS

FTSE 100	Jul 31 price(p)	%Chg week	%Chg ytd
Winners			
Ocado	938.40	19.5	52.2
Rolls-royce Holdings	184.85	18.0	98.6
Int Consolidated Airlines S.a.	171.10	11.8	37.9
Centrica	138.05	9.6	43.0
Entain	1386.00	8.7	5.1
Antofagasta	1677.50	7.9	8.6
Frasers	813.00	7.0	14.9
Scottish Mortgage Investment Trust	735.80	6.0	1.7
Smith (ds)	309.60	5.6	-3.3
Airtel Africa	116.60	5.5	4.3
Wpp	851.60	4.9	4.3
Smurfit Kappa	3102.00	4.9	1.0
Losers			
St. James's Place	940.00	-19.9	-14.3
Sse	1685.50	-6.8	-1.1
Hargreaves Lansdown	851.40	-6.1	0.1
Barclays	154.96	-5.7	-1.8
Compass	2027.00	-4.7	5.7
Admiral	2129.00	-4.4	-0.4
Coca-cola Hbc Ag	2292.00	-4.3	16.4
Aviva	388.40	-3.9	-
Natwest	244.30	-3.2	-7.9
Shell	2366.00	-3.2	1.7
Bt	122.00	-3.1	8.8
Endeavour Mining	1880.00	-3.0	7.3

FTSE 250	Jul 31 price(p)	%Chg week	%Chg ytd
Winners			
Aston Martin Lagonda Global Holdings	395.40	12.3	-
Ithaca Energy	176.40	10.3	-2.8
Tyman	313.00	9.8	39.2
Jupiter Fund Management	114.30	9.2	-
Fidelity China Special Situations	231.00	9.0	-3.5
Future	838.50	8.9	-
Tui Ag	630.00	7.2	71.1
hcape	818.50	7.1	-0.4
Watches Of Switzerland	753.50	6.7	-8.1
Domino's Pizza	347.40	6.6	19.6
Itv	72.34	6.4	-3.4
Hammerson	26.60	6.3	11.1
Losers			
Worldwide Healthcare Trust	303.50	-90.3	-6.3
Vanquis Banking	125.80	-32.4	-
Mobico	93.35	-11.0	-
Bridgepoint	188.90	-10.6	-0.7
Fdm (holdings)	546.00	-9.8	-
Digital 9 Infrastructure	55.20	-9.5	-
Qinetiq	322.40	-7.2	-9.3
Integrafin Holdings	245.00	-7.2	-
Indivior	1753.00	-6.6	-5.6
Cmc Markets	139.80	-6.4	-
Molten Ventures	262.80	-6.1	-
Playtech	561.00	-6.0	10.4

FTSE SmallCap	Jul 31 price(p)	%Chg week	%Chg ytd
Winners			
Lookers	125.20	25.2	64.8
Reach	84.95	23.9	-
Zotefoams	400.00	16.1	17.6
Paypoint	512.00	13.3	-0.4
Baillie Gifford China Growth Trust	243.00	10.0	-
Asos	420.60	9.7	-
Moonpig	179.50	8.7	62.7
Jpmorgan China Growth & ome	285.50	8.6	-17.4
Seraphim Space Investment Trust	41.30	8.1	-8.6
Motorpoint	106.50	7.6	-
Wickes	136.60	7.6	-6.8
Capital & Regional	59.40	6.8	-4.2
Losers			
Pod Point Holdings	30.60	-37.9	-
Capital	79.40	-9.6	-
Headlam	223.00	-8.2	-
Funding Circle Holdings	48.60	-7.3	-
Rank	91.80	-6.5	15.4
Harworth	113.00	-5.8	6.6
Robert Walters	412.00	-5.5	-
Anglo-eastern Plantations	673.00	-5.5	-15.8
City Of London Investment	393.00	-5.2	-6.4
Pendragon	17.02	-4.8	-
Ct Uk High ome Trust	80.00	-4.8	-3.0
Marston's	31.50	-4.1	-

Industry Sectors	Jul 31 price(p)	%Chg week	%Chg ytd
Winners			
Aerospace & Defense	6695.26	4.7	30.7
Personal Goods	31827.56	3.4	4.0
General Industrials	6395.88	3.4	5.5
Automobiles & Parts	1965.30	3.2	32.3
Travel & Leisure	7822.87	3.1	26.2
Industrial Engineering	14640.00	2.9	6.1
Food & Drug Retailers	4276.66	2.8	4.0
Industrial Transportation	4143.13	2.7	19.5
Chemicals	10519.26	2.5	-
Real Estate & Investment Servic	2282.62	2.1	7.9
Pharmaceuticals & Biotech.	20973.66	2.1	-0.4
Media	10024.90	2.0	10.4
Losers			
Electricity	10329.33	-5.9	-2.8
General Retailers	3555.89	-4.4	6.0
Nonlife Insurance	2999.94	-2.5	-
Mobile Telecommunications	1990.09	-2.2	-6.5
Oil & Gas Producers	8223.52	-1.9	1.4
Beverages	26266.32	-1.4	-5.6
Real Estate Investment Trusts	2149.89	-1.1	-3.7
Tobacco	29084.89	-1.1	-
Food Producers	6728.16	-1.0	18.9
Mining	10279.71	-0.9	-7.6
Gas Water & Multiutilities index	5954.45	-0.8	5.1
Electronic & Electrical Equip.	9711.28	-0.8	12.5

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

CURRENCIES

Jul 31	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	275.2750	1.6793	303.5039	1.5785	354.1836	2.2286
Australia	Australian Dollar	1.4840	-0.0155	1.6362	-0.0186	1.9094	-0.0195
Bahrain	Bahrainin Dinar	0.3770	-	0.4156	-0.0004	0.4850	0.0001
Bolivia	Bolivian Boliviano	6.9100	-	7.6186	-0.0069	8.8908	0.0017
Brazil	Brazilian Real	4.7570	0.0354	5.2449	0.0344	6.1207	0.0468
Canada	Canadian Dollar	1.3163	-0.0072	1.4512	-0.0093	1.6936	-0.0089
Chile	Chilean Peso	839.5050	12.8150	925.5946	13.3044	1080.1522	16.6937
China	Chinese Yuan	7.1468	-0.0173	7.8796	-0.0262	9.1954	-0.0204
Colombia	Colombian Peso	3882.9150	-38.3250	4281.1005	-46.1673	4995.9683	-48.3359
Costa Rica	Costa Rican Colon	544.8750	0.4400	600.7508	-0.0581	701.0654	0.7013
Czech Republic	Czech Koruna	21.6516	-0.0669	23.8719	-0.0955	27.8581	-0.0807
Denmark	Danish Krone	6.7593	0.0064	7.4525	0.0003	8.6969	0.0099
Egypt	Egyptian Pound	30.9224	0.1375	34.0934	0.1209	39.7864	0.1846
Hong Kong	Hong Kong Dollar	7.7987	0.0013	8.5984	-0.0063	10.0342	0.0036
Hungary	Hungarian Forint	351.0725	1.7906	387.0743	1.6258	451.7087	2.3907
India	Indian Rupee	82.2488	-0.0075	90.6832	-0.0903	105.8256	0.0108

Jul 31	Currency	DOLLAR Closing Mid	DOLLAR Day's Change	EURO Closing Mid	EURO Day's Change	POUND Closing Mid	POUND Day's Change
Indonesia	Indonesian Rupiah	15080.0000	-14.5000	16626.4307	-31.0466	19402.7447	-14.9195
Israel	Israeli Shekel	3.6637	-0.0394	4.0393	-0.0471	4.7138	-0.0498
Japan	Japanese Yen	142.0800	1.7700	156.6500	1.8115	182.8077	2.3122
..One Month		142.0793	1.7686	156.6495	1.8104	182.8068	2.3104
..Three Month		142.0780	1.7660	156.6485	1.8085	182.8052	2.3071
..One Year		142.0721	1.7541	156.6439	1.7994	182.8068	2.3007
Kenya	Kenyan Shilling	142.6000	0.2000	157.2233	0.0784	183.4768	0.2927
Kuwait	Kuwaiti Dinar	0.3071	-0.0002	0.3386	-0.0005	0.3951	-0.0001
Malaysia	Malaysian Ringgit	4.5090	-0.0455	4.9714	-0.0547	5.8015	-0.0574
Mexico	Mexican Peso	16.7025	0.0620	18.4153	0.0518	21.4903	0.0839
New Zealand	New Zealand Dollar	1.6068	-0.0142	1.7716	-0.0173	2.0674	-0.0179
Nigeria	Nigerian Naira	739.5000	-33.5800	815.3343	-37.7948	951.4803	-43.0140
Norway	Norwegian Krone	10.1165	-0.0525	11.1539	-0.0680	13.0164	-0.0650
Pakistan	Pakistani Rupee	286.2500	-0.1750	315.6044	-0.4787	368.3046	-0.1541
Peru	Peruvian Nuevo Sol	3.6038	0.0019	3.9733	-0.0016	4.6368	0.0033
Philippines	Philippine Peso	54.9250	0.0485	60.5574	-0.0013	70.6694	0.0760

Jul 31	Currency	DOLLAR Closing Mid	DOLLAR Day's Change	EURO Closing Mid	EURO Day's Change	POUND Closing Mid	POUND Day's Change
Poland	Polish Zloty	3.9946	-0.0038	4.4042	-0.0082	5.1397	-0.0040
Romania	Romanian Leu	4.4761	0.0069	4.9351	0.0031	5.7592	0.0100
Russia	Russian Ruble	91.8250	-0.4262	101.2415	-0.5620	118.1470	-0.5255
Saudi Arabia	Saudi Riyal	3.7516	0.0010	4.1363	-0.0026	4.8270	0.0022
Singapore	Singapore Dollar	1.3278	-0.0037	1.4640	-0.0054	1.7084	-0.0044
South Africa	South African Rand	17.7838	0.1538	19.6074	0.1519	22.8815	0.2022
South Korea	South Korean Won	1274.6500	-2.4500	1405.3629	-3.9755	1640.0331	-2.8353
Sweden	Swedish Krona	10.5075	0.0014	11.5850	-0.0089	13.5195	0.0044
Switzerland	Swiss Franc	0.8668	-0.0008	0.9557	-0.0017	1.1153	-0.0008
Taiwan	New Taiwan Dollar	31.4265	0.0245	34.6492	-0.0043	40.4350	0.0393
Thailand	Thai Baht	34.2288	0.1462	37.7388	0.1272	44.0405	0.1966
Tunisia	Tunisian Dinar	3.0762	0.0018	3.3917	-0.0011	3.9580	0.0031
Turkey	Turkish Lira	26.9268	-0.0165	29.6880	-0.0451	34.6454	-0.0145
United Arab Emirates	UAE Dirham	3.6731	-	4.0497	-0.0037	4.7259	0.0009
United Kingdom	Pound Sterling	0.7772	-0.0002	0.8569	-0.0009	-	-
..One Month		0.7772	-0.0001	0.8568	-0.0010	-	-

Jul 31	Currency	DOLLAR Closing Mid	DOLLAR Day's Change	EURO Closing Mid	EURO Day's Change	POUND Closing Mid	POUND Day's Change
..Three Month		0.7772	-0.0002	0.8565	-0.0009	-	-
..One Year		0.7769	-0.0002	0.8552	-0.0009	-	-
United States	United States Dollar	-	-	1.1025	-0.0010	1.2867	0.0002
..One Month		-	-	1.1024	-0.1839	1.2867	0.0002
..Three Month		-	-	1.1021	-0.1839	1.2867	0.0002
..One Year		-	-	1.1006	-0.1838	1.2863	0.0002
Vietnam	Vietnamese Dong	23687.5000	-7.5000	26116.6159	-31.9603	30477.6766	-3.7160
European Union	Euro	0.9070	0.0008	-	-	1.1670	0.0013
..One Month		0.9068	0.0008	-	-	1.1669	0.0013
..Three Month		0.9065	0.0008	-	-	1.1666	0.0013
..One Year		0.9050	0.0008	-	-	1.1652	0.0013

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 Jul 31	Day's chge%	Euro Index	£ Strlg Jul 28	£ Strlg Jul 27	Year ago	Div yield%	Cover	P/E ratio	X/D adj	Total Return
FTSE 100 (100)	7699.41	0.07	7001.65	7694.27	7692.76	7423.43	3.70	1.57	17.25	173.08	8090.98
FTSE 250 (250)	19143.76	0.10	17408.86	19124.14	19273.37	20164.90	3.42	0.57	51.39	367.62	16255.40
FTSE 250 ex Inv Co (168)	19865.10	0.11	18064.83	19844.19	20049.66	20737.59	3.54	0.42	67.52	393.33	17223.71
FTSE 350 (350)	4240.22	0.07	3855.95	4237.17	4241.12	4142.41	3.66	1.44	19.03	93.38	8838.59
FTSE 350 ex Investment Trusts (265)	4188.93	0.06	3809.30	4186.48	4190.35	4071.04	3.71	1.48	18.21	93.63	4514.10
FTSE 350 Higher Yield (137)	3558.89	0.09	3236.37	3555.53	3573.04	3534.36	5.33	1.44	13.00	104.66	8431.17
FTSE 350 Lower Yield (213)	4510.87	0.05	4102.07	4508.67	4494.43	4336.19	1.95	1.41	36.33	66.38	5640.11
FTSE SmallCap (226)	6287.88	-0.10	5718.04	6294.21	6274.35	6486.63	3.63	-0.37	-75.12	126.34	10807.99
FTSE SmallCap ex Inv Co (117)	5161.93	-0.05	4694.13	5164.68	5183.02	5337.33	3.69	0.61	44.56	104.62	9227.34
FTSE All-Share (576)	4198.02	0.07	3817.57	4195.17	4198.69	4107.01	3.66	1.40	19.58	92.25	8836.24
FTSE All-Share ex Inv Co (382)	4113.16	0.06	3740.41	4110.82	4114.75	4001.08	3.71	1.47	18.34	91.82	4500.25
FTSE All-Share ex Multinationals (515)	1089.51	-0.08	822.16	1090.39	1096.77	1154.83	4.12	1.26	19.28	26.52	2380.62
FTSE Fledgling (76)	10688.10	0.05	9719.49	10682.24	10670.40	12138.88	3.09	-0.34	-94.63	204.94	23614.65
FTSE Fledgling ex Inv Co (31)	15249.26	0.31	13867.29	15202.87	15137.42	16471.31	2.41	-3.91	-10.61	303.08	32730.72
FTSE All-Small (302)	4363.87	-0.09	3968.40	4367.92	4354.59	4524.91	3.60	-0.37	-75.92	87.46	9619.53
FTSE All-Small ex Inv Co (148)	3880.58	-0.04	3528.90	3882.14	3894.83	4018.80	3.64	0.50	54.98	78.58	8784.61
FTSE AIM All-Share (711)	764.72	-0.20	695.42	766.23	769.29	921.80	1.90	1.23	42.73	8.54	908.86
FTSE All-Share Technology (17)	2205.21	-0.04	1953.80	2206.04	2219.26	1867.21	1.73	1.56	37.06	24.26	3233.64
FTSE All-Share Telecommunications (6)	1279.35	-1.57	1133.50	1299.78	1302.25	1947.28	8.20	1.52	8.03	42.43	2026.73
FTSE All-Share Health Care (12)	14638.99	0.69	12970.06	14538.37	14306.16	14892.29	2.45	1.30	31.52	216.12	13755.67
FTSE All-Share Financials (257)	4820.90	-0.27	4271.29	4834.18	4828.30	4578.44	3.93	1.74	14.66	134.84	5520.28
FTSE All-Share Real Estate (52)	798.13	0.61	739.74	793.25	803.23	1069.48	4.47	-2.48	-9.02	21.70	865.52
FTSE All-Share Consumer Discretionary (82)	5206.44	0.14	4612.88	5199.39	5224.73	4656.40	2.30	1.29	33.68	76.70	5608.11
FTSE All-Share Consumer Staples (22)	18700.82	-1.07	16568.82	18902.43	18827.81	19853.60	4.19	1.63	14.68	408.67	17584.82
FTSE All-Share Industrials (85)	7170.57	-0.08	6353.08	7176.07	7195.94	6351.94	2.18	1.28	35.94	98.09	8428.17
FTSE All-Share Basic Materials (21)	8002.32	0.80	7090.01	7938.46	8026.02	8126.55	6.36	2.22	7.09	255.80	11254.85
FTSE All-Share Energy (14)	8508.40	1.29	7538.39	8399.81	8480.35	7649.15	4.02	0.35	71.17	177.65	10560.64
FTSE All-Share Utilities (8)	8755.71	0.51	7757.51	8711.15	8804.40	9264.64	4.92	2.02	10.07	327.98	13863.98
FTSE All-Share Software and Computer Services (16)	2391.07	-0.02	2118.48	2391.61	2406.25	2009.89	1.71	1.57	37.24	25.93	3708.90
FTSE All-Share Technology Hardware and Equipment (1)	3917.00	-1.50	3470.44	3976.80	3951.89	5079.47	4.01	1.00	25.00	89.37	5186.46
FTSE All-Share Telecommunications Equipment (1)	378.00	0.54	334.91	375.99	378.23	629.93	3.71	2.17	12.42	9.21	553.19
FTSE All-Share Telecommunications Service Providers (5)	1987.08	-1.65	1760.54	2020.34	2023.90	3014.31	8.36	1.51	7.93	66.57	2870.89
FTSE All-Share Health Care Providers (1)	10856.68	-0.69	9618.95	10932.24	11133.76	10987.61	0.23	4.26	101.26	43.16	10115.80
FTSE All-Share Medical Equipment and Services (2)	5694.66	-0.27	5045.43	5710.02	5746.14	5328.82	2.64	1.16	32.56	92.56	5593.68
FTSE All-Share Pharmaceuticals and Biotechnology (9)	20916.18	0.75	18531.62	20760.73	20401.75	21370.59	2.44	1.30	31.41	310.15	17698.65
FTSE All-Share Banks (12)	3691.04	-0.08	3270.24	3694.04	3662.31	3171.55	4.38	2.71	8.41	137.72	3393.26
FTSE All-Share Finance and Credit Services (8)	11377.76	-0.66	10080.63	11453.12	11434.88	11015.07	1.85	1.86	29.08	157.57	15513.84
FTSE All-Share Investment Banking and Brokerage Services (31)	9203.39	-0.76	8154.15	9274.22	9349.96	8714.34	4.87	2.28	8.99	255.65	13381.23
FTSE All-Share Closed End Investments (194)	11442.42	0.24	10137.92	11415.41	11404.41	12186.33	2.91	-0.07	-480.46	189.90	7297.15
FTSE All-Share Life Insurance (6)	6706.25	-1.08	5941.70	6779.18	6818.46	6744.08	4.79	0.58	36.31	215.96	8467.42
FTSE All-Share Nonlife Insurance (6)	3395.14	-1.53	3008.07	3447.73	3564.30	3267.37	4.93	1.24	16.41	56.37	7345.06
FTSE All-Share Real Estate Investment and Services (10)	2170.42	0.98	1922.98	2149.34	2151.03	2612.48	2.29	1.68	26.00	27.21	6580.81
FTSE All-Share Real Estate Investment Trusts (42)	1956.28	0.54	1733.25	1945.74	1974.72	2674.95	4.90	-2.87	-7.13	58.87	3065.74
FTSE All-Share Automobiles and Parts (3)	1975.37	1.26	1750.17	1950.76	1956.70	1857.94	0.23	-17.47	-25.29	2.74	2058.11
FTSE All-Share Consumer Services (1)	3341.31	0.25	2960.38	3333.07	3357.79	3155.26	1.83	1.17	46.54	61.00	4317.13
FTSE All-Share Household Goods and Home Construction (11)	9214.10	-0.70	8163.64	9278.66	9356.70	10767.85	7.47	1.99	6.73	287.84	8551.66
FTSE All-Share Leisure Goods (2)	31384.15	-0.57	27806.18	31565.49	31552.09	20700.16	2.86	1.34	26.11	666.68	36014.36
FTSE All-Share Personal Goods (4)	27328.12	0.74	24212.55	27126.09	27373.42	25536.83	2.38	2.58	16.29	496.10	21918.04
FTSE All-Share Media (10)	10288.88	-0.38	9115.89	10328.36	10431.46	9552.18	2.47	1.92	21.09	173.53	7361.98
FTSE All-Share Retailers (22)	2310.48	-0.13	2047.07	2313.57	2328.50	2073.87	2.46	3.05	13.33	36.54	3068.50
FTSE All-Share Travel and Leisure (29)	7616.36	0.92	6748.05	7546.97	7519.95	5784.42	0.72	-6.36	-21.93	36.91	7919.06
FTSE All-Share Beverages (5)	26378.33	-1.19	23371.05	26694.69	26691.16	29713.67	2.36	2.30	18.43	273.41	21367.80
FTSE All-Share Food Producers (8)	6895.78	-1.12	6109.62	6974.22	7016.48	6478.43	2.27	2.38	18.49	84.77	6802.39
FTSE All-Share Tobacco (2)	29084.94	-1.10	25769.09	29407.25	29354.51	34137.22	8.38	1.64	7.28	1250.28	28823.26
FTSE All-Share Construction and Materials (15)	9730.58	-0.10	8621.24	9740.61	9756.19	7313.22	2.62	0.52	73.47	191.23	12146.36
FTSE All-Share Aerospace and Defense (8)	7013.64	-0.96	6214.04	7081.79	7045.25	5036.96	1.76	0.02	3587.59	78.25	8654.67
FTSE All-Share Electronic and Electrical Equipment (11)	11421.98	-0.02	10119.81	11423.89	11585.34	10920.32	1.60	2.42	25.83	109.63	11420.72
FTSE All-Share General Industrials (7)	5146.72	-0.07	4559.97	5150.21	5142.47	5133.51	3.40	1.41	20.82	93.04	6935.84
FTSE All-Share Industrial Engineering (6)	16129.98	0.94	14291.07	15979.87	15986.17	16392.91	1.94	2.44	21.14	210.47	21942.22
FTSE All-Share Industrial Support Services (30)	10353.87	0.02	9173.47	10351.37	10448.87	10117.13	2.04	1.37	35.92	156.75	12114.27
FTSE All-Share Industrial Transportation (8)	6204.47	0.81	5497.12	6154.43	6143.67	5240.66	1.86	3.11	17.32	19.07	6528.86
FTSE All-Share Industrial Materials (1)	20003.73	-0.50	673.30	20103.75	20253.78	12452.32	1.70	1.34	43.92	231.04	25587.20
FTSE All-Share Industrial Metals and Mining (8)	7184.84	0.92	6365.73	7119.35	7207.80	7170.95	6.81	2.25	6.52	243.73	11403.18
FTSE All-Share Precious Metals and Mining (5)	9746.47	1.79	8635.32	9575.19	9631.45	9151.13	3.46	1.78	16.25	169.32	6986.95
FTSE All-Share Chemicals (7)	11657.98	-0.72	10328.90	11742.61	11733.06	14437.42	3.06	1.62	20.14	208.53	11910.15
FTSE All-Share Oil. Gas and Coal (13)	8260.23	1.29	7318.52	8154.81	8232.96	7424.95	4.02	0.35	71.01	172.47	10632.87
FTSE Sector Indices											
Non Financials (319)	5086.03	0.17	4625.10	5077.29	5084.72	5018.81	3.58	1.28	21.80	102.69	9403.40

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	7693.71	7676.37	7687.46	7687.09	7692.78	7695.41	7703.31	7718.94	7712.37	7722.75	7668.35
FTSE 250	19117.31	19077.66	19122.50	19113.38	19126.70	19137.81	19145.36	19197.59	19160.26	19201.05	19075.13
FTSE SmallCap	6290.70	6285.64	6285.62	6282.35	6281.90	6281.30	6280.27	6286.51	6281.85	6292.09	6278.95
FTSE All-Share	4194.65	4185.43	4191.87	4191.37	4194.37	4195.91	4199.73	4208.56	4204.36	4210.33	4181.91

Time of FTSE 100 Day's high:14:02:00 Day's Low07:47:30 FTSE 100 2010/11 High: 8014.31(20/02/2023) Low: 7256.94(07/07/2023)
Time of FTSE All-Share Day's high:14:02:00 Day's Low07:48:00 FTSE 100 2010/11 High: 4377.36(16/02/2023) Low: 3957.08(07/07/2023)

Further information is available on http://www.ftse.com © FTSE International Limited. 2013. All Rights reserved. "FTSE®" is a trade mark of the London Stock Exchange Group companies and is used by FTSE International Limited under licence. † Sector P/E ratios greater than 80 are not shown. For changes to FTSE Fledgling Index constituents please refer to www.ftse.com/indexchanges. ‡ Values are negative.

FT 30 INDEX

	Jul 31	Jul 28	Jul 27	Jul 26	Jul 25	Yr Ago	High	Low
FT 30	2826.40	2834.50	2833.00	2817.40	2788.50	0.00	2895.30	2454.10
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
2834.5	2820.3	2826.8	2821.8	2821.9	2825.6	2829.6	2837.4	2832.5	2838.3	2818.0

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

FT WILSHIRE 5000 INDEX SERIES

	Jul 28		Jul 28
FT Wilshire 5000	46323.80	FT Wilshire Mid Cap	5863.84
FT Wilshire 2500	5942.12	FT Wilshire Small Cap	5379.18
FT Wilshire Mega Cap	6049.14	FT Wilshire Micro Cap	4918.21
FT Wilshire Large Cap	6019.85		

Source: Wilshire. Wilshire Advisors LLC (Wilshire) is an investment advisor registered with the SEC. Further information is available at https://www.wilshire.com/solutions/indexes . Wilshire® is a registered service mark. Copyright ©2023 Wilshire. All rights reserved.

FTSE SECTORS: LEADERS & LAGGARDS

Year to date percentage changes

Leisure Goods	36.06	Industrial Eng	9.15	Personal Goods	0.42
Construct & Material	33.51	Real Est Invest & Se	6.21	Beverages	31.66
Automobiles & Parts	32.02	Gas Water & Multi	5.11	Health Care	-0.13
Aerospace & Defense	30.38	Financials	4.92	Pharmace & Biotech	-0.24
Food & Drug Retailer	22.47	Household Goods & Ho	4.82	Equity Invest Instr	-1.12
General Retailers	21.55	Industrial Transport	4.41	Electricity	-3.19
Travel & Leisure	18.44	Fixed Line Telecomms	3.71	Consumer Goods	-3.88
Software & Comp Serv	17.61	FTSE 100 Index	3.32	Real Est Invest & Tr	-4.01
Food Producers	17.43	FTSE All{HY-}Share Index	3.02	Beverages	-5.64
Consumer Services	16.91	Utilities	2.86	Life Insurance	-6.50
Industrials	15.99	Industrial Metals &	2.67	Telecommunications	-6.78
Banks	13.71	NON FINANCIALS Index	2.25	Chemicals	-9.77
Financial Services	11.42	Health Care Eq & Srv	1.58	Nonlife Insurance	-9.89
Media	11.13	FTSE 250 Index	1.54	Mobile Telecomms	-10.90
Support Services	11.09	Oil Equipment & Serv	1.46	Basic Materials	-14.29
Technology	10.63	Oil & Gas Producers	1.30	Mining	-14.84
Electronic & Elec Eq	10.60	Oil & Gas	1.29	Tobacco	-18.41
		FTSE SmallCap Index	0.77	Tech Hardware & Eq	-26.52

FTSE GLOBAL EQUITY INDEX SERIES

Jul 31 Regions & countries	No of stocks	US $ indices	Day %	Mth %	YTD %	Total retn	YTD %	Gr Div Yield
FTSE Global All Cap	9485	788.40	0.8	4.7	15.9	1283.78	17.6	2.1
FTSE Global All Cap	9485	788.40	0.8	4.7	15.9	1283.78	17.6	2.1
FTSE Global Large Cap	1937	714.11	0.8	4.5	17.4	1198.88	19.1	2.1
FTSE Global Mid Cap	2231	980.52	0.5	5.1	11.0	1501.58	12.5	2.1
FTSE Global Small Cap	5317	1016.38	0.9	5.9	12.7	1486.81	14.2	2.0
FTSE All-World	4168	464.92	0.7	4.6	16.2	801.83	17.9	2.1
FTSE World	2656	848.39	0.7	4.5	17.2	1963.03	18.8	2.1
FTSE Global All Cap ex UNITED KINGDOM In	9205	833.36	0.8	4.7	16.1	1330.48	17.7	2.0
FTSE Global All Cap ex USA	7700	543.85	0.3	4.4	11.2	990.00	13.6	3.1
FTSE Global All Cap ex JAPAN	8062	822.61	0.8	4.8	16.0	1351.33	17.7	2.1
FTSE Global All Cap ex Eurozone	8846	831.75	0.8	4.7	15.7	1323.41	17.2	2.0
FTSE Developed	2145	779.37	0.7	4.5	17.3	1276.61	18.9	2.0
FTSE Developed All Cap	5763	808.90	0.8	4.6	16.9	1305.25	18.4	2.0
FTSE Developed Large Cap	812	738.77	0.8	4.4	18.8	1231.73	20.4	2.0
FTSE Developed Europe Large Cap	205	435.06	0.2	4.0	14.9	885.53	18.0	3.1
FTSE Developed Europe Mid Cap	345	647.70	0.1	6.4	14.3	1141.67	17.1	3.0
FTSE Dev Europe Small Cap	733	875.58	-0.3	5.7	9.5	1483.61	12.1	3.1
FTSE North America Large Cap	233	996.40	1.1	4.7	21.3	1514.06	22.5	1.5
FTSE North America Mid Cap	411	1210.70	0.7	4.7	10.8	1702.35	11.9	1.6
FTSE North America Small Cap	1315	1212.71	1.3	6.2	14.2	1632.95	15.2	1.6
FTSE North America	644	643.49	1.0	4.7	19.2	999.79	20.4	1.5
FTSE Developed ex North America	1501	294.15	0.1	4.0	13.1	576.62	15.5	3.0
FTSE Japan Large Cap	175	428.84	0.4	2.5	15.6	640.14	17.2	2.3
FTSE Japan Mid Cap	340	576.62	0.7	3.4	9.0	819.08	10.6	2.4
FTSE Global wi JAPAN Small Cap	908	638.77	0.9	4.2	7.4	943.66	9.3	2.6
FTSE Japan	515	174.98	0.4	2.6	14.3	292.59	15.9	2.3
FTSE Asia Pacific Large Cap ex Japan	1123	712.33	0.4	4.2	6.0	1327.04	8.1	3.0
FTSE Asia Pacific Mid Cap ex Japan	840	1048.06	0.2	6.0	8.9	1880.60	10.7	2.9
FTSE Asia Pacific Small Cap ex Japan	2088	589.28	0.5	5.2	10.3	1025.93	12.1	2.6
FTSE Asia Pacific Ex Japan	1963	569.35	0.4	4.4	6.4	1127.15	8.4	2.9
FTSE Emerging All Cap	3722	759.33	0.8	5.1	7.8	1356.56	10.2	3.2
FTSE Emerging Large Cap	1125	695.01	0.9	4.8	6.9	1249.34	9.3	3.3
FTSE Emerging Mid Cap	898	1136.42	0.5	7.0	11.2	2039.97	13.6	3.3
FTSE Emerging Small Cap	1699	837.72	0.5	4.9	11.2	1428.76	13.5	3.0
FTSE Emerging Europe	151	139.19	1.3	11.8	8.3	302.24	12.1	3.2
FTSE Latin America All Cap	251	846.34	0.6	5.9	21.3	1753.72	25.9	8.2
FTSE Middle East and Africa All Cap	332	748.59	0.4	6.4	3.4	1405.30	5.8	3.5
FTSE Global wi UNITED KINGDOM All Cap In	280	347.75	0.0	4.9	10.7	728.41	13.2	3.7
FTSE Global wi USA All Cap	1785	1104.18	1.1	4.9	19.2	1616.58	20.3	1.5
FTSE Europe All Cap	1469	490.25	0.2	4.6	14.3	957.61	17.3	3.1
FTSE Eurozone All Cap	639	490.60	0.5	4.6	18.4	952.61	21.7	3.0
FTSE EDHEC-Risk Efficient All-World	4168	505.82	0.5	5.1	9.2	811.83	11.0	2.6
FTSE EDHEC-Risk Efficient Developed Europe	550	356.56	0.1	6.1	13.7	643.92	16.6	3.2
Oil & Gas	137	406.87	0.0	5.9	-0.4	857.98	2.0	4.7
Oil & Gas Producers	90	408.79	0.1	6.1	0.4	886.25	3.0	4.9

Jul 31 Sectors	No of stocks	US $ indices	Day %	Mth %	YTD %	Total retn	YTD %	Gr Div Yield
Oil Equipment & Services	26	280.17	-0.3	6.1	0.8	534.82	3.4	4.8
Basic Materials	404	628.11	0.1	5.3	5.1	1185.67	7.4	3.9
Chemicals	202	844.12	0.7	4.1	8.3	1526.49	10.3	2.9
Forestry & Paper	19	245.84	-0.1	8.6	-2.4	511.01	0.0	4.1
Industrial Metals & Mining	104	563.81	0.0	9.0	14.1	1107.49	16.6	4.0
Mining	79	938.90	-0.7	4.5	-3.9	1883.36	-1.3	5.6
Industrials	810	558.76	0.4	4.5	14.6	905.37	16.2	2.0
Construction & Materials	162	680.13	0.5	6.3	22.1	1164.65	24.0	1.9
Aerospace & Defense	36	968.36	1.3	2.7	7.0	1527.76	8.0	1.5
General Industrials	79	277.23	-0.1	3.9	16.2	498.46	18.0	2.3
Electronic & Electrical Equipment	158	679.45	0.0	2.6	13.3	988.57	14.6	1.5
Industrial Engineering	160	1139.81	0.3	4.3	16.0	1841.29	17.6	1.9
Industrial Transportation	128	1015.32	0.6	6.1	12.6	1694.58	15.1	3.4
Support Services	87	581.78	0.4	5.3	15.1	875.30	16.2	1.4
Consumer Goods	564	620.34	1.0	3.3	15.4	1062.71	17.2	2.3
Automobiles & Parts	133	638.94	1.9	4.9	46.6	1054.93	49.5	1.9
Beverages	71	813.37	0.6	4.2	5.0	1404.11	6.3	2.3
Food Producers	137	741.08	0.3	2.8	2.8	1303.21	4.7	2.5
Household Goods & Home Construction	62	592.61	1.7	3.5	10.3	1016.98	12.2	2.4
Leisure Goods	54	274.06	-0.3	3.1	19.3	390.90	20.2	1.1
Personal Goods	94	1009.81	1.0	0.8	9.3	1574.47	10.4	1.8
Tobacco	13	972.67	0.6	3.3	-2.5	2894.32	0.8	6.5
Health Care	339	740.83	0.2	3.0	1.7	1196.82	2.9	1.8
Health Care Equipment & Services	133	1435.29	0.0	4.0	4.1	1773.94	4.7	1.0
Pharmaceuticals & Biotechnology	206	495.77	0.4	2.4	0.2	864.62	1.8	2.3
Consumer Services	424	610.93	1.1	4.3	19.0	879.71	19.9	1.1
Food & Drug Retailers	69	318.48	-0.2	4.3	1.3	514.92	2.9	2.4
General Retailers	139	1078.95	1.6	4.9	21.2	1484.53	21.9	0.9
Media	75	350.76	1.0	2.3	21.1	508.95	22.1	1.2
Travel & Leisure	141	533.16	0.6	4.0	20.4	784.96	21.3	1.1
Telecommunication	82	128.30	0.4	-0.8	-0.3	312.12	2.6	4.5
Fixed Line Telecommuniations	29	96.72	-0.2	-2.9	-3.9	272.61	-0.4	5.7
Mobile Telecommunications	53	154.40	0.8	0.3	1.5	322.13	4.2	3.9
Utilities	203	323.72	-0.3	2.6	0.5	776.69	2.8	3.5
Electricity	146	363.87	-0.1	2.5	-0.4	857.97	1.7	3.3
Gas Water & Multiutilities	57	324.92	-0.6	2.8	2.9	810.82	5.7	3.9
Financials	850	276.33	0.3	6.2	6.5	544.65	8.9	3.2
Banks	272	210.11	0.6	8.3	6.0	466.03	9.5	4.2
Nonlife Insurance	71	385.48	-0.5	3.5	5.4	659.92	7.9	3.0
Life Insurance	51	230.23	0.6	5.5	1.1	455.92	3.6	3.7
Financial Services	211	471.93	0.4	6.0	11.2	725.63	12.4	1.6
Technology	355	649.31	1.6	5.1	46.8	853.17	47.7	0.8
Software & Computer Services	179	964.69	2.0	5.0	42.3	1171.92	42.9	0.5
Technology Hardware & Equipment	176	585.36	1.1	5.1	51.7	829.86	52.9	1.1
Alternative Energy	21	147.26	-1.1	1.1	-19.5	212.05	-19.2	0.4
Real Estate Investment & Services	138	252.26	0.5	4.8	0.5	501.31	2.4	2.9
Real Estate Investment Trusts	107	441.21	-0.5	2.9	1.3	1062.55	3.6	4.0
FTSE Global Large Cap	1937	714.11	0.8	4.5	17.4	1198.88	19.1	2.1

The FTSE Global Equity Series, launched in 2003, contains the FTSE Global Small Cap Indices and broader FTSE Global All Cap Indices (large/mid/small cap) as well as the enhanced FTSE All-World index Series (large/mid cap) - please see https://research.ftserussell.com/Products/indices/Home/indexfiltergeis?indexName=GEISAC&currency=USD&rtn=CAP&segment=global-developed--emerging. The trade names Fundamental Index® and RAFI® are registered trademarks and the patented and patent-pending proprietary intellectual property of Research Affiliates, LLC (US Patent Nos. 7,620,577; 7,747,502; 7,778,905; 7,792,719; Patent Pending Publ. Nos. US-2006-0149645-A1, US-2007-0055598-A1, US-2008-0288416-A1, US-2010- 0063942-A1, WO 2005/076812, WO 2007/078399 A2, WO 2008/118372, EPN 1733352, and HK1099110). "EDHEC™" is a trade mark of EDHEC Business School As of January 2nd 2006, FTSE is basing its sector indices on the Industrial Classification Benchmark - please see www.ftse.com/icb. For constituent changes and other information about FTSE, please see www.ftse.com. © FTSE International Limited. 2013. All Rights reserved. "FTSE®" is a trade mark of the London Stock Exchange Group companies and is used by FTSE International Limited under licence.

FTSE 100 SUMMARY

FTSE 100	Closing Price	Day's Change	FTSE 100	Closing Price	Day's Change
3I Group PLC	1977	-13.50	Jd Sports Fashion PLC	157.70	-0.40
Abrdn PLC	231.90	-3.60	Johnson Matthey PLC	1801	-19.00
Admiral Group PLC	2129	-29.00	Kingfisher PLC	245.70	-1.40
Airtel Africa PLC	116.60	-0.60	Land Securities Group PLC	647.40	5.00
Anglo American PLC	2394	11.00	Legal & General Group PLC	233.40	-1.00
Antofagasta PLC	1677.5	33.50	Lloyds Banking Group PLC	44.94	-0.19
Ashtead Group PLC	5762	58.00	London Stock Exchange Group PLC	8462	-66.00
Associated British Foods PLC	2050	-25.00	M&G PLC	200.60	-1.10
Astrazeneca PLC	11186	128.00	Melrose Industries PLC	530.00	5.20
Auto Trader Group PLC	646.00	3.20	Mondi PLC	1365.5	0.50
Aviva PLC	388.40	-2.30	National Grid PLC	1031.5	-
B&M European Value Retail S.A.	553.20	-1.40	Natwest Group PLC	244.30	-1.20
Bae Systems PLC	931.40	3.20	Next PLC	7048	-20.00
Barclays PLC	154.96	-0.78	Ocado Group PLC	938.40	-38.00
Barratt Developments PLC	456.70	-2.60	Pearson PLC	864.60	-5.00
Beazley PLC	548.50	-5.00	Pershing Square Holdings LTD	2998	30.00
Berkeley Group Holdings (The) PLC	4346	-20.00	Persimmon PLC	1159	-15.50
BP PLC	483.00	7.60	Phoenix Group Holdings PLC	550.20	-1.00
British American Tobacco PLC	2615.5	-31.00	Prudential PLC	1082.5	-18.50
Bt Group PLC	122.00	-2.15	Reckitt Benckiser Group PLC	5838	-64.00
Bunzl PLC	2888	-5.00	Relx PLC	2620	-13.00
Burberry Group PLC	2223	-9.00	Rentokil Initial PLC	635.00	3.80
Centrica PLC	138.05	3.85	Rightmove PLC	570.40	11.60
Coca-Cola Hbc AG	2292	-63.00	Rio Tinto PLC	5150	25.00
Compass Group PLC	2027	5.00	Rolls-Royce Holdings PLC	184.85	-8.45
Convatec Group PLC	208.60	-0.40	Rs Group PLC	784.60	5.20
Crh PLC	4650	-1.00	Sage Group PLC	936.60	-3.40
Croda International PLC	5890	-66.00	Sainsbury (J) PLC	277.40	-5.20
Dcc PLC	4511	-28.00	Schroders PLC	459.30	-3.30
Diageo PLC	3397.5	-36.00	Scottish Mortgage Investment Trust PLC	735.80	15.80
Endeavour Mining PLC	1880	25.00	Segro PLC	763.00	8.80
Entain PLC	1386	16.00	Severn Trent PLC	2554	5.00
Experian PLC	3009	-6.00	Shell PLC	2366	24.50
F&C Investment Trust PLC	893.00	3.00	Smith & Nephew PLC	1185	-3.50
Flutter Entertainment PLC	15510	140.00	Smith (Ds) PLC	309.60	0.30
Frasers Group PLC	813.00	13.50	Smiths Group PLC	1699	1.50
Fresnillo PLC	618.20	11.80	Smurfit Kappa Group PLC	3102	-10.00
Glaxosmithkline PLC	1384.6	1.60	Spirax-Sarco Engineering PLC	11125	15.00
Glencore PLC	473.55	7.05	Sse PLC	1685.5	12.50
Haleon PLC	336.30	-0.70	St. James's Place PLC	940.00	-5.60
Halma PLC	2236	-12.00	Standard Chartered PLC	747.40	9.80
Hargreaves Lansdown PLC	851.40	-22.00	Taylor Wimpey PLC	114.35	-1.00
Hiscox LTD	1079	-18.00	Tesco PLC	258.00	-3.40
HSBC Holdings PLC	646.30	-0.50	Unilever PLC	4191	-32.50
Imi PLC	1629	10.00	Unite Group PLC	973.50	12.00
Imperial Brands PLC	1839.5	-15.50	United Utilities Group PLC	999.00	1.40
Informa PLC	758.20	-4.60	Vodafone Group PLC	74.43	-1.32
Intercontinental Hotels Group PLC	5756	20.00	Weir Group PLC	1835	45.00
International Consolidated Airlines Group S.A.	171.10	5.95	Whitbread PLC	3499	13.00
Intertek Group PLC	4362	-24.00	Wpp PLC	851.60	1.20

UK STOCK MARKET TRADING DATA

	Jul 31	Jul 28	Jul 27	Jul 26	Jul 25	Yr Ago
Order Book Turnover (m)	69.42	58.49	58.49	109.26	45.23	54.42
Order Book Bargains	453760.00	477785.00	477785.00	587782.00	517289.00	457498.00
Order Book Shares Traded (m)	1845.00	1822.00	1822.00	1839.00	1724.00	1246.00
Total Equity Turnover (£m)	4431.51	8686.33	8686.33	6304.05	4889.71	12289.06
Total Mkt Bargains	651484.00	685766.00	685766.00	819569.00	728128.00	648705.00
Total Shares Traded (m)	6919.00	8639.00	8639.00	5423.00	6563.00	5179.00

† Excluding intra-market and overseas turnover. *UK only total at 6pm. ‡ UK plus intra-market turnover. (u) Unavaliable. (c) Market closed.

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	
Aberforth Split Level Income Trust	Pre			16.890	36.090L	8.870	18.980L	3.30000	2.79000	Aug 31	5.000	4.300
AFC Energy	Int	0.201	0.276	8.017L	8.543L	0.850L	1.060L	0.00000	0.00000	-	0.000	0.000
Byotrol	Pre	4.592	6.327	1.825L	1.245L	0.260L	0.070L	0.00000	0.00000	-	0.000	0.000
Chill Brands Group	Pre	0.083	0.624	4.263L	5.572L	1.760L	2.710L	0.00000	0.00000	-	0.000	0.000
Everest Global	Int	1.434	0.682	0.379	0.137L	1.150	0.620L	0.00000	0.00000	-	0.000	0.000
Foresight Solar & Technology VCT	Pre			12.098	13.594	31.900	38.300	0.00000	0.00000	-	0.000	0.000
GlobalData	Int	135.900	111.900	23.900	15.000	0.306	0.184	1.40000	1.07800	Oct 6	3.962	2.926
Induction Healthcare Group	Pre	12.884	7.231	17.386L	9.158L	19.000L	10.000L	0.00000	0.00000	-	0.000	0.000
Kropz	Pre	0.000	0.000	97.222L	18.258L	0.072L	0.018L	0.00000	0.00000	-	0.000	0.000
Minoan Group	Int	0.000	0.000	0.286L	0.542L	0.040L	0.090L	0.00000	0.00000	-	0.000	0.000
Pearson	Int	1879.000	1788.000	236.000	185.000	26.100	18.100	0.00000	6.60000	-	14.900	20.800
Senior	Int	482.300	402.200	13.500	11.100	2.800	2.430	0.60000	0.30000	Nov 10	1.600	0.300
Smithson Investment Trust	Int			279.030	1085.504L	162.000	617.590L	0.00000	0.00000	-	0.000	0.000
Spectris	Int	702.500	570.200	68.500	41.800	50.000	35.800	25.30000	24.10000	Nov 10	76.600	72.900

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)
07/06	335.00		CABP	CAB Payments Holdings Plc	287.00	0.00	337.00	274.00	72939.1

§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	Low	Yld	P/E	MCap m
Australia (A$)							
ANZ Bank	25.75	-0.01	26.08	22.21	6.01	10.53	52146.66
BHP Group	46.01	0.17	50.05	36.13	9.16	10.54	157059.84
CmwBkAu	105.71	0.21	111.38	89.66	3.39	19.39	119398.02
CSL	268.52	1.76	314.21	255.87	1.15	37.50	87280.95
NatAusBk	28.42	0.04	32.03	25.10	3.24	14.76	60124.17
Telstra	4.26	-0.02	4.46	3.71	2.41	33.79	33168.14
Wesfarmers	49.65	0.04	52.79	42.43	3.67	24.89	37839.59
Westpac Bank	22.34	0.06	24.50	20.03	4.08	15.85	52824.98
Woolworths	38.62	-0.51	40.35	31.67	2.87	42.95	31715.6
Belgium (€)							
AnBshInBv	52.05	-1.47	62.01	45.56	1.00	26.50	99693.61
KBC Grp	68.40	-0.40	72.46	45.53	4.93	11.35	31460.53
Brazil (R$)							
Ambev	14.88	-0.08	16.88	12.60	3.71	22.95	49277.83
Bradesco	14.83	0.08	17.71	11.15	5.48	7.01	16617.12
Cielo	4.63	0.02	6.22	4.22	3.08	16.00	2644.25
ItauHldFin	24.77	0.03	26.04	19.53	3.06	10.01	25817.87
Petrobras	34.63	1.56	42.08	23.61	13.56	5.04	54178.98
Vale	69.43	1.80	94.48	61.90	18.31	3.17	66247.63
Canada (C$)							
Bausch Hlth	12.67	0.01	13.81	5.66	-	-3.84	3483.28
BCE	56.99	-0.06	66.05	55.66	6.08	19.25	39496.16
BkMontrl	122.31	0.56	137.64	111.88	3.66	9.48	66610.11
BkNvaS	66.34	0.29	81.98	63.05	5.54	9.58	60389.26
Brookfield	58.98	11.29	63.88	41.28	1.09	19.91	69948.82
CanadPcR	108.85	-1.08	112.96	90.84	0.69	26.31	77020.36
CanImp	58.06	0.17	66.74	53.58	10.24	4.06	40496.39
CanNatRs	80.77	0.80	84.25	61.23	2.45	12.63	67037.43
CanNatRy	159.67	-0.24	175.39	144.71	1.53	23.41	79928.41
Enbridge	48.39	0.20	58.06	47.63	6.83	17.03	74174.44
GtWesLif	39.76	-0.19	40.88	27.93	4.81	21.28	28128.5
ImpOil	70.93	-0.70	79.63	53.43	1.44	20.59	31478.79
Manulife	26.48	0.16	27.50	20.11	4.37	7.56	36860.11
Nutrien	90.40	0.75	132.75	70.69	2.55	13.10	33959.67
RylBkC	130.78	0.47	140.18	116.75	3.37	11.72	138714.78
SHOP	89.00	1.60	93.83	33.00	-	3.11	81249.15
Suncor En	41.31	0.57	50.37	36.39	2.52	15.07	40981.05
ThmReut	177.51	0.16	187.70	141.11	1.14	12.34	61229.63
TntoDom	86.77	0.69	94.05	76.32	3.73	10.97	121271.56
TrnCan	46.58	1.33	69.80	43.70	7.40	25.30	36431.43
China (HK$)							
AgricBkCh	2.83	0.08	3.28	2.22	7.94	3.52	11154.5
Bk China	2.89	0.03	3.45	2.51	8.11	3.39	30987.91
BkofComm	4.70	0.03	5.65	3.84	7.68	3.68	21100.25
BOE Tech	0.67	0.02	0.85	0.53	-	10.23	17.09
Ch Coms Cons	4.59	0.09	5.52	3.09	4.67	3.60	2600.54
Ch Evrbrght	2.32	0.02	2.78	2.04	10.87	2.97	3771.8
Ch Rail Cons	5.80	0.12	7.46	3.75	4.76	2.92	1544.16
Ch Rail Gp	5.11	0.15	6.30	3.48	4.24	3.89	2756.85
ChCiticBk	4.53	0.05	5.70	4.12	8.63	3.12	139651.21
China Vanke	10.98	0.08	17.78	9.32	13.66	4.68	3106.62
ChinaCitic	3.76	0.02	4.74	2.92	7.86	3.30	7175.14
ChinaLife	13.60	0.12	15.84	8.53	5.29	5.63	12976.52
ChinaMBank	38.45	0.05	53.60	29.41	3.91	6.71	22634.52
ChinaMob	64.10	-0.90	70.20	46.85	5.29	9.36	168263.07
ChinaPcIns	20.90	0.40	26.50	12.10	6.62	6.44	7437.61
ChMinsheng	2.97	0.03	3.52	2.19	8.72	3.42	3158.63
ChMrchSecs	14.96	-0.02	15.78	12.12	3.22	12.13	15536.19
China Utd Coms	5.16	-0.14	6.45	3.30	2.39	23.52	22357.51
ChShenEgy	23.30	0.25	28.70	19.26	6.69	10.80	10890.84
ChShpbldng	4.81	0.23	5.32	3.40	-	-324.90	14863.06
ChStConEng	6.11	0.09	7.35	4.68	3.87	4.30	35326.04
ChUncHK	5.60	0.01	6.58	3.27	2.96	11.68	21971.59
CNNC Intl	7.31	0.02	7.74	5.78	1.88	12.36	19314.58
CSR	4.29	0.04	5.26	2.37	5.08	11.16	2404.48
Daqin	7.16	-0.06	8.21	5.95	7.38	9.85	15172.43
GuosenSec	9.69	-0.05	10.29	8.43	2.61	10.12	11968.34
HaitongSecs	5.44	-	6.01	3.77	5.57	5.59	2378.34
Hngzh HikVDT	36.32	0.80	48.84	28.10	2.43	18.13	46291.03
Huaxia Pwr	4.32	0.09	5.28	2.62	4.82	4.59	2603.73
IM Baotou Stl	1.89	-	2.24	1.76	-	29.24	8329.73
In&CmBkCh	3.80	0.06	4.73	3.37	8.42	3.29	42291.27
IndstrlBk	16.66	0.17	18.27	15.01	5.13	4.15	48427.54
Kweichow	1880.58	-16.42	1939.5	1359	1.13	38.49	330553.17
Midea	0.37	-	0.45	0.32	-	-3.80	14.28
New Ch Life Ins	22.50	0.30	25.00	12.04	7.17	4.04	2983.5
PetroChina	5.69	0.02	5.99	3.01	4.42	10.86	15393.97
PingAnIns	56.25	0.10	64.15	31.30	4.69	8.46	53717.44
PngAnBnk	12.32	0.06	15.74	10.39	1.56	6.69	33452.45
Pwr Cons Corp	6.00	0.09	8.38	5.61	1.63	11.33	9227.72
SaicMtr	15.49	0.32	16.62	13.09	4.22	7.04	25322.97
ShenwanHong	0.12	0.00	0.18	0.07	-	3.28	131.41
ShgPdgBk	7.60	0.10	8.22	6.64	6.67	4.42	31783.89
Sinopec Corp	4.35	-0.02	5.47	3.06	3.38	4.96	13822.56
Sinopec Oil	2.17	0.03	2.39	1.81	-	655.53	4120.07
Denmark (kr)							
DanskeBk	160.85	0.45	170.80	91.28	1.22	11.22	20517.27
MollerMrsk	13935	195.00	22650	11100	2.40	2.31	15385.07
NovoB	1092.2	35.40	1185.6	734.50	0.84	53.64	277532.2
Finland (€)							
Nokia	3.58	-0.02	5.20	3.41	-	12.59	22218.96
SampoA	40.09	0.06	49.97	37.98	4.18	8.71	22585.81
France (€)							
Airbus Grpe	133.98	0.56	138.76	86.52	-	25.06	116756.75
AirLiquide	163.36	-0.34	167.94	114.48	1.65	30.76	94332.92
AXA	27.97	-0.21	30.34	21.79	5.01	9.61	70743.19
BNP Parib	60.02	-0.16	67.02	41.53	4.37	8.82	81681.81
ChristianDior	802.00	8.50	872.00	578.50	0.86	29.87	159612.6
Cred Agr	11.29	-0.04	12.03	8.11	6.95	6.29	37652.39
Danone	55.53	-0.90	61.88	46.78	3.42	19.28	41496.31
EDF	12.00	-	12.05	7.27	3.97	9.44	53889.44
Engie SA	14.91	-0.08	15.56	11.35	3.48	10.72	40039.01
EssilorLuxottica	182.94	2.50	188.40	137.05	0.58	56.92	91490.64
Hermes Intl	2016.5	5.00	2050.5	1161.5	0.22	88.33	234711.21
LOreal	423.20	2.35	442.60	300.70	0.93	52.61	250079.47
LVMH	848.10	6.90	904.60	594.90	0.81	36.23	469450.87
Orange	10.28	-0.10	11.87	9.08	5.72	3493.19	30161.32
PernodRic	200.60	-2.30	218.00	170.90	1.52	30.90	56538.36
Renault	39.91	-0.63	42.96	26.87	-	-30.41	13010.95
Safran	150.96	0.50	152.42	89.45	0.28	1540.73	71113.52
Sanofi	97.09	2.13	105.18	76.45	3.23	20.03	135362.12
Saint Gbn	61.48	0.02	62.14	35.20	2.17	15.00	34838.22
Schneider	162.04	-0.10	167.98	111.24	1.57	29.17	102341.07
SocGen	24.72	-0.01	28.39	19.33	2.19	4.26	22365.21
Total	55.26	0.82	60.93	46.11	4.79	10.83	152211.24
UnibailR	49.68	0.06	73.09	39.68	-	-7.44	7615.7
Vinci	106.78	-1.06	112.40	80.84	2.47	24.16	70217.94
Vivendi	8.12	-0.10	10.22	7.59	7.24	-14.80	9328.95
Germany (€)							
Allianz	217.40	-1.90	228.40	156.22	4.33	14.02	96671.92
BASF	48.77	-0.62	53.77	37.90	6.63	8.24	48063.71
Bayer	53.14	0.74	65.66	46.70	3.69	53.17	57559.64
BMW	110.86	-0.42	113.45	68.44	1.68	6.03	73580.95
Continental	72.62	-0.42	79.24	44.31	-	11.42	16013.89
Deut Bank	10.08	-0.03	12.09	7.25	-	10.12	22674.61
Deut Tlkm	19.84	-0.06	23.13	17.35	2.96	23.28	109087.56
DeutsPost	44.73	0.54	45.03	29.68	3.02	11.57	60466.66
E.ON	11.51	-0.01	12.29	7.28	4.00	6.52	33504.63
Fresenius Med	47.22	-0.17	49.62	25.95	2.78	14.56	15275.78
Fresenius SE	28.53	-0.24	29.77	19.69	3.09	9.20	17568.07
HenkelKgaA	63.54	-0.66	70.10	56.55	2.82	17.25	18200.23
Linde	350.80	0.40	353.70	271.70	1.04	55.62	189649.59
Mercedes-Benz	72.64	-0.92	76.10	50.65	1.82	7.41	85682.31
MuenchRkv	342.60	-6.70	350.40	218.00	2.80	16.71	51548.52
SAP	124.40	0.82	129.54	79.58	1.46	28.47	168497.92
Siemens	154.98	0.70	167.00	95.07	2.21	23.79	136698.31
Volkswgn	145.45	-0.75	209.00	138.70	3.23	5.02	47322.26
Hong Kong (HK$)							
AIA	77.40	-0.55	93.65	57.25	1.64	18.69	114637.56
BOC Hold	23.70	-0.10	28.65	22.05	4.98	11.87	32130.36
Ch OSLnd&Inv	18.36	-0.04	23.75	14.58	6.22	4.30	25766.88
ChngKng	45.00	-0.25	56.30	41.60	3.74	9.72	20730.39
Citic Ltd	8.76	0.10	10.86	7.01	5.66	3.83	32675.93
Citic Secs	16.72	0.04	19.18	11.82	2.72	8.13	5617.31
CK Hutchison	48.10	-0.35	54.55	38.80	4.50	5.75	23622.53
CNOOC	12.58	0.16	13.36	9.28	3.42	10.36	71906.33
HangSeng	118.70	1.10	135.50	103.80	4.88	18.03	29099.19
HK Exc&Clr	325.80	1.60	382.40	208.20	2.67	34.67	52965.4
MTR	35.85	-0.35	43.00	33.45	3.26	24.50	28566.04
SandsCh	29.75	-1.05	35.45	12.50	-	-31.01	30874.14
SHK Props	97.55	-1.65	115.90	83.10	4.82	10.52	36246.88
Tencent	354.40	4.00	411.00	188.69	0.43	13.16	435088.01
India (Rs)							
Bhartiartl	889.90	-5.20	901.40	677.05	-	181.00	64754.14
HDFC Bk	1651.2	7.70	1757.5	1365	-	26.67	151388.21
Hind Unilevr	2560.8	-23.80	2769.65	2393	1.31	65.35	73154.1
HsngDevFin	2724.3	-23.05	2927.4	2160	0.90	21.87	61324.4
ICICI Bk	998.30	2.10	1008.7	796.00	0.21	30.17	84928.95
Infosys	1355.7	15.20	1672.6	1185.3	2.35	25.52	68407.33
ITC	465.70	-2.75	499.70	303.10	2.43	36.86	70529.83
L&T	2681.35	31.80	2690	1773	0.71	42.37	45822.37
OilNatGas	177.05	5.25	177.50	123.50	5.40	4.77	27080.56
RelianceIn	2549.25	21.40	2856	2180	0.29	27.79	209711.42
SBI NewA	620.20	4.15	629.55	499.35	0.88	16.48	67296.39
SunPhrmInds	1143.4	4.85	1155.35	856.80	0.69	40.59	33354.92
Tata Cons	3421.45	66.05	3575	2950.1	1.12	31.13	152212.18
Israel (ILS)							
TevaPha	31.50	0.10	38.39	26.37	-	23.54	9561.44
Italy (€)							
Enel	6.27	0.00	6.38	3.96	5.73	29.78	70304.42
ENI	13.88	-0.04	14.98	10.45	4.76	5.97	51678.11
Generali	19.38	0.12	19.67	13.67	7.43	11.11	33317.76
IntSPaolo	2.63	0.02	2.64	1.64	1.36	83.16	52994.52
Unicred	23.00	0.57	23.30	8.97	0.51	34.85	49215.41
Japan (¥)							
AstellasPh	2080.5	0.50	2360.5	1823.5	2.59	27.37	26499.19
Bridgestne	5893	46.00	6067	4348	3.00	11.71	29601.8
Canon	3673	57.00	3912	2790.5	3.11	15.53	34479.96
CntJpRwy	18135	145.00	18570	14920	0.84	-29.72	26293.71
Denso	9881	358.00	10025	6389	1.66	23.66	54797.89
EastJpRwy	8053	-36.00	8325	6706	1.46	-7.06	21420.96
Fanuc	4348	-341.00	24930	4257	12.19	4.52	30696.55
FastRetail	35560	690.00	37550	24750	1.73	14.59	79644.83
Fuji Hvy Ind	2686.5	67.50	2775	1980	2.44	26.97	14543.85
Hitachi	9298	588.00	9298	5983	1.45	11.91	61400.39
HondaMtr	4513	113.00	4583	3001	3.35	8.34	57537.85
JapanTob	3153	56.00	3252	2275.5	5.08	14.03	44383.44
KDDI	4187	-84.00	4560	3873	3.36	12.26	67859.34
Keyence	63760	-2910.00	71890	47240	0.37	46.57	109142.19
MitsbCp	7265	197.00	7455	3946	2.23	14.17	73503.61
MitsuiEst	1027.89	3.95	1047.01	904.42	-	-	-
MitsubishiEle	2051	7.50	2105	1273	2.29	16.02	30995.99
MitsuiFud	976.49	25.30	1147.48	776.93	-	-	-
MitUFJFin	1146	10.00	1163	632.60	2.66	10.15	102337.55
Mizuho Fin	2404	25.00	2447	1537	3.81	10.04	42964.24
Murata Mfg	8325	145.00	8662	6438	1.69	14.60	39597.12
Nippon TT	162.90	2.30	178.90	146.96	75.55	0.45	103819.56
Nissan Mt	623.00	4.50	665.00	408.10	-	17.29	18507.2
Nomura	586.50	7.30	588.60	464.30	4.60	-34.46	13059.06
Nppn Stl	3246	71.00	3294	1893	2.89	4.38	21711.31
Panasonic	1760	63.00	1796	1006.5	1.66	15.20	30401.89
Seven & I	5893	56.00	6619	5246	2.04	19.16	36766.63
ShinEtsuCh	4679	114.00	21055	3797	7.26	3.83	66658.72
Softbank	7242	144.00	7297	4766	0.71	5.32	74927.54
Sony	13315	275.00	14100	9013	0.53	14.53	118182.04
SumitomoF	6694	65.00	6771	3962	3.50	11.13	63016.75
Takeda Ph	4341	17.00	4645	3663	4.86	13.31	48345.2
TokioMarine	3258	53.00	3421	2417.67	7.91	4.53	45932.9
Toyota	2386	76.00	2386	1764	2.51	9.20	273983.46
Mexico (Mex$)							
AmerMvl	17.76	-0.19	20.25	15.67	1.70	15.47	44870.46
FEMSA UBD	189.47	-0.57	194.58	121.35	0.99	166.82	24515.99
WalMrtMex	69.75	-0.34	79.15	64.81	0.67	37.43	72919.17
Netherlands (€)							
ASML Hld	652.20	-0.80	698.10	376.10	0.51	51.39	289889.36
Heineken	89.14	-7.72	106.30	78.28	1.08	15.77	56610.19
ING	13.28	0.03	13.55	8.43	4.43	11.02	52996.32
Unilever	48.92	-0.33	50.93	43.94	2.93	25.11	158383.08
Norway (Kr)							
DNB	209.10	0.70	209.70	168.05	9.07	12.26	31884.58
Equinor	308.40	2.50	410.95	278.70	1.74	12.20	91549.19
Telenor	108.50	-0.50	134.95	87.60	9.04	16.82	15009.26
Qatar (QR)							
QatarNtlBk	16.90	0.10	23.00	14.31	3.18	12.82	42883.44
Saudi Arabia (SR)							
AlRajhiBnk	75.00	-0.40	7317	0.00	3.04	13.40	79987.2
Natnlcombnk	39.70	-0.20	1552.5	0.00	3.47	14.04	63509.82
SaudiBasic	86.40	-0.10	2115	0.00	3.57	11.84	69108.93
SaudiTelec	44.35	-0.50	8480	0.00	8.56	8.26	59123.85
Singapore (S$)							
DBS	34.26	-	36.40	30.30	3.36	14.17	66544.08
JardnMt US$	49.38	-0.27	57.60	42.60	3.31	8.65	14308.94
OCBC	13.30	0.08	13.33	11.42	2.95	13.38	45022.36
SingTel	2.66	-	2.82	2.31	2.63	45.31	33075.8
UOB	30.10	0.21	31.40	25.91	3.08	13.52	37969.49
South Africa (R)							
Firstrand	72.79	0.10	72.92	56.80	3.82	12.27	22991.86
MTN Grp	140.50	0.20	160.00	107.35	-	17.84	14886.62
Naspers N	3514.11	53.20	3549.78	1694.37	0.18	17.60	86057.99
South Korea (KRW)							
HyundaiMobis	233000	500.00	250000	189500	1.75	8.92	17234.87
KoreaElePwr	19210	-170.00	22750	16500	6.50	-11.01	9674.91
SK Hynix	123400	-4600.00	129000	73100	1.27	8.66	70478.56
SmsungEl	69800	-800.00	73600	51800	2.11	11.86	326906.07
Spain (€)							
BBVA	7.21	-0.12	7.56	4.28	5.05	10.02	47421.75
BcoSantdr	3.68	0.01	3.87	2.33	2.03	7.53	65727.7
CaixaBnk	3.67	-0.03	4.14	2.85	0.72	24.62	30348
Iberdrola	11.36	-0.09	12.25	9.08	3.64	19.88	78121.24
Inditex	34.81	0.10	35.60	20.53	0.62	37.47	119616.17
Repsol	13.90	0.16	15.54	11.19	4.23	8.65	20934.37
Telefonica	3.88	-0.05	4.41	3.22	8.74	2.89	24580.79
Sweden (SKr)							
AtlasCpcoB	129.95	0.55	140.95	89.50	6.19	7.94	19303.92
Ericsson	52.89	-0.66	81.32	49.79	4.69	7.13	15515.39
H & M	176.80	-0.10	189.58	98.27	3.92	22.29	24150.25
Investor	214.95	-1.25	223.60	156.20	1.79	8.46	37271.03
Nordea Bk	119.08	0.08	134.94	91.55	13.53	12.71	40677.6
SEB	127.55	-	133.50	101.15	8.72	9.75	25683.97
SvnskaHn	92.44	0.10	112.90	83.92	5.96	8.30	17101.83
Swedbank	192.95	1.50	219.90	131.10	8.31	9.43	20787.1
Telia Co	22.63	-1.06	38.91	22.45	9.74	7.30	8468.58
Volvo	222.05	-1.30	233.85	154.29	3.09	13.83	35080.01
Switzerland (SFr)							
ABB	34.86	-0.04	35.74	23.84	2.16	17.59	75683.92
CredSuisse	0.82	0.01	5.86	0.66	11.32	-1.32	3611.19
Nestle	106.88	-0.48	118.70	103.42	2.33	19.52	329202.96
Novartis	91.07	0.82	93.95	73.33	3.00	10.40	239268.51
Richemont	140.30	0.30	161.10	91.80	1.26	35.18	84485.9
Roche	270.60	1.20	335.85	256.05	2.94	19.07	219315.3
Swiss Re	90.90	-2.50	99.86	68.16	5.88	23.09	33293.54
Swisscom	560.40	-3.60	619.40	443.40	3.55	17.53	33488.05
UBS	19.28	0.03	20.85	13.87	1.88	9.05	66731.74
Zurich Fin	420.80	-6.30	458.30	384.70	4.31	14.74	73038.75
Taiwan (NT$)							
Chunghwa Telecom	116.00	-0.50	128.00	105.50	3.98	23.42	28633.9
Formosa PetChem	80.20	0.10	90.00	75.20	0.79	143.33	24301.26
HonHaiPre	108.50	-1.00	116.50	98.00	3.98	10.15	47861.98
MediaTek	690.00	32.00	795.00	533.00	5.79	9.11	35121.79
TaiwanSem	565.00	-2.00	594.00	370.00	2.04	20.86	466218.7
Thailand (THB)							
PTT Explor	35.00	0.25	38.25	29.50	5.62	9.49	29206.52
United Arab Emirates (Dhs)							
Emiratestle	24.30	0.70	38.98	11.60	2.75	27.17	57535.64
United Kingdom (p)							
Anglo American	2394	11.00	3699	2147.5	7.45	4.74	41200.73
AscBrFd	2050	-25.00	2139	1223	0.30	33.88	20443.38
AstraZen	11186	128.00	12828.45	9499.21	1.85	1894.01	223066.38
Aviva	388.40	-2.30	473.70	366.70	5.50	51.11	13684.13
Barclays	154.96	-0.78	198.86	128.12	1.94	3.76	31015.09
BP	483.00	7.60	570.57	386.08	3.26	17.52	107659.24
BrAmTob	2615.5	-31.00	3536.5	2511	8.24	8.85	75258.95
BT	122.00	-2.15	165.15	22.96	-	11.84	15593.07
Compass	2027	5.00	2250	1760	0.69	49.32	45174.13
Diageo	3397.5	-36.00	3960	3246	2.14	26.13	98226.52
GlaxoSmh	1384.6	1.60	1758.6	16.64	5.78	13.09	72952.49
Glencore	473.55	7.05	584.50	410.95	1.87	17.34	75498.4
HSBC	646.30	-0.50	655.30	434.70	2.50	14.12	164097.61
Imperial Brands	1839.5	-15.50	2185	1692.5	7.51	6.15	21490.47
Jardine Mathes.	52.50	-	54.60	46.89	2.61	10.95	18110.75
LlydsBkg	44.94	-0.19	54.33	38.51	5.72	6.24	37245.74
LSE Group	8462	-66.00	8893.86	7052	0.91	86.52	54948.9
Natl Grid	1031.5	-	1229.21	844.29	4.77	24.04	48867.68
Natwest Group	244.30	-1.20	308.65	210.90	4.30	9.62	28106.33
Prudential	1082.5	-18.50	1336	782.40	1.09	17.58	38346.84
ReckittB	5838	-64.00	6824	5502	2.99	-25.26	53895.57
RELX	2620	-13.00	2735	2124	1.82	34.56	63810.56
RioTinto	5150	25.00	6329	4425	9.75	5.39	82892.77
RollsRoyce	184.85	-8.45	194.76	64.44	-	125.75	20018.1
Shell PLC	2366	24.50	2613.5	2093	2.56	12.47	203975.19
StandCh	747.40	9.80	797.40	515.60	1.19	16.76	26834.4
Tesco	258.00	-3.40	307.23	194.35	3.55	13.14	23759.5
Unilever	4191	-32.50	4868.64	3797.5	3.45	21.52	135701.42
Vodafone	74.43	-1.32	124.20	69.73	10.39	-166.51	25907.56
WPP	851.60	1.20	1082	713.00	3.11	16.22	11777.15
United States of America ($)							
21stC Fox A	33.73	0.49	37.26	28.02	1.32	14.38	9075.95
3M	111.58	-0.30	152.30	92.38	5.04	11.61	61591.32
AbbottLb	111.52	-1.21	115.83	93.25	1.53	29.80	193927.35
Abbvie	148.03	-2.82	168.11	130.96	3.74	24.16	261167.8
Accenture	316.73	1.18	327.93	242.80	1.11	33.85	210404.13
Activision Bli.	92.70	0.17	93.67	70.94	0.48	28.37	72700.69
Adobe	551.13	22.26	552.94	274.73	-	52.07	251205.05
Advanced Micro	113.22	0.26	132.83	54.57	-	46.38	182325.17
AEP	84.56	-0.86	105.60	80.30	3.37	17.95	43563.29
Aflac	72.24	-0.15	74.02	56.03	1.74	11.90	43649.36
AirProd	304.35	0.92	328.56	224.75	2.07	32.65	67601.94
Allstate	112.55	0.09	142.15	100.57	2.73	6.98	29583.98
Alphabet	132.70	0.12	133.74	83.34	-	1.24	787279.44
Altria	45.32	-0.18	48.11	40.35	7.38	35.60	80889.07
Amazon	133.09	0.88	146.57	81.43	-	2.16	1365550.47
AmerAir	16.62	-0.18	19.08	11.65	-	4.67	10855.62
AmerExpr	168.05	2.62	182.15	130.65	1.05	17.18	123761.91
AmerIntGrp	60.29	0.13	64.88	45.66	2.02	5.87	43635.04
AmerTower	190.56	1.59	282.47	178.17	2.60	35.44	88830.6
Amgen	233.67	-2.70	296.67	211.71	2.86	23.93	124856.1
Amphenol Corp	88.47	0.90	90.28	65.21	0.84	27.10	52667.86
Analog Devices	199.60	1.18	200.10	133.48	1.30	70.55	100083.09
Aon Cp	319.24	0.04	347.37	266.35	0.59	60.55	65203.34
Apple	196.13	0.30	198.23	124.17	0.42	34.24	3088412.59
Applied Materi.	151.89	-0.04	153.28	71.12	0.59	22.06	128043.27
Aptiv	109.79	0.62	124.88	77.96	-	59.57	29698.9
ArcherDan	85.13	-1.26	98.28	69.92	1.65	18.71	45638.33
AT&T	14.56	0.11	19.99	13.43	13.57	5.55	104089.44
Autodesk	211.43	1.64	235.01	179.61	-	98.42	45187.64
AutomData	248.46	-2.16	274.92	201.46	1.46	44.09	102642.42
AutoZone	2468.19	-9.58	2750	2050.21	-	23.48	44812.38
Avago Tech	897.85	-1.94	923.18	415.07	1.59	53.38	370529.59
BakerHu	35.65	0.23	36.16	20.42	1.97	86.85	35989.11
Bank of NY	45.38	0.30	52.26	36.22	2.73	11.51	35131.98
BankAm	31.99	0.09	38.60	26.32	2.32	9.43	254933.2
Baxter	45.49	-1.52	62.24	37.35	2.27	18.93	23036.36
BectonDick	278.02	-2.30	287.32	215.90	1.15	50.64	78962.59
BerkshHat	534218.72	1105.72	538498.99	393012.25	-	9.46	312970.97
Biogen	269.57	4.34	319.76	193.65	-	27.29	39040.03
BlackRock	739.83	1.49	785.65	503.12	2.12	20.38	110798.91
Boeing	237.98	-0.71	240.13	120.99	-	-35.04	143167.22
Booking Holdings	3006.03	-6.22	3017.61	1616.85	-	112.33	111023.67
Bristol-Myers	61.49	0.08	81.44	60.05	3.11	20.75	128458.94
Broadcom	897.85	-1.94	923.18	415.07	1.59	53.38	370529.59
Cadence Design	233.69	-0.56	248.16	138.76	-	98.40	63511.89
CapOne	116.54	1.69	120.94	83.93	1.63	4.55	44493.06
CardinalHlth	91.27	-0.42	95.10	58.72	2.04	49.78	23237.36
Carnival	18.68	0.19	19.55	6.11	-	-2.34	20907.88
Caterpillar	263.70	3.27	265.40	160.60	1.54	23.47	135899.28
Centene Corp	67.91	1.73	98.53	61.34	-	31.35	37266.92
CharlesSch	65.68	-0.29	86.63	45.00	1.04	24.43	116188.41
Charter Comms	403.27	6.47	484.27	297.66	-	17.35	60722.47
Chevron Corp	163.25	4.38	189.68	140.46	3.09	21.11	309300.55
Chipotle Mexic.	1948.49	35.97	2175.01	1344.05	-	89.57	53758.53
Chubb	203.98	-2.00	230.27	173.78	1.48	11.14	84484.26
Cigna	293.18	1.08	340.11	240.50	1.30	19.62	86743.82
Cintas Corp	501.17	-1.47	518.71	370.93	0.69	46.25	50989.82
Cisco	52.07	-0.02	53.89	38.61	2.73	19.46	212188.28
Citigroup	47.63	0.22	66.00	40.01	4.07	4.94	92714.06
CME Grp	199.10	-0.32	209.24	166.55	1.72	28.75	71619.16
Coca-Cola	61.78	-0.70	65.47	54.02	2.58	28.90	267158.02
Cognizant	66.07	0.11	70.41	51.33	1.38	17.17	33530.53
ColgtPlm	75.87	0.25	83.81	67.84	2.24	31.32	62935.19
Comcast	45.63	0.40	46.44	28.39	2.08	15.80	187798.87
ConocPhil	117.90	1.57	138.49	88.00	1.57	20.45	142665.92
Constellation	271.34	-1.16	273.44	208.12	1.07	-126.14	49736.79
Corning	33.95	0.19	37.73	28.98	2.69	27.92	28958.74
Corteva	56.15	0.01	68.43	52.76	0.90	24.93	39915.52
Corteva	56.15	0.01	68.43	52.76	0.90	24.93	39915.52
Costco	560.39	-2.93	571.16	447.90	0.54	47.09	248308.81
CrownCstl	109.04	-0.10	184.92	102.15	4.91	30.69	47297.52
CSX	33.33	-0.46	34.71	25.80	1.11	19.38	66890.96
CVS	74.63	0.02	107.26	66.34	2.55	13.20	95671.14
Danaher	256.10	-3.98	303.82	221.22	0.34	30.76	189088.28
Deere	429.50	-2.39	450.00	328.62	0.87	24.93	125926.02
Delta	46.21	0.49	49.81	27.20	-	58.38	29732.36
Devon Energy	53.90	0.90	78.82	44.03	3.47	13.54	35250.6
Digital Realty	124.20	-1.42	136.90	85.76	3.55	22.01	36917.21
DiscFinServ	105.59	0.92	122.50	87.64	1.69	6.23	26814.16
Disney	88.91	2.78	126.48	84.07	-	54.42	162465.69
Dollar General	169.10	-1.49	261.59	151.23	0.95	17.34	37090.59
DominRes	53.64	0.14	86.28	48.48	4.46	17.70	44839.9
DukeEner	93.24	-0.10	113.67	83.76	3.97	19.91	71855.57
DuPont	77.23	-0.07	78.74	49.52	1.48	25.17	35449.87
Eaton	204.55	1.25	211.83	129.85	1.41	40.32	81533.63
eBay	44.65	-0.36	50.92	35.92	1.53	123.69	23876
Ecolab	182.88	-0.70	191.41	131.04	1.01	49.24	52069.77
Edwards Lifesc.	83.40	-0.34	107.18	67.13	-	36.89	50558.6
Elevance	470.63	3.59	549.52	412.00	0.97	18.95	110903.52
Eli Lilly	451.12	-7.36	469.87	296.32	0.72	77.60	428236.01
Emerson	90.85	-0.12	99.65	72.41	2.12	20.88	51920.78
EOG Res	132.71	2.01	150.88	97.39	1.15	17.48	77613.67
Equinix	805.64	8.28	821.63	494.89	1.35	153.36	75347.94
EquityResTP	65.91	1.10	80.89	54.60	3.47	20.25	24973.61
Exelon	41.91	0.21	47.23	35.19	3.47	25.35	41677.41
ExxonMb	107.25	3.09	119.92	83.89	3.09	20.95	433589.92
Fedex	269.50	0.65	270.95	141.92	1.01	15.26	67694.96
Fidelity NIS	60.54	0.89	105.16	48.57	2.45	95.12	35866.11
Fiserv	114.23	2.00	122.39	87.03	-	62.66	71750.87
FordMtr	13.16	-0.11	16.68	10.90	0.72	3.11	51898.07
Franklin	29.21	-0.31	32.86	20.24	3.68	8.13	14627.72
GenDyn	223.72	1.08	256.86	202.35	1.98	20.39	61083.72
GenElectric	114.45	0.06	117.96	48.29	0.27	-37.07	124583.38
GenMills	74.32	-0.11	90.89	73.28	2.63	20.70	43555.15
GenMotors	38.13	0.08	43.63	31.11	-	5.99	52457.08
GileadSci	76.07	-0.49	89.74	57.17	3.62	16.24	94879.88
GoldmSchs	356.52	3.29	389.58	287.75	1.73	6.31	118524.39
Halliburton	39.13	0.97	43.42	23.30	0.64	23.15	35160.12
HCA Hold	270.84	-2.41	304.86	178.32	0.67	13.47	74532.41
Hew-Pack	32.77	0.14	35.32	24.08	2.43	6.22	32304.85
Hilton Worldwd.	155.16	0.99	156.30	116.39	-	111.87	40576.44
HiltonWwde	155.16	0.99	156.30	116.39	-	111.87	40576.44
HomeDep	332.48	1.11	347.25	265.61	1.90	22.32	334262.43
Honywell	194.09	-1.10	220.96	166.63	1.85	25.83	128608.27
HumanaInc	453.66	0.36	571.30	423.29	0.59	21.07	56632.04
IBM	143.83	0.38	153.21	115.55	4.33	29.06	131030.03
IDEXX Laborats.	551.64	-1.14	564.74	317.06	-	67.52	45730.96
IllinoisTool	261.68	1.67	262.52	180.27	1.71	32.37	79523.76
Illumina	191.39	-1.05	248.87	170.93	-	39.98	30258.76
Intercntl Exch	114.80	-0.34	117.85	88.60	1.09	16.83	64269.93
Intel	36.14	-0.69	37.89	24.59	3.65	7.83	150739.44
Intuit	512.25	0.41	514.14	352.63	0.48	67.53	143481.23
John&John	168.00	-0.48	181.04	150.11	2.37	22.64	436587.32
JohnsonCn	69.22	0.03	70.06	48.82	1.58	33.27	47491.76
JPMrgnCh	157.31	0.40	159.38	101.28	2.29	10.78	459701.7
Kimb-Clark	129.28	-1.15	147.87	108.74	3.46	25.54	43718.89
KinderM	17.70	0.13	19.36	15.60	5.96	46.25	39458.53
KLA Corp	510.87	-0.14	514.00	250.20	0.73	27.68	70090.8
Kraft Heinz	36.10	-0.07	42.80	32.73	4.21	46.34	44297.14
Kroger	48.45	-0.07	52.00	41.82	1.54	23.28	34774.77
LasVegasSd	59.52	0.30	65.58	33.38	-	-41.49	45496.07
LibertyGbl	18.68	0.10	22.38	15.22	-	0.84	3200.06
Lilly (E)	451.12	-7.36	469.87	296.32	0.72	77.60	428236.01
Linde	387.92	-0.79	391.61	262.47	1.04	55.79	190211.6
Lockheed	446.50	-2.50	508.10	381.55	2.36	22.18	112442.42
Lowes	233.97	-1.12	237.21	176.50	1.23	20.26	137101.92
Lyondell	98.69	0.32	101.30	71.46	4.27	6.19	32101.3
Marathon Ptl	132.96	1.13	138.83	88.33	1.66	69.29	56412.64
Marsh&M	187.44	-1.42	194.16	148.11	1.36	20.35	92586.69
MasterCard	394.75	1.79	405.19	276.87	0.54	47.44	369031.21
McDonald's	290.15	-3.88	299.35	230.58	1.72	30.42	211836.74
McKesson	399.21	-3.69	429.75	326.19	0.42	47.59	54133.78
Medtronic	87.97	-0.28	95.60	75.77	2.69	25.27	117035.77
Merck	106.08	-0.26	119.65	84.52	2.36	22.98	269177.3
Meta	322.23	-3.25	326.20	88.09	-	24.63	716182.77
Metlife	62.80	0.40	77.36	48.95	2.87	9.04	48093.55
Microsoft	334.34	-4.03	366.78	213.43	0.65	37.48	2484055.32
Mnstr Bvrg	57.11	-1.04	60.47	42.81	-	23.39	57110
Mondelez Int	73.77	-1.27	78.59	54.72	1.71	25.55	100463.93
Monsanto	10.07	0.02	11.13	9.56	-	51.84	251.75
MorganStly	91.41	-0.16	100.99	74.67	2.18	11.98	152665.09
Netflix	437.52	11.74	485.00	211.73	-	40.98	193885.57
NextEraE	73.63	0.78	91.35	69.64	2.10	101.81	148997.16
Nike	110.29	1.67	129.23	82.22	1.01	30.35	135113.45
NorfolkS	234.87	-1.79	264.22	196.33	1.68	20.42	53319.08
Northrop	444.33	-5.35	556.27	429.10	1.32	10.74	67226.99
NXP	223.14	-0.18	225.57	132.08	0.96	24.59	57524.68
Occid Pet	63.02	0.94	77.13	55.51	0.06	32.20	56193.32
Oracle	116.68	0.69	127.54	60.78	1.05	46.44	316702.73
Pepsico	187.00	-3.31	196.88	160.98	2.16	35.86	257420.57
Perrigo	36.54	-0.01	43.90	30.78	2.50	-39.25	4944.81
Pfizer	35.98	-0.10	54.93	35.93	4.32	9.84	203089.92
Phillips66	111.41	1.06	113.53	74.02	3.09	39.49	51121.85
PhilMorris	99.49	-0.37	104.43	82.85	4.68	17.96	154442.82
PNCFin	135.44	-0.06	176.34	110.31	3.37	11.23	54055.19
PPG Inds	143.49	-1.92	152.89	107.40	1.52	33.15	33793.76
ProctGmbl	155.15	-1.26	158.11	122.18	2.19	27.76	365683.79
Prudntl	96.43	0.15	110.96	75.37	4.53	5.20	35196.95
PubStor	282.93	1.40	357.13	270.13	2.69	30.18	49742.51
Qualcomm	132.11	2.63	152.91	101.47	1.93	15.93	147170.54
Raytheon	87.93	0.59	104.91	80.27	2.17	35.88	127983.43
Regen Pharm	736.57	-9.54	837.55	569.65	-	19.77	79489.59
S&P Global	394.05	1.89	428.65	279.32	0.74	33.16	126411.24
Salesforce	224.56	-1.04	238.22	126.34	-	158.22	218721.44
Schlmbrg	58.47	1.32	59.45	33.43	0.81	46.63	83089.64
Sempra Energy	149.05	-0.25	176.47	136.54	2.93	35.13	46899
Shrwin-Wlll	275.27	-4.85	283.80	195.24	0.76	41.51	70785.3
SimonProp	124.36	-0.12	129.55	86.02	5.46	19.14	40664.29
SouthCpr	87.38	2.16	87.55	42.42	3.48	20.95	67551.15
Starbucks	101.03	-0.22	115.48	81.67	1.73	28.74	115822.28
StateSt	72.35	1.18	94.74	58.62	2.86	10.59	24183.63
Stryker	283.23	0.23	306.93	200.80	0.87	57.23	107296.37
Sychrony Fin	34.76	0.17	40.89	26.59	2.47	4.82	14536.04
T-MobileUS	138.13	-2.74	154.38	124.92	-	60.34	165741.15
Target	135.81	0.81	183.89	125.08	2.23	10.04	62683.4
TE Connect	142.88	0.11	146.60	104.76	1.32	20.44	41677.41
Tesla Mtrs	267.10	0.66	314.67	101.81	-	57.38	847786.62
TexasInstr	179.25	0.88	188.12	145.87	2.23	22.44	162752.96
TheTravelers	172.69	-0.57	194.45	149.65	1.99	11.21	39536.05
ThrmoFshr	549.14	-12.71	611.05	475.77	0.18	29.71	211814.99
TJX Cos	86.10	-0.75	87.63	59.78	1.16	33.25	98949.43
Truist Financial Corp	33.16	0.15	52.22	25.56	5.33	7.81	44159.74
Twitter	53.70	0.35	60.16	31.30	-	-224.30	41093.72
UnionPac	232.84	0.07	242.36	183.69	1.89	22.65	141902.74
UPS	187.54	-0.35	209.39	154.87	2.07	13.45	135925.18
USBancorp	39.42	-0.13	49.80	27.27	4.24	8.14	60420.07
UtdHlthcre	503.99	1.08	558.10	445.68	1.06	29.34	469230.83
ValeroEngy	129.66	0.59	142.29	97.73	2.87	60.13	46874.9
Verizon	33.82	-0.15	50.52	31.25	7.08	6.29	142082.85
VertexPharm	351.08	-2.98	367.00	271.60	-	41.02	90419.93
VF Cp	19.84	0.15	48.20	16.77	9.43	6.85	7711.36
Visa Inc	237.16	1.41	245.37	174.60	0.63	41.33	381065.75
Walgreen	29.96	0.16	42.29	28.14	6.08	4.57	25859
WalMartSto	158.08	-0.83	160.94	125.12	1.33	34.06	428372.98
Walt Disney	88.91	2.78	126.48	84.07	-	54.42	162465.69
Waste Manage.	164.00	1.06	175.98	148.31	1.33	40.24	66477.73
WellsFargo	45.57	-0.17	48.84	35.25	1.59	9.78	172489.72
Williams Cos	33.52	0.46	35.79	27.80	4.51	29.31	42051.82
Workday	236.41	1.41	238.67	128.72	-	2054.34	48700.46
Yum!Brnds	136.88	-0.06	143.25	103.97	1.39	27.66	38338.31
Zoetis	187.29	-2.61	194.99	124.15	0.51	46.17	86548.98
Zoom	73.45	0.37	119.82	60.45	-	17.02	18426.77
Venezuela (VEF)							
Bco de Vnzla	4.29	-	-	-	-	1.01	144.50
Bco Provncl	8.30	-0.20	70000	6.80	-	0.00	105.60

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	Month change %
Citic Secs	16.72	16.68	0.04	0.24	2.64	18.91	17.61	
ChinaLife	13.60	13.48	0.12	0.89	1.98	18.3	3.98	
RollsRoyce	184.85	193.30	-8.45	-4.37	36.60	18.0	22.54	
New Ch Life Ins	22.50	22.20	0.30	1.35	3.00	17.2	9.44	
ChinaMBank	38.45	38.40	0.05	0.13	4.80	14.4	8.43	
PingAnIns	56.25	56.15	0.10	0.18	6.05	12.3	12.54	
ChinaPcIns	20.90	20.50	0.40	1.95	1.88	12.2	7.65	
China Vanke	10.98	10.90	0.08	0.73	1.11	12.2	4.37	
Ch OSLnd&Inv	18.36	18.40	-0.04	-0.22	1.94	11.5	6.91	
ChStConEng	6.11	6.02	0.09	1.50	0.52	11.1	6.45	
KLA Corp	510.87	511.01	-0.14	-0.03	50.03	10.8	5.23	
Meta	322.23	325.48	-3.25	-1.00	33.87	10.5	12.21	
Boeing	237.98	238.69	-0.71	-0.30	22.82	10.2	12.69	
SouthCpr	87.38	85.22	2.16	2.53	5.85	10.1	21.82	
Applied Materi.	151.89	151.93	-0.04	-0.03	13.58	9.8	5.09	
HK Exc&Clr	325.80	324.20	1.60	0.49	27.20	9.7	10.23	
HaitongSecs	5.44	5.44	0.00	0.00	0.48	9.7	13.33	
SaicMtr	15.49	15.17	0.32	2.11	1.00	9.3	9.32	
Alphabet	132.70	132.58	0.12	0.09	11.05	9.2	10.84	
Lyondell	98.69	98.37	0.32	0.33	7.56	8.7	7.46	

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	Month change %
TrnCan	45.90	45.25	0.65	1.44	-6.98	-12.1	-14.33	
Raytheon	87.93	87.34	0.59	0.68	-9.67	-9.4	-10.21	
Heineken	89.58	96.86	-7.28	-7.52	-1.34	-8.8	-4.80	
eBay	44.65	45.01	-0.36	-0.80	-3.93	-8.8	-0.07	
Edwards Lifesc.	83.40	83.74	-0.34	-0.41	-7.66	-8.8	-11.60	
Fanuc	4348.00	4689.00	-341.00	-7.27	-33.00	-7.9	-13.37	
Honywell	194.09	195.19	-1.10	-0.56	-14.13	-7.3	-6.46	
Telia Co	22.63	23.69	-1.06	-4.47	-0.68	-7.1	-4.31	
Aon Cp	319.24	319.21	0.04	0.01	-23.37	-6.8	-7.58	
S&P Global	394.05	392.16	1.89	0.48	-30.64	-6.8	-1.73	
Chipotle Mexic.	1948.49	1912.52	35.97	1.88	-170.47	-6.5	-9.00	
Cielo	4.66	4.61	0.05	1.08	-0.34	-5.9	1.53	
Baxter	45.49	47.01	-1.52	-3.23	-1.27	-5.8	-0.11	
Linde	350.80	350.40	0.40	0.11	-25.58	-5.8	-5.93	
SvnskaHn	92.44	92.34	0.10	0.11	-5.70	-5.8	-13.09	
Kimb-Clark	129.28	130.42	-1.15	-0.88	-6.75	-5.8	-6.35	
Barclays	154.96	155.74	-0.78	-0.50	-8.62	-5.7	1.51	
Sinopec Corp	4.35	4.37	-0.02	-0.46	-0.23	-5.4	-5.45	
Orange	10.31	10.39	-0.08	-0.77	-0.47	-5.1	-3.70	
ITC	465.70	468.45	-2.75	-0.59	-22.00	-5.0	3.12	
HCA Hold	270.84	273.25	-2.41	-0.88	-11.93	-5.0	-10.76	

Based on the FT Global 500 companies in local currency

BONDS: HIGH YIELD & EMERGING MARKET

Jul 31	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
Brazil	04/26	6.00	-	Ba2	BB-	115.15	2.78	-0.01	0.65	1.73
Poland	04/26	3.25	-	A2	A-	111.22	0.98	0.03	0.16	-0.07
Mexico	05/26	11.50	-	Baa1	BBB-	149.00	1.61	0.00	-0.12	0.56
Turkey	03/27	6.00	-	Ba2	BB+	101.26	5.82	0.00	0.17	3.07
Turkey	03/27	6.00	-	B2	B+	102.88	5.43	0.04	0.03	4.38
Peru	08/27	4.13	BBB+	A3	BBB+	103.50	3.66	0.01	-0.02	0.80
Russia	06/28	12.75	-	Baa3	BBB-	188.12	2.48	0.07	0.31	1.44
Brazil	02/47	5.63	-	Ba2	BB-	101.48	5.52	0.08	0.80	-
Emerging Euro										
Brazil	04/21	2.88	BB-	Ba2	BB-	103.09	0.05	0.01	-0.09	-1.19
Mexico	04/23	2.75	BBB+	A3	BBB+	107.76	0.76	0.00	-0.07	-1.56
Mexico	04/23	2.75	BBB+	Baa1	BBB-	106.48	-0.26	-	-	-0.23
Bulgaria	03/28	3.00	BBB-	Baa2	BBB	117.04	1.00	0.02	-0.15	-1.42

Interactive Data Pricing and Reference Data LLC, an ICE Data Services company. US $ denominated bonds NY close; all other London close. *S - Standard & Poor's, M - Moody's, F - Fitch.

BONDS: GLOBAL INVESTMENT GRADE

Jul 31	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	0.02	-
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	-
Euro										
Electricite de France (EDF)	04/30	4.63	A-	A3	A-	137.45	0.82	-0.01	0.10	-
The Goldman Sachs Group, Inc.	02/31	3.00	BBB+	A3	A	124.42	0.68	0.00	-0.11	-
The Goldman Sachs Group, Inc.	02/31	3.00	BBB+	A3	A	121.70	0.93	0.00	0.02	-
Finland	04/31	0.75	AA+	Aa1	AA+	111.08	-0.27	0.00	-0.05	-0.87
Yen										
Mexico	06/26	1.09	-	Baa1	BBB-	98.73	1.34	-0.02	-0.14	0.27
£ Sterling										
innogy Fin B.V.	06/30	6.25	BBB	Baa2	A-	128.68	3.20	0.00	0.00	-0.10
innogy Fin B.V.	06/30	6.25	BBB	Baa2	A-	137.45	2.19	-0.03	0.02	-

Interactive Data Pricing and Reference Data LLC, an ICE Data Services company. US $ denominated bonds NY close; all other London close. *S - Standard & Poor's, M - Moody's, F - Fitch.

INTEREST RATES: OFFICIAL

Jul 31	Rate	Current	Since	Last
US	Fed Funds	5.25-5.50	26-07-2023	5.00-5.25
US	Prime	8.50	26-01-2023	8.25
US	Discount	5.25	04-05-2023	5.00
Euro	Repo	3.3424	25-07-2023	3.136
UK	Repo	5.00	22-06-2023	4.50
Japan	O'night Call	0.00	01-02-2016	0.00
Switzerland	Libor Target	-1.25-0.25	15-01-2015	-0.75--0.25

INTEREST RATES: MARKET

Jul 31 (Libor: Jul 28)	Over night	Change Day	Change Week	Change Month	One month	Three month	Six month	One year
US$ Libor	5.06157	0.010	4.136	-0.001	5.43258	5.63352	5.87626	6.04143
Euro Libor	-0.64957	-0.064	-0.224	0.000	-0.61943	-0.58057	-0.55600	-0.48571
£ Libor	0.18063	-0.005	-0.043	0.001	4.20130	5.49890	4.74470	0.81363
Swiss Fr Libor				-0.002	-0.77540	-0.75300	-0.70280	-0.55320
Yen Libor				0.000	-0.06005	-0.02617	0.07165	0.04867
Euro Euribor				0.002	3.58500	3.72500	3.95800	4.11100
Sterling CDs				0.000	0.50000	0.63000	0.78000	
US$ CDs				0.000	5.40000	5.57000	5.72000	
Euro CDs				0.000	3.65000	3.71000	3.85000	

Jul 31	Short term		7 Days notice		One month		Three month		Six month		One year	
Euro	3.14	3.44	3.37	3.67	3.50	3.80	3.56	3.86	3.70	4.00	3.78	4.08
Sterling			0.45	0.55	0.58	0.68	0.71	0.86	0.90	1.05		
US Dollar	5.14	5.34	5.16	5.36	5.30	5.50	5.47	5.62	5.82	5.74	5.94	
Japanese Yen	-0.30	-0.10	-0.30	-0.10	-0.25	0.05	-0.25	0.05	-0.10	0.20	0.00	0.30

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	209.47	-0.42	2.09	2.82	1.71	4.03
Corporates(£)	325.38	-0.24	2.12	1.73	2.09	-7.22
Corporates(€)	213.74	0.08	0.93	3.10	0.66	-3.52
Eurozone Sov(€)	212.18	-0.08	-0.21	2.24	-0.72	-8.41
Gilts(£)	260.20	-0.24	0.33	-3.47	-0.01	-17.22
Overall (£)	271.98	-0.19	0.74	-2.34	0.40	-14.70
Overall(€)	208.86	-0.02	0.11	2.29	-0.33	-7.22
FTSE						
Sterling Corporate (£)	-	-	-	-	-	-
Euro Corporate (€)	104.47	-0.05	-	-	0.54	-1.73
Euro Emerging Mkts (€)	695.53	9.15	-	-	10.77	3.20
Eurozone Govt Bond	110.04	-0.19	-	-	-0.29	-3.06

CREDIT INDICES	Index	Day's change	Week's change	Month's change	Series high	Series low
Markit iTraxx						
Crossover 5Y	380.22	3.94	-9.91	-19.64	510.17	376.12
Europe 5Y	67.59	1.15	-2.01	-6.20	101.15	66.40
Japan 5Y	62.29	-3.62	-5.69	-10.25	99.54	62.29
Senior Financials 5Y	77.53	1.06	-2.88	-7.75	124.01	76.46
Markit CDX						
Emerging Markets 5Y	189.34	-9.22	-13.34	-24.96	265.81	189.34
Nth Amer High Yld 5Y	408.40	-12.72	-11.20	-21.43	511.98	408.40
Nth Amer Inv Grade 5Y	62.55	-2.39	-2.61	-3.52	88.71	62.55

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

VOLATILITY INDICES

	Jul 31	Day Chng	Prev	52 wk high	52 wk low
VIX	13.94	0.61	13.33	34.88	12.73
VXD	12.50	0.64	11.86	34.44	3.10
VXN	19.70	0.78	18.92	40.17	5.85
VDAX	15.59	0.80	14.80	93.30	-

† CBOE. VIX: S&P 500 index Options Volatility, VXD: DJIA Index Options Volatility, VXN: NASDAQ Index Options Volatility. ‡ Deutsche Borse. VDAX: DAX Index Options Volatility.

BONDS: BENCHMARK GOVERNMENT

	Red Date	Coupon	Bid Price	Bid Yield	Day chg yield	Wk chg yield	Month chg yield	Year chg yield
Australia								
	05/32	1.25	79.43	4.05	0.14	0.04	0.02	2.64
	02/50	1.00	96.45	1.83	0.12	-0.08	0.00	0.00
Austria	02/29	0.50	87.49	2.98	-0.02	0.09	-0.07	1.99
	02/47	1.50	71.74	3.23	0.03	0.01	0.10	1.80
Belgium	06/27	0.80	92.22	2.95	-0.03	-0.03	-0.04	2.23
	06/47	1.60	70.05	3.46	0.01	0.11	0.10	1.79
Canada	03/25	1.25	94.60	4.83	0.06	0.21	-0.21	1.86
	06/30	1.25	85.62	3.65	-0.08	0.10	0.03	1.05
	12/48	2.75	89.12	3.39	-0.02	0.10	0.13	0.59
Denmark	11/29	0.50	87.63	2.69	-0.03	0.07	0.01	1.52
	11/52	0.25	51.38	2.31	-0.01	0.10	0.06	1.42
Finland	09/24	0.00	96.23	3.48	-0.03	0.11	0.14	2.62
	09/29	0.50	86.55	2.93	0.00	0.08	0.03	1.88
France	05/28	0.75	90.19	3.00	-0.03	0.03	0.04	1.90
	05/48	2.00	76.92	3.39	-0.03	0.10	0.11	1.42
Germany	08/29	0.00	86.36	2.46	-0.01	0.01	0.05	1.66
	08/50	0.00	51.37	2.48	-0.01	0.10	0.07	1.40
Greece	-	-	-	-	-	-	-	-
	01/28	3.75	101.09	3.49	-0.01	-0.03	0.08	0.01
Ireland	-	-	-	-	-	-	-	-
	05/26	1.00	94.87	2.94	-0.04	0.00	-0.07	1.97
	02/45	2.00	79.84	3.32	0.02	0.10	0.11	1.45
Italy	02/25	0.35	95.21	3.66	-0.03	0.01	0.07	2.43
	05/30	0.40	86.86	4.11	-0.13	0.01	0.07	2.33
	03/48	3.45	86.66	4.34	-0.03	0.09	0.10	1.25
Japan	04/25	0.05	100.01	0.05	-0.01	0.01	0.03	0.01
	12/29	0.10	98.96	0.26	0.04	0.01	0.03	0.01
	12/49	0.40	79.63	1.32	0.06	0.01	0.14	0.67
Netherlands	07/27	0.75	92.26	2.92	-0.01	0.07	0.00	2.00
	01/47	2.75	98.90	2.81	0.03	0.11	0.08	1.35
New Zealand	05/31	1.50	79.48	4.69	0.06	0.10	0.12	1.35
	09/40	2.50	118.45	2.76	0.02	0.01	0.15	1.72
Norway	08/30	1.38	84.64	3.91	0.07	0.11	0.07	1.56
Poland	-	-	-	-	-	-	-	-
	07/27	2.50	90.02	5.35	-0.04	-0.11	-0.46	0.12
	04/47	4.00	89.11	5.64	0.04	0.11	-0.09	0.68
Portugal	04/27	4.13	104.03	2.96	-0.07	0.01	0.11	1.25
Spain	-	-	-	-	-	-	-	-
	10/29	0.60	85.31	3.23	0.01	0.03	0.11	1.90
	10/46	2.90	85.26	3.87	-0.03	0.11	0.18	1.56
Sweden	06/30	0.13	114.60	0.72	-0.02	-0.06	-0.34	-0.24
	03/39	3.50	110.00	2.54	0.00	0.09	-0.17	0.90
Switzerland	04/28	4.00	103.04	0.99	0.04	0.01	0.00	0.34
	06/29	0.00	92.87	0.96	0.03	0.03	-0.07	0.31
United Kingdom	07/27	1.25	89.10	4.56	-0.04	0.00	-0.63	2.74
	07/47	1.50	56.35	4.49	0.02	0.06	-0.26	1.90
United States	-	-	-	-	-	-	-	-
	03/25	0.50	94.21	4.87	0.01	-0.02	-0.04	2.04
	02/30	1.50	85.18	4.11	-0.01	-0.04	0.03	1.59
	02/50	2.00	67.75	3.99	0.00	-0.01	0.12	1.13

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

GILTS: UK CASH MARKET

Jul 31	Price £	Yield	Change in Yield Day	Week	Month	Year	52 Week High	Low	Amnt £m
Tr 2.25pc '23	99.70	5.21	0.00	0.00	4.41	194.35	100.00	97.34	35.92
Tr 0.125pc '24	97.57	5.13	-0.20	-0.39	-1.91	170.00	97.57	94.20	35.52
Tr 2pc '25	94.13	4.98	0.00	1.22	-6.04	200.00	101.22	92.80	39.93
Tr 0.125pc '26	89.35	4.70	-0.42	1.08	-6.19	195.60	95.25	86.33	35.32
Tr 1.25pc '27	88.21	4.53	-0.44	1.12	-5.43	184.91	98.86	85.65	40.99
Tr 0.5pc '29	80.95	4.44	-0.67	1.14	-4.72	165.87	95.06	78.21	28.92
Tr 1pc '32	76.95	4.26	-0.70	0.95	-2.07	129.03	122.11	74.54	35.96
Tr 4.25pc '36	98.83	4.37	-0.46	1.39	-0.91	96.85	125.01	94.91	31.68
Tr 4.5pc '42	100.18	4.49	-0.44	0.90	-0.66	82.93	135.11	93.79	28.35
Tr 3.75pc '52	88.85	4.44	-0.67	0.91	0.68	85.77	132.80	82.51	25.11
Tr 4pc '60	94.01	4.33	-0.46	0.93	1.88	87.45	147.23	87.32	25.13

Gilts benchmarks & non-rump undated stocks. Closing mid-price in pounds per £100 nominal of stock.

GILTS: UK FTSE ACTUARIES INDICES

Price Indices Fixed Coupon	Jul 31	Day's chg %	Total Return	Return 1 month	Return 1 year	Yield
1 Up to 5 Years	80.26	0.05	2333.27	0.00	-3.53	4.77
2 5 - 10 Years	141.57	0.19	3053.71	1.47	-13.19	4.28
3 10 - 15 Years	149.75	0.22	3499.30	1.04	-18.08	4.38
4 5 - 15 Years	142.49	0.20	3158.15	1.33	-14.55	4.32
5 Over 15 Years	196.99	0.47	3477.70	-0.09	-29.54	4.39
7 All stocks	129.27	0.24	2935.11	0.76	-17.03	4.49

Index Linked	Jul 31	Day's chg %	Month chg %	Year's chg %	Total Return	Return 1 month	Return 1 year
1 Up to 5 Years	325.49	0.06	0.33	-0.34	2775.64	0.66	0.80
2 Over 5 years	518.54	0.20	-0.91	-27.36	3975.52	-0.71	-29.14
3 5-15 years	449.65	0.21	0.57	-12.43	3661.16	0.81	-11.66
4 Over 15 years	569.19	0.18	-1.81	-35.25	4220.16	-1.81	-35.01
5 All stocks	496.40	0.17	-0.62	-23.84	3878.03	-0.48	-23.33

Yield Indices	Jul 31	Jul 28	Yr ago		Jul 31	Jul 28	Yr ago
5 Yrs	4.40	4.43	1.47	20 Yrs	4.48	4.51	2.33
10 Yrs	4.32	4.34	1.88	45 Yrs	4.23	4.25	2.12
15 Yrs	4.43	4.46	2.23				

Real yield	inflation 0% Jul 31	Dur yrs	Previous	Yr ago	inflation 5% Jul 31	Dur yrs	Previous	Yr ago
Up to 5 yrs	1.88	2.12	1.91	-2.49	1.39	2.14	1.42	-3.06
Over 5 yrs	0.93	18.61	0.94	-1.14	0.90	18.67	0.91	-1.14
5-15 yrs	0.76	9.05	0.79	-1.74	0.67	9.06	0.70	-1.84
Over 15 yrs	0.98	25.32	0.98	-1.04	0.96	25.34	0.97	-1.06
All stocks	0.95	15.74	0.96	-1.17	0.91	16.88	0.92	-1.17

See FTSE website for more details www.ftse.com/products/indices/gilts

Tradeweb

COMMODITIES

www.ft.com/commodities

Energy		Price*	Change
Crude Oil†	Sep	81.24	0.66
Brent Crude Oil‡		85.39	0.98
RBOB Gasoline†	Oct	2.87	-0.02
Natural Gas†	Sep	2.64	0.00
Base Metals (♠ LME 3 Months)			
Aluminium		2265.00	38.00
Aluminium Alloy		2150.00	-75.00
Copper		8782.50	107.50
Lead		2153.00	-2.00
Nickel		22110.00	-190.00
Tin		28710.00	35.00
Zinc		2558.00	65.00
Precious Metals (PM London Fix)			
Gold		1954.25	8.90
Silver (US cents)		2422.50	-78.50
Platinum		933.00	-25.00
Palladium		1241.00	-5.00
Bulk Commodities			
Iron Ore		107.77	-3.59
Baltic Dry Index		1127.00	17.00
Richards Bay ICE Futures		93.25	-1.40

Agricultural & Cattle Futures		Price*	Change
Corn♦	Sep	507.00	-14.00
Wheat♦	Sep	681.75	-22.50
Soybeans♦	Aug	1466.00	-20.75
Soybeans Meal♦	Aug	453.00	-2.20
Cocoa (ICE Liffe)♦	Sep	2702.00	16.00
Cocoa (ICE US)♦	Sep	3580.00	20.00
Coffee(Robusta)♦	Sep	2632.00	44.00
Coffee (Arabica)♦	Sep	160.80	2.90
White Sugar♦		681.10	25.10
Sugar 11♦		23.88	-0.04
Cotton♦	Oct	85.77	0.71
Orange Juice♦	Sep	313.30	-0.15
Palm Oil♦	Aug	178.25	0.20
Live Cattle♣		134.88	-
Feeder Cattle♣	May	113.20	-
Lean Hogs♣	Aug	113.20	-

	Jul 28	% Chg Month	% Chg Year
S&P GSCI Spt	592.70	9.64	-14.45
DJ UBS Spot	107.18	5.63	-12.07
TR/CC CRB TR	313.20	8.68	1.42
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 Jul 28	Yield Jul 28	Prev	Yr ago	Month return	Value stock	No of stocks
Can 4.25%' 26	106.78	2.130	2.219	-0.25	5.25	77137.22	8
Fr 0.25%' 24	99.47	0.793	0.912	0.48	17.92	267298.29	18
Swe 1.00%' 25	127.32	1.148	1.193	0.89	35.93	229878.39	7
UK 2.500%' 24	374.98	3.666	3.617	0.35	6.82	535977.67	32
UK 2.500%' 24	374.98	3.666	3.617	0.35	6.82	535977.67	32
UK 2.000%' 35	95.38	2.576	2.654	0.31	42.74	1674849.75	48
US 0.625%' 26	95.38	2.576	2.654	0.31	42.74	1674849.75	48
US 3.625%' 28	107.42	1.969	2.042	0.07	-7.74	535977.67	32

Representative stocks from each major market Source: Merrill 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	4.05	1.59	-0.05	Netherlands	2.82	0.36	-1.29
Austria	2.98	0.52	-1.13	New Zealand	4.73	2.27	0.63
Canada	3.65	1.19	-0.45	Norway	3.91	1.45	-0.20
Denmark	2.66	0.20	-1.44	Portugal	2.96	0.50	-1.15
Finland	2.93	0.47	-1.17	Spain	3.23	0.77	-0.88
Germany	2.46	0.00	-1.65	Sweden	0.72	-1.74	-3.39
Italy	1.61	-0.85	-2.50	Switzerland	0.96	-1.45	-3.09
Japan	0.26	-2.19	-3.84	United States	4.11	1.65	0.00

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

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.com

Data provided by Morningstar | www.morningstar.co.uk

POWERED BY MORNINGSTAR

MANAGED FUNDS SERVICE

abrdn Capital (CI) Limited (JER)
PO Box 189, St Helier, Jersey, JE4 9RU 01534 709130
FCA Recognised
abrdn Capital Offshore Strategy Fund Limited

Fund	Bid	Offer	D+/-	Yield
Bridge Fund	£2.1821	-	0.0104	2.35
Global Equity Fund	£3.4129	-	0.0231	1.49
Global Fixed Interest Fund	£0.7476	-	0.0014	6.18
Income Fund	£0.6252	-	0.0031	3.22
Sterling Fixed Interest Fund	£0.6607	-	0.0005	4.74
UK Equity Fund	£1.8813	-	0.0004	3.35

Algebris Investments (IRL)
Regulated

Fund	Bid	Offer	D+/-	Yield
Algebris Financial Credit I EUR	€180.10	-	1.10	0.00
Algebris Financial Credit R EUR	€154.25	-	0.94	0.00
Algebris Financial Credit Rd EUR	€ 90.14	-	0.56	6.04
Algebris Financial Income I EUR	€190.65	-	1.04	0.00
Algebris Financial Income R EUR	€172.48	-	0.93	0.00
Algebris Financial Income Rd EUR	€101.65	-	0.55	4.81
Algebris Financial Equity B EUR	€182.24	-	0.19	0.00
Algebris Financial Equity R EUR	€152.28	-	0.16	0.00
Algebris IG Financial Credit I EUR	€ 99.46	-	0.59	0.00
Algebris IG Financial Credit R EUR	€ 97.61	-	0.57	0.00
Algebris Global Credit Opportunities I EUR	€131.54	-	-0.08	0.00
Algebris Global Credit Opportunities R EUR	€128.09	-	-0.09	0.00
Algebris Global Credit Opportunities Rd EUR	€109.23	-	-0.07	2.61
Algebris Core Italy I EUR	€152.15	-	0.22	0.00
Algebris Core Italy R EUR	€143.74	-	0.21	0.00
Algebris Sust. World B	€112.11	-	0.09	-
Algebris Sust. World R	€111.00	-	0.09	-

The Antares European Fund Limited
Other International

Fund	Bid	Offer	D+/-	Yield
AEF Ltd Usd	$530.71	-	-17.43	0.00
AEF Ltd Eur	€483.91	-	-15.53	0.00

Artemis Fund Managers Ltd (1200)F (UK)
57 St. James's Street, London SW1A 1LD 0800 092 2051
Authorised Inv Funds

Fund	Bid	Offer	D+/-	Yield
Artemis Corporate Bond I Acc	97.78	-	0.10	4.27
Artemis Positive Future Fund	67.67	-	0.23	0.00
Artemis Target Return Bond I Acc	107.64	-	0.15	4.04

Ashmore Group
61 Aldwych, London WC2B 4AE. Dealing team: +352 27 62 22 233
Authorised Inv Funds

Fund	Bid	Offer	D+/-	Yield
Emerging Markets Equity Fund	$131.80	-	3.12	0.00
Emerging Markets Equity ESG Fund	$150.56	-	3.38	0.00
Emerging Markets Frontier Equity Fund	$192.76	-	0.87	1.00
Emerging Markets Blended Debt Fund	$ 53.28	-	-0.01	5.12
Emerging Markets Blended Debt ESG Fund	$ 90.26	-	0.07	0.00
Emerging Markets Active Equity Fund	$129.07	-	2.45	0.00
Emerging Markets Corporate Debt Fund	$ 58.04	-	0.02	7.70
Emerging Markets Debt Fund	$ 58.41	-	0.06	6.01
Emerging Markets Local Currency Bond Fund	$ 66.08	-	0.00	4.38

Atlantas Sicav (LUX)
Regulated

Fund	Bid	Offer	D+/-	Yield
American Dynamic	$7231.34	-	7.12	0.00
American One	$7748.07	-	7.52	0.00
Bond Global	€1520.09	-	14.42	0.00
Eurocroissance	€1395.98	-	6.61	0.00
Far East	$1045.55	-	-4.24	0.00

Blue Whale Investment Funds ICAV (IRE)
www.bluewhale.co.uk, info@bluewhale.co.uk
FCA Recognised - Ireland UCITS

Fund	Bid	Offer	D+/-	Yield
Blue Whale Growth USD T	$ 10.96	-	0.18	0.00

Brooks Macdonald International Fund Managers Limited (JER)
5 Anley Street, St Helier, Jersey, JE2 3QE
+44 (0) 1534 700 104 (Int.) +44 (0) 800 735 8000 (UK)
Brooks Macdonald International Investment Funds Limited

Fund	Bid	Offer	D+/-	Yield
Euro High Income	€1.2116	-	0.0004	2.50
High Income	£0.6361	-	0.0009	3.77
Sterling Bond	£1.2192	-	0.0016	2.06

Brooks Macdonald International Multi Strategy Fund Limited

Fund	Bid	Offer	D+/-	Yield
Balanced Strategy A	£0.9309	-	0.0007	0.02
Balanced Strategy	£0.9316	-	0.0008	1.03
Cautious Balanced Strategy A	£0.8916	-	0.0004	1.80
Growth Strategy A	£0.9482	-	0.0008	-
High Growth Strategy A	£0.9533	-	0.0009	0.74
Cautious Balanced Strategy	£1.2492	-	0.0006	0.00
Growth Strategy	£1.9875	-	0.0017	0.00
High Growth Strategy	£2.8003	-	0.0024	0.00
US$ Growth Strategy	$1.8482	-	0.0073	0.00

Dealing Daily. Initial Charge Nil for A classes and up to 2% for other classes

CG Asset Management Limited (IRL)
25 Moorgate, London, EC2R 6AY
Dealing: Tel. +353 1434 5098 Fax. +353 1542 2859
FCA Recognised
CG Portfolio Fund Plc

Fund	Bid	Offer	D+/-	Yield
Absolute Return Cls M Inc	£132.51	133.11	0.03	1.71
Capital Gearing Portfolio GBP P	£36393.08	36593.74	20.25	1.73
Capital Gearing Portfolio GBP V	£177.00	177.97	0.10	1.73
Dollar Fund Cls D Inc	£158.28	158.75	0.53	1.27
Dollar Hedged GBP Inc	£ 93.88	94.16	0.43	1.21
Real Return Cls A Inc	£190.30	190.88	0.59	1.78

Chartered Asset Management Pte Ltd
Other International Funds

Fund	Bid	Offer	D+/-	Yield
CAM-GTF VCC	$305116.91	305116.91	10151.60	-
CAM GTi VCC	$780.49	-	-32.39	-
RAIC VCC	$ 1.64	1.64	0.03	2.06

Dodge & Cox Worldwide Funds (IRL)
48-49 Pall Mall, London SW1Y 5JG.
www.dodgeandcox.worldwide.com 020 3713 7664
FCA Recognised
Dodge & Cox Worldwide Funds plc - Global Bond Fund

Fund	Bid	Offer	D+/-	Yield
EUR Accumulating Class	€ 16.06	-	-0.05	0.00
EUR Accumulating Class (H)	€ 10.83	-	0.02	0.00
EUR Distributing Class	€ 11.36	-	-0.04	2.41
EUR Distributing Class (H)	€ 7.60	-	0.02	2.41
GBP Distributing Class	£ 11.98	-	-0.04	3.34
GBP Distributing Class (H)	£ 8.21	-	0.02	2.39
USD Accumulating Class	$ 12.77	-	0.02	0.00

Dodge & Cox Worldwide Funds plc-Global Stock Fund

Fund	Bid	Offer	D+/-	Yield
USD Accumulating Share Class	$ 32.93	-	0.32	0.00
GBP Accumulating Share Class	£ 42.13	-	0.17	0.00
GBP Distributing Share class	£ 28.09	-	0.12	0.26
EUR Accumulating Share Class	€ 44.87	-	0.21	0.00
GBP Distributing Class (H)	£ 15.05	-	0.15	0.25

Dodge & Cox Worldwide Funds plc-U.S. Stock Fund

Fund	Bid	Offer	D+/-	Yield
USD Accumulating Share Class	$ 41.44	-	0.21	0.00
GBP Accumulating Share Class	£ 50.14	-	-0.03	0.00
GBP Distributing Share Class	£ 29.90	-	-0.02	0.00
EUR Accumulating Share Class	€ 48.75	-	0.00	0.00
GBP Distributing Class (H)	£ 16.27	-	0.08	0.16

Dragon Capital
www.dragoncapital.com
Fund information:info@dragoncapital.com
Other International Funds

Fund	Bid	Offer	D+/-	Yield
Vietnam Equity (UCITS) Fund A USD	$ 29.94	-	0.17	0.00

EdenTree Investment Management Ltd (UK)
PO Box 3733, Swindon, SN4 4BG, 0800 358 3010
Authorised Inv Funds

Fund	Bid	Offer	D+/-	Yield
EdenTree Short Dated Bond Cls B	92.10	-	0.03	-

Euronova Asset Management UK LLP (CYM)
Regulated

Fund	Bid	Offer	D+/-	Yield
Smaller Cos Cls One Shares	€ 54.53	-	0.28	0.00
Smaller Cos Cls Two Shares	€ 34.70	-	0.18	0.00
Smaller Cos Cls Three Shares	€ 17.32	-	0.09	0.00
Smaller Cos Cls Four Shares	€ 22.82	-	0.11	0.00

FIL Investment Services (UK) Limited (1200)F (UK)
Beech Gate, Millfield Lane, Lower Kingswood, Tadworth, KT20 6RP
Callfree: Private Clients 0800 414161
Broker Dealings: 0800 414 181
OEIC Funds

Fund	Bid	Offer	D+/-	Yield
Index Sterling Corporate Bond Fund P-ACC-GBP	£ 0.82	-	0.00	3.07
Sustainable Multi Asset Balanced Fund W-ACC-GBP	£ 0.95	-	0.00	1.58
Emerging Mkts NAV	£ 7.21	-	-0.16	2.02
American Fund W-ACC-GBP	£ 58.71	-	0.33	0.00
Cash Fund W-ACC-GBP	£ 1.05	-	0.00	1.80
Sustainable Emerg Mkts Equity Fund A-ACC Shares	£ 1.52	-	0.01	4.74
Sustainable Global Equity Fund W-ACC-GBP	£ 34.45	-	0.04	0.40
Global High Yield Fund W-ACC-GBP	£ 14.12	-	0.01	5.16
Japan Fund W-ACC-GBP	£ 6.11	-	-0.02	1.44
Japan Smaller Companies Fund W-ACC-GBP	£ 3.55	-	-0.02	0.65
Select 50 Balanced Fund PI-ACC-GBP	£ 1.15	-	0.00	1.39
Special Situations Fund W-ACC-GBP	£ 43.33	-	-0.08	3.40
Short Dated Corporate Bond Fund W-ACC-GBP	£ 10.63	-	0.01	3.83
Sustainable Water & Waste W-ACC-GBP	£ 1.19	-	0.00	0.52
Sustainable Water & Waste W-INC-GBP	£ 1.18	-	0.00	0.52
UK Select Fund W-ACC-GBP	£ 3.74	-	0.00	2.57
Global Enhanced Income W-ACC-GBP	£ 2.39	-	-0.01	4.37
Index UK Gilt Fund P-ACC-GBP	£ 0.71	-	-0.01	2.10
Sustainable Multi Asset Conservative Fund W-ACC-GBP	£ 0.90	-	0.00	1.71
Sustainable Multi Asset Growth Fund W-ACC-GBP	£ 0.98	-	0.00	1.43

Findlay Park Funds Plc (IRL)
30 Herbert Street, Dublin 2, Ireland Tel: 020 7968 4900
FCA Recognised

Fund	Bid	Offer	D+/-	Yield
American EUR Unhedged Class	€168.50	-	0.08	0.00
American Fund USD Class	$185.99	-	0.83	0.00
American Fund GBP Hedged	£ 90.68	-	0.41	0.00
American Fund GBP Unhedged	£144.57	-	0.47	0.00

Foord Asset Management
Website: www.foord.com - Email: info@foord.com
FCA Recognised - Luxembourg UCITS

Fund	Bid	Offer	D+/-	Yield
Foord International Fund | R	$ 50.29	-	0.08	0.00
Foord Global Equity Fund (Lux) | R	$ 17.63	-	0.18	0.00

Regulated

Fund	Bid	Offer	D+/-	Yield
Foord Global Equity Fund (Sing) | B	$ 21.05	-	0.22	0.00
Foord International Trust (Gsy)	$ 49.01	-	0.07	0.00

GAM
funds@gam.com, www.funds.gam.com
Regulated

Fund	Bid	Offer	D+/-	Yield
LAPIS GBL F OWD 50 DIV.YLD-Na-D	£105.76	-	0.39	1.20
LAPIS GBL MED DEV 25.YLD-Na-D	£ 95.81	-	0.05	-
LAPIS GBL TOP 50 DIV.YLD-Na-D	£118.85	-	-0.09	2.93

Guinness Global Investors

Fund	Bid	Offer	D+/-	Yield
Guinness Global Equity Income Y GBP Dist	£ 19.19	-	0.06	2.17
Guinness Global Innovators Y GBP Acc	£ 29.98	-	0.40	0.00
Guinness Sustainable Global Equity Y GBP Acc	£ 11.51	-	0.00	0.00

HPB Assurance Ltd
Anglo Intl House, Bank Hill, Douglas, Isle of Man, IM1 4LN 01638 563490
International Insurances

Fund	Bid	Offer	D+/-	Yield
Holiday Property Bond Ser 1	£ 0.50	-	0.00	0.00
Holiday Property Bond Ser 2	£ 0.63	-	0.00	0.00

Janus Henderson Investors (UK)
PO Box 9023, Chelmsford, CM99 2WB Enquiries: 0800 832 832
www.janushenderson.com
Authorised Inv Funds

Fund	Bid	Offer	D+/-	Yield
Janus Henderson Instl UK Index Opportunities A Acc	£ 1.16	-	0.00	2.97

M & G Securities (1200)F (UK)
PO Box 9038, Chelmsford, CM99 2XF
www.mandg.co.uk/charities Enq./Dealing: 0800 917 4472
Authorised Inv Funds

Fund	Bid	Offer	D+/-	Yield
M&G Charibond Charities Fixed Interest Fund (Charibond) Inc	£ 1.06	-	0.00	2.96
M&G Charibond Charities Fixed Interest Fund (Charibond) Acc	£ 38.57	-	-0.01	2.47
M&G Charity Multi Asset Fund Inc	£ 0.89	-	0.00	4.00
M&G Charity Multi Asset Fund Acc	£108.28	-	-0.03	3.80

MMIP Investment Management Limited (GSY)
Regulated
Multi-Manager Investment Programmes PCC Limited

Fund	Bid	Offer	D+/-	Yield
UK Equity Fd Cl A Series 01	£3080.40	3080.41	-231.75	0.00
Diversified Absolute Rtn Fd USD Cl AF2	$1688.02	-	45.93	-
Diversified Absolute Return Stlg Cell AF2	£1579.00	-	-1.96	-
Global Equity Fund A Lead Series	£1747.16	1747.16	-5.31	0.00

Marwyn Asset Management Limited (CYM)
Regulated

Fund	Bid	Offer	D+/-	Yield
Marwyn Value Investors	£329.72	-	-6.14	0.00

Milltrust International Managed Investments ICAV (IRL)
mimi@milltrust.com, +44(0)20 8123 8316 www.milltrust.com
Regulated

Fund	Bid	Offer	D+/-	Yield
British Innovation Fund	£121.92	-	2.89	0.00
MAI - Buy & Lease (Australia)	A$103.45	-	0.50	0.00
MAI - Buy & Lease (New Zealand)	NZ$ 91.20	-	-6.06	0.00
Milltrust Global Emerging Markets Fund - Class A	$ 95.03	-	-0.06	0.00

Milltrust International Managed Investments SPC
em@milltrust.com, +44(0)20 8123 8316, www.milltrust.com
Regulated

Fund	Bid	Offer	D+/-	Yield
Milltrust Alaska Brazil Fund SP A	$105.77	-	0.90	0.00
Milltrust Laurium Africa Fund SP A	$105.44	-	1.91	0.00
Milltrust Marcellus India Fund SP	$134.09	-	-0.99	0.00
Milltrust Singular ASEAN Fund SP Founders	$132.13	-	-0.26	0.00
Milltrust SPARX Korea Equity Fund SP A	$138.62	-	3.03	0.00
Milltrust Xingtai China Fund SP A	$100.86	-	2.27	0.00
The Climate Impact Asia Fund SP A	$ 84.58	-	0.68	0.00
The Climate Impact Asia Fund (Class B)	$ 83.64	-	0.68	0.00

Mirabaud Asset Management (LUX)
www.mirabaud.com, marketing@mirabaud-am.com
Please find more details on our website: www.mirabaud-am.com
Regulated

Fund	Bid	Offer	D+/-	Yield
Mir. - Glb Strat. Bd I USD	$117.49	-	0.30	0.00
Mir. - DiscEur D Cap GBP	£161.32	-	0.34	0.00
Mir. - UKEq HA Cap I GBP	£136.70	-	-0.85	0.00

Oasis Crescent Global Investment Funds (UK) ICVC (UK)
Regulated

Fund	Bid	Offer	D+/-	Yield
Oasis Crescent Global Equity Fund USD A (Dist)	$ 36.52	-	0.19	0.50
Oasis Crescent Global Income Fund USD A (Dist)	$ 10.03	-	0.01	3.31
Oasis Crescent Global Low Equity Fund USD D (Dist)	$ 12.52	-	0.04	1.01
Oasis Crescent Global Medium Equity Fund USD A (Dist)	$ 13.99	-	0.04	0.32
Oasis Crescent Global Property Equity Fund USD A (Dist)	$ 8.11	-	0.00	1.50
Oasis Crescent Global Short Term Income Fund USD A (Dist)	$ 0.94	-	0.00	2.38
Oasis Crescent Variable Fund GBP A (Dist)	£ 9.69	-	0.00	0.39

Omnia Fund Ltd
Other International Funds

Fund	Bid	Offer	D+/-	Yield
Estimated NAV	$919.45	-	2.72	0.00

Orbis Investments (U.K.) Limited (GBR)
28 Dorset Square, London, NW1 6QG
www.orbis.com 0800 358 2030
Regulated

Fund	Bid	Offer	D+/-	Yield
Orbis OEIC Global Cautious Standard	£ 12.10	-	0.01	0.00
Orbis OEIC Global Balanced Standard	£ 20.25	-	0.00	0.37
Orbis OEIC Global Equity Standard	£ 23.45	-	0.00	2.46

Platinum Capital Management Ltd
Other International Funds

Fund	Bid	Offer	D+/-	Yield
Platinum All Star Fund - A	$150.49	-	-	-
Platinum Global Growth UCITS Fund	$ 8.76	-	-0.08	0.00
Platinum Essential Resources UCITS Fund SICAV USD Class E	$ 10.15	-	-0.11	0.00
Platinum Global Dividend UCITS Fund	$ 46.88	-	-0.35	0.00

Polar Capital Funds Plc (IRL)
Regulated

Fund	Bid	Offer	D+/-	Yield
Artificial Intelligence I USD ACC	$ 17.98	17.98	0.22	0.00
Asian Stars I USD Acc $	$ 15.20	-	0.14	0.00
Biotechnology I USD	$ 38.33	38.33	0.46	0.00
China Stars I USD Acc $	$ 11.31	11.31	0.30	0.00
Emerging Market Stars I USD Acc	$ 12.19	-	0.12	0.00
European Ex UK Inc EUR Acc	€ 15.31	15.31	-0.05	0.00
Financial Opps I USD	$ 14.70	-	0.09	2.09
Global Convertible I USD	$ 13.88	13.88	0.06	0.00
Global Insurance I GBP	£ 10.03	-	-0.09	0.00
Global Technology I USD	$ 83.64	-	1.40	0.00
Healthcare Blue Chip Fund I USD Acc	$ 19.82	19.82	0.17	0.00
Healthcare Dis I Acc USD $	$ 12.96	-	0.21	0.00
Healthcare Opps I USD	$ 69.13	-	0.89	0.00
Income Opportunities B2 I GBP Acc	£ 2.97	2.97	0.00	0.00
Japan Value I JPY	¥172.56	172.56	2.07	0.00
North American I USD	$ 36.21	36.21	0.27	0.00
Smart Energy I USD Acc $	$ 10.71	10.71	0.12	0.00
Smart Mobility I USD Acc $	$ 10.11	10.11	0.12	0.00
UK Val Opp I GBP Acc	£ 12.49	12.49	-0.05	0.00

Private Fund Mgrs (Guernsey) Ltd (GSY)
Regulated

Fund	Bid	Offer	D+/-	Yield
Monument Growth 25/07/2023	£543.35	548.53	12.17	0.00

Prusik Investment Management LLP (IRL)
Enquiries - 0207 493 1331
Regulated

Fund	Bid	Offer	D+/-	Yield
Prusik Asian Equity Income B Dist	$181.82	-	-0.02	4.79
Prusik Asia Fund U Dist.	£200.81	-	-0.23	0.00
Prusik Asia Sustainable Growth Fund A Acc	$ 89.61	-	0.15	0.00

Purisima Investment Fds (CI) Ltd (JER)
Regulated

Fund	Bid	Offer	D+/-	Yield
PCG B ✢	331.52	-	1.50	0.00
PCG C ✢	322.08	-	1.45	0.00

Ram Active Investments SA
www.ram-ai.com
Other International Funds

Fund	Bid	Offer	D+/-	Yield
RAM Systematic Emerg Markets Eq	$234.50	234.50	1.77	-
RAM Systematic European Eq	€536.30	536.30	-1.87	-
RAM Systematic Funds Global Sustainable Income Eq	$156.90	156.90	0.41	0.00
RAM Systematic Long/Short European Eq	€143.40	143.40	-0.06	-
RAM Systematic US Sustainable Eq	$364.81	364.81	1.55	-
RAM Tactical Global Bond Total Return	€139.79	139.79	0.22	-
RAM Tactical II Asia Bond Total Return	$146.54	146.54	-0.09	-

Ruffer LLP (1000)F (UK)
65 Gresham Street, London, EC2V 7NQ
Order Desk and Enquiries: 0345 601 9610
Authorised Inv Funds
Authorised Corporate Director - Link Fund Solutions

Fund	Bid	Offer	D+/-	Yield
LF Ruffer Diversified Rtrn C Acc	99.82	-	-0.25	1.90
LF Ruffer Diversified Rtrn C Inc	97.99	-	-0.25	1.91
LF Ruffer Equity & General C Acc	579.40	-	-0.14	0.75
LF Ruffer Equity & General C Inc	523.45	-	-0.13	0.76
LF Ruffer Gold C Acc	235.46	-	-6.33	0.00
LF Ruffer Gold C Inc	142.51	-	-3.83	0.00
LF Ruffer Total Return C Acc	536.60	-	-3.31	2.97
LF Ruffer Total Return C Inc	330.27	-	-2.04	3.03

Rubrics Global UCITS Funds Plc (IRL)
www.rubricsam.com
Regulated

Fund	Bid	Offer	D+/-	Yield
Rubrics Emerging Markets Fixed Income UCITS Fund	$141.01	-	0.25	0.00
Rubrics Global Credit UCITS Fund	$ 16.91	-	0.02	0.00
Rubrics Global Fixed Income UCITS Fund	$170.86	-	0.32	0.00

Slater Investments Ltd (UK)
www.slaterinvestments.com; Tel: 0207 220 9460
FCA Recognised

Fund	Bid	Offer	D+/-	Yield
Slater Growth A Acc	595.91	595.91	-3.46	0.00
Slater Income A Inc	136.45	136.45	-0.47	5.22
Slater Recovery A Acc	308.35	308.35	-0.99	0.00
Slater Artorius	258.63	258.63	-1.14	0.57

Stonehage Fleming Investment Management Ltd (IRL)
www.stonehagefleming.com/gbi
enquiries@stonehagefleming.com
Regulated

Fund	Bid	Offer	D+/-	Yield
SF Global Best Ideas Eq B USD ACC	$256.57	-	2.02	0.00
SF Global Best Ideas Eq D GBP INC	£302.59	-	2.01	0.00

Superfund Asset Management GmbH
www.superfund.com, +43 (1) 247 00
Other International Funds

Fund	Bid	Offer	D+/-	Yield
Superfund Green Gold	$984.82	-	13.25	0.00
Superfund Green Silver	$876.13	-	9.86	0.00

Regulated

Fund	Bid	Offer	D+/-	Yield
Superfund Green US$	$730.72	-	4.50	0.00

Toscafund Asset Management LLP (UK)
www.toscafund.com
Authorised Funds

Fund	Bid	Offer	D+/-	Yield
Aptus Global Financials B Acc	£ 5.35	-	-0.01	3.43
Aptus Global Financials B Inc	£ 3.32	-	-0.01	3.52

Toscafund Asset Management LLP
www.toscafund.com

Fund	Bid	Offer	D+/-	Yield
Tosca A USD	$430.49	-	-23.39	0.00
Tosca Mid Cap GBP	£129.03	-	-22.29	0.00
Tosca Opportunity B USD	$252.81	-	-15.03	0.00
Pegasus Fund Ltd A-1 GBP	£ 30.71	-	-5.42	0.00

Troy Asset Mgt (1200) (UK)
65 Gresham Street, London, EC2V 7NQ
Order Desk and Enquiries: 0345 608 0950
Authorised Inv Funds
Authorised Corporate Director - Link Fund Solutions
Trojan Investment Funds

Fund	Bid	Offer	D+/-	Yield
Trojan Ethical O Acc	127.68	-	0.33	0.07
Trojan Ethical Global Inc O Acc	103.82	-	-0.11	2.75
Trojan Ethical Global Inc O Inc	99.83	-	-0.11	2.80
Trojan Ethical O Inc	127.59	-	0.34	0.08

Data Provided by

MORNINGSTAR®

www.morningstar.co.uk

Data as shown is for information purposes only. No offer is made by Morningstar or this publication.

Guide to Data

The fund prices quoted on these pages are supplied by the operator of the relevant fund. Details of funds published on these pages, including prices, are for the purpose of information only and should only be used as a guide. The Financial Times Limited makes no representation as to their accuracy or completeness and they should not be relied upon when making an investment decision.

The sale of interests in the funds listed on these pages may, in certain jurisdictions, be restricted by law and the funds will not necessarily be available to persons in all jurisdictions in which the publication circulates. Persons in any doubt should take appropriate professional advice. Data collated by **Morningstar**. For other queries contact **reader.enquiries@ft.com +44 (0)207 873 4211**.

The fund prices published in this edition along with additional information are also available on the Financial Times website, **www.ft.com/funds**. The funds published on these pages are grouped together by fund management company.

Prices are in pence unless otherwise indicated. The change, if shown, is the change on the previously quoted figure (not all funds update prices daily). Those designated $ with no prefix refer to US dollars. Yield percentage figures (in Tuesday to Saturday papers) allow for buying expenses. Prices of certain older insurance linked plans might be subject to capital gains tax on sales.

Guide to pricing of Authorised Investment Funds: (compiled with the assistance of the IMA. The Investment Association, Camomile Court 23 Camomile Street, London EC3A 7LL. Tel: +44 (0)20 7831 0898.)

OEIC: Open-Ended Investment Company. Similar to a unit trust but using a company rather than a trust structure.

Different share classes are issued to reflect a different currency, charging structure or type of holder.

Selling price: Also called bid price. The price at which units in a unit trust are sold by investors.

Buying price: Also called offer price. The price at which units in a unit trust are bought by investors. Includes manager's initial charge.

Single price: Based on a mid-market valuation of the underlying investments. The buying and selling price for shares of an OEIC and units of a single priced unit trust are the same.

Treatment of manager's periodic capital charge: The letter C denotes that the trust deducts all or part of the manager's/operator's periodic charge from capital, contact the manager/operator for full details of the effect of this course of action.

Exit Charges: The letter E denotes that an exit charge may be made when you sell units, contact the manager/operator for full details.

Time: Some funds give information about the timing of price quotes. The time shown alongside the fund manager's/operator's name is the valuation point for their unit trusts/OEICs, unless another time is indicated by the symbol alongside the individual unit trust/OEIC name.

The symbols are as follows: ✠ 0001 to 1100 hours; ♦ 1101 to 1400 hours; ▲ 1401 to 1700 hours; # 1701 to midnight. Daily dealing prices are set on the basis of the valuation point, a short period of time may elapse before prices become available. Historic pricing: The letter H denotes that the managers/operators will normally deal on the price set at the most recent valuation. The prices shown are the latest available before publication and may not be the current dealing levels because of an intervening portfolio revaluation or a switch to a forward pricing basis. The managers/operators must deal at a forward price on request, and may move to forward pricing at any time. Forward pricing: The letter F denotes that managers/operators deal at the price to be set at the next valuation.

Investors can be given no definite price in advance of the purchase or sale being carried out. The prices appearing in the newspaper are the most recent provided by the managers/operators. Scheme particulars, prospectus, key features and reports: The most recent particulars and documents may be obtained free of charge from fund managers/operators. * Indicates funds which do not price on Fridays.

Charges for this advertising service are based on the number of lines published and the classification of the fund. Please contact **data@ft.com or call +44 (0)20 7873 3132** for further information.

Where Anatolian rock meets Ghanaian gospel

There were musical surprises around every corner at this year's Womad Festival, writes David Honigmann


Kwon Song-Hee of South Korean band Leenalchi — Redferns

Above: Israeli-born singer Liraz played music that reflected her Iranian heritage. Below: Femi Kuti — Garry Jones

When The Beatles finished recording their *Sgt Pepper* album in 1967, they broadcast it at dawn over the rooftops of Chelsea. Last weekend Peter Gabriel, finishing up his first album proper in 20 years, arranged for *i/o* (about ageing and grief — for parents and for the planet) to be pumped out through multiple speakers at an "immersive listening session" in a forest clearing underneath a seven-metre-wide replica of the Moon at Womad Festival in Wiltshire. In which setting it sounded reassuringly timeless and occasionally sublime.

But a whole festival was taking place all around, with surprises everywhere, from joyous northern Ghanaian Frafra synth gospel to samba rap to Welsh and Colombian harp battles. Last year ADG7 made a splash with their eclectically instrumented modern take on northern Korean folktales. Following in their footsteps came Leenalchi from South Korea, who play an updated form of pansori, the austere narrative music performed by a singer and a single drummer. But the band, with two bass guitars, three singers (in their Womad configuration, at least), keyboard bleeps and interjections and relentless kit drums, were anything but austere. The singers swapped lines around conversationally and then dramatically; cartoon woodblock animations unspooled behind "Tiger Is Coming" and then full-on dayglo Hallyu for "Please Don't Go".

Mokoomba, Victoria Falls's finest musical export, staked their claim as future headliners. The Zimbabwean group opened with a brooding "Masangango", matching the gathering clouds. Trustworth Samende snapped a guitar string and Abundance Mutori filled in with a dub-heavy bass vamp until Samende was ready to unleash the band's trademark mix of jit and zamrock. By the end, as "Welelye" segued into "Africa", the crowd were dancing and shouting amid the raindrops.

Orchestral Qawwali Project brought a full string orchestra, plus French horn and a gong hovering, like Chekhov's gun waiting to be deployed. But the frontline is a traditional Qawwali party: harmoniums, tabla, backing singers pushing with steady, accelerating claps, and a powerful singer, Abi Sampa.

She and musical director Rushil Ranjan have taken on the tricky task of marrying western classical and Sufi devotional music and bringing it to a festival that Ranjan described as "Qawwali's spiritual home in the west". Some Birmingham suburbs might dispute that; but the reprises of qawwals performed at earlier Womads by Nusrat Fateh Ali Khan were rapturously energetic. The crowd thrilled as a harmonium intro resolved into "Allah-Hoo"; and a closing run through endless false climaxes on "Dam Mast Qalandar", the basis for Nusrat's "Mustt Mustt", exemplified traditional Qawwali bad behaviour as the orchestra grandiosely overran their stage time and had the power pulled mid-flight, to disappointed boos and a standing ovation.

The singer Liraz, born in Israel to an Iranian Jewish family, was greeted by a sea of waving red, white and green flags. Vexillological analysis identified the lion-and-sun emblem of pre-revolutionary Iran, which her parents left to move to Tel Aviv. She sings entirely in Farsi, in solidarity with Iranian women; her last two albums were made with musicians from Iran, the former with soundfiles traded over the internet, the latter in person in a clandestine session in an Istanbul basement.

Here her Israeli band captured their heady amalgam of Anatolian rock, Shah-epoch Tehran disco and "Babooshka"-era Kate Bush. Liraz swapped her glittery gold veil to brandish her own Iranian flag, embroidered with the words "Women Life Freedom".

Palestinian singer Reem Kelani, making a welcome return to the festival in a shady Arboretum, took her jazz trio on a musical tour of the Arab world. There was polyrhythmic clapping on wedding songs ("If you let us in," promised the groom's family, "we will make you leader of all the Arab tribes"), then a Galilean lullaby shifting in and out of darkness with gentle piano triplets from Bruno Heinen. A galloping reading of Sayyid Darwish's "The Porter's Anthem" brought Weimar to Cairo. Nets were cast and crews gathered together with a brisk "yallah" on a celebration of fishing, from the trawlers of Gaza to the pearl divers of Kuwait, where Kelani grew up. Best of all was a sojourn in Al-Andalus: Carlos Cano's song about the last Arab ruler of Seville, al-Mu'tamid ibn Abbad, was followed by a setting of the poet-king's own farewell to the Alcazar and to the city.

The Iranian classical musician Kayhan Kalhor made one of the albums of the year with the kora player Toumani Diabaté, *The Sky Is the Same Colour Everywhere*. Here Kalhor was joined by the equally talented Erdal Erzincan from Turkey. Iranian spike fiddle (kamancheh) and Turkish lute (baglama) are a perfect fit: the two men played a single uninterrupted hour-long flow. Kalhor set up sad descending melodies, occasionally dropping his bow to use the kamancheh for percussion, tapping beats on its neck, playing pizzicato, strumming chords; Erzincan watched and waited, keeping time on the baglama before diving into fast solos of his own. It all culminated in a brisk jig, before the two locked eyes and finished perfectly in sync, as if a long and complex equation had finally been solved.

> By the end of Mokoomba's set, the crowd were dancing and shouting amid the rain

"If you want to lie down," offered Estonian singer Mari Kalkun, "that's fine by me." Even in the early hours of Sunday morning, no one accepted her invitation. On record her music sounds utterly organic, as if hewn from the earth, but in performance she was constantly sampling and looping herself with foot pedals so the layered construction was apparent. Accompanying herself on piano and a kannel zither the size of a bodyboard, she sang of creation, of the dying languages of her corner of Estonia, of the world tree that blocks out the light. The delicate melody of "Tõistmuudu" rang clear; on "Mu Vallakoolomise Paal Kiil" the zither sparkled as if the night was raining stars.

Heavy rains on Sunday left the crowds skating gingerly on mud. Horace Andy delivered a groundshaking reggae set, reminding the audience and the food stalls that money is the root of all evil while mining the best of his own career and his collaborations with Massive Attack. Japanese psych trio Kuunatic played an extended version of their science fiction concept album, *Gate of Klüna*, with a deep thump of drums, sternum-cracking basslines and shrine instrumentation of flute and shakers. Soul II Soul brought matters back to reality. And Femi Kuti & the Positive Force closed out with high-energy Afrobeat for those who had resisted the siren call of the M4, railing against corruption, bad education and healthcare and failing electricity supplies, messages more than usually universal.

"I've got a lot on my mind," he sang, as he turned this corner of a Wiltshire field into downtown Lagos. "A lot on my mind."

womad.co.uk

Zimbabwean group Mokoomba
Nathan Brown

Slick, dark and grimly entertaining

OPERA

Le nozze di Figaro
Salzburg Festival
★★★★☆

Shirley Apthorp

Count Almaviva is a mafia boss, Figaro one of his henchmen. Bartolo is a crooked cleric with a heroin habit, also on his payroll. In this hard-drinking, drug-addicted milieu, only Cherubino is sober; poetry is his drug of choice. And everyone is in lust with him.

Martin Kušej's new staging of Mozart's *Le nozze di Figaro* for the Salzburg Festival is slick, dark and grimly entertaining. The set, by Raimund Orfeo Voigt, is a faceless concrete bunker — part luxury penthouse, part underground car park, part boarding school bathroom. Antonio's garden is a rubbish chute.

That the Count is a murderer and a rapist would probably have been clear without the addition of a blood-smeared chorus of white-clad girls, but Kušej wouldn't be Kušej without a bit of extra gore. Susanna is clearly attracted to him despite his evil tendencies; and of course, the Countess knows.

In the end, although everyone has a gun, this is a fairly conventional *Figaro*. By the fourth act, Kušej seems to have run out of ideas, and lets his characters crawl through beds of rushes as the libretto dictates, with no suggestion of why the implausible costume swap between the women should work. The audience boos anyway.

Kušej's handiwork is meticulous, though, and his characters live and breathe. More than this, everything breathes with the music. Raphaël Pichon drives the Vienna Philharmonic far from its comfort zone, away from cushioned and syrupy sound and into the world of crisp, hard-edged classicism — brisk, taut and wide awake. Kušej's staging is musical, Pichon's conducting theatrical; the two work together to a degree that is far more rare than it should be. Every detail has been carefully thought through, and the symbiosis is breathtaking.

When Lea Desandre's Cherubino sings, the Countess and Susanna fall in love with the sheer beauty of sound; so do we. Desandre's young lover is neither cute nor childish; (s)he is gamine, androgynous and superlatively seductive. At last, we can believe the extent of the Count's jealousy.

The singing is uniformly superlative. Sabine Devieilhe's Susanna is knowing, clever and capable of stopping time with the purity of her upper register. Krzysztof Bączyk is a big, dangerous Figaro, wry and thuggish yet utterly likeable. Andrè Schuen is suave and deadly as Almaviva; Adriana González has tragic stature as the neglected Countess. All the voices are sonorous, well-alanced, nuanced and clean, and recapitulations are discreetly and tastefully ornamented. Listening is bliss.

This is a *Figaro* without any major revelations, but it is very, very well-made.

To August 28, salzburgerfestspiele.at

Sabine Devieilhe and Krzysztof Bączyk as Susanna and Figaro in 'Le nozze di Figaro'
Matthias Horn

FT BIG READ. TECHNOLOGY

The US military is opening up to defence and weapons start-ups as evolving technology begins to transform modern warfare — and this whiff of opportunity has spurred a gold rush among investors.

By Tabby Kinder

Silicon Valley and the AI arms race

For eight years, a fleet of bright orange, unmanned sailboats bobbed around the Bering Sea near Alaska, counting pollock and feeding data to the US government's oceanic exploration agency.

Amassing an unrivalled database of ocean maps which could then be analysed by machine learning programs, the autonomous vessels made by Saildrone, a start-up founded in 2013 by young British engineer Richard Jenkins, made significant contributions to scientific research on climate change.

But as geopolitical tensions between the US and China increased, Saildrone landed a much bigger fish, one with a fresh sense of urgency and a significant budget: the US Department of Defense.

By 2021, the San Francisco-based company was helping the US Navy to develop an armada of artificial intelligence systems to conduct surveillance in international waters, including the Arctic Ocean surrounding Russia and the South China Sea.

Silicon Valley venture capitalists rushed to back it, investing $100mn in the small company in 2021 compared to $90mn in total prior to that. Shortly after, it started developing its "Saildrone Surveyor" for the US Navy — a 65-foot autonomous vessel designed for deep ocean intelligence, such as surveillance and reconnaissance. "We were 10 years ahead," says Jenkins, the start-up's chief executive, arguing that his company is a "good example of where commercial tech is so much more advanced and more nimble" than the systems being developed by the US military.

It is a blueprint that could prove crucial for the US as it races to evolve its defence strategy from a reliance on heavy hardware such as tanks, ships and aircraft to more nimble investments in disruptive systems, such as artificial intelligence that has the power to transform modern warfare.

Three factors are driving that shift: China's rapid development of advanced weapons systems that negate US defences, the war in Ukraine which has highlighted the advantages of integrating commercial tech into a nation's military and the startling advances in AI.

For all these reasons, the US government has become a far more motivated customer, while a downturn in deals and valuations in Silicon Valley has made the public defence sector seem like a stable and reliable option for start-ups.

The whiff of opportunity has spurred a gold rush among investors in California, who are piling billions of dollars into defence and weapons technology start-ups. Venture capital in the sector has doubled from around $16bn in 2019 to $33bn in 2022, PitchBook data shows.

But getting the defence department to reallocate some of its mammoth $886bn budget from its five incumbent prime contractors, which include Lockheed Martin and Boeing, to the thousands of entrepreneurs producing cutting-edge systems remains an obstacle. Tech entrepreneurs and investors have accused military leaders of paying lip service to the benefits of disruptive technology, but holding back contracts.

From left: an Epirus Leonidas prototype developed to disable drone swarms; a Ukrainian soldier with a drone; a modified F-16 tests AI guidance systems; and the Saildrone Surveyor
FT montage/Getty Images/Reuters

"For the first time ever, the US military is dependent on commercial tech to win a war, but they're not organised to deal with commercial tech," says Steve Blank, a tech veteran and founding member of the Gordian Knot Center at Stanford, which was set up to train innovators in national security.

"China operates like Silicon Valley," he adds, pointing to the tech sector's speed of innovation and agility. "On a good day, the DoD operates like Detroit", the US city that never recovered from the decline of auto-making.

Cherissa Tamayori, director of acquisition at the Defence Innovation Unit (DIU), an arm of the DoD that was set up in 2015 to push commercial technology and help companies navigate the bureaucracy of military procurement, agrees that Silicon Valley is "significantly important" to national security.

"We need to make sure our military is equipped with the best tech out there, wherever it comes from," she says. "Our adversaries overseas are using commercial technologies, and that is increasing the urgency and need for us to figure this out."

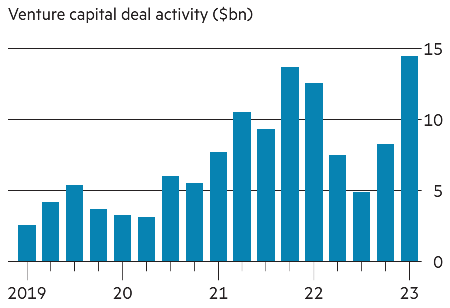
A slow start

Until recently, the Pentagon's efforts to tap the Silicon Valley innovation machine for national defence had been underwhelming.

A small group of start-ups has reaped some rewards. Six of them — ShieldAI, Hawkeye 360, Anduril, Rebellion Defense, Palantir Technologies and Epirus — have been valued at over $1bn. Only a handful of aerospace or space companies that provide defence capabilities have attracted colossal investment, such as Elon Musk's SpaceX, which is nearing a valuation of $150bn.

Anduril has won a blockbuster public contract, worth nearly $1bn, from the US Special Operations Command for technology that can detect drones and shoot them out of the sky. However, large government contracts of the scale required to manufacture complex systems remain a rarity. Instead, venture capital firms such as Andreessen Horowitz, Lux Capital and 8VC have provided much of the early backing, while a slow and frustrating public procurement process means many of the early winners have had to rely on billionaire founders to survive their formative years. These include data analytics group Palantir, set up by tech entrepreneur Peter Thiel, and Anduril, founded by Palmer Luckey after he sold his virtual reality start-up Oculus to Facebook.

US venture investment in defence technology is surging
Venture capital deal activity ($bn)



Source: PitchBook

"I have faced this problem every day for eight years," says Brandon Tseng, founder of ShieldAI, which launched in 2015 and is now valued at $2.3bn. "Yes, we have scaled, but we have to continue to scale, and the amount we have been able to capture has been minuscule in comparison to the prime [contractors]." For Saildrone founder Jenkins, the system worked — eventually. "Could we have got there sooner with better contracting? Absolutely."

The source of frustration is the rigid planning, programming, budget and execution buying framework, known as PPBE, used to allocate resources across the military. It was established in the 1960s to end conflicts of interest, but the layers of bureaucracy make it notoriously slow and difficult to navigate. Competition waned as the defence market consolidated. Both Palantir and SpaceX resorted to suing the Pentagon for the right to compete for business.

Designed to acquire physical assets like aircraft parts and tanks, critics say the framework is unsuitable for the kind of software that is set to revolutionise future warfare. It takes around two years to land a serious contract, a timescale that has pushed many inventors into the so-called Valley of Death in which desirable prototypes are lost because the companies behind them wither and die waiting to win work.

Speed is a factor for another reason. "By the time you get through the slog, it is two years later and the technology is obsolete," says Thomas Tull, a billionaire investor and chair of multibillion-dollar US Innovative Technology Fund.

Initiatives from the DoD, such as the DIU and Afwerx, which was set up in 2017 to help young companies sell to the US Air Force, have had limited budgets. In-Q-Tel, the venture arm of the CIA, which was founded in 1999, has made hundreds of investments in start-ups such as Keyhole, which later became Google Earth, and Palantir.

But its funds remain relatively small. It invests between $500,000 and $3mn, and companies the DIU has backed have been awarded around $5bn in contracts from US defence agencies, a fraction of the trillions of dollars spent on defence procurement since its launch.

China's hypersonic missile tests, followed by Russia's invasion of Ukraine in 2022, focused minds at the Pentagon. Reform was becoming essential.

The catalysts for change

Ukraine's deployment of dual-use technology — capabilities that have both commercial and defence applications — such as satellite imagery and autonomous drones is among the biggest catalysts for the US to bridge the chasm between Washington and California.

When Musk's SpaceX opened up the Starlink internet service, which is resistant to Russian interference, it was the first time a commercial company had provided the backbone for a country's military capability during wartime.

"What's happened in Ukraine has been a game-changer. More commercial technology is being used than during any other conflict," says Mike Brown, a venture capitalist at Shield Capital and the former director of the DIU. "That has got the wheels turning for the US military, which is saying, 'We need to adopt far more of this'."

There is also an increasing pressure to tap into the brilliant minds of Silicon Valley and its deep-pocketed investors if the US wants to catch up with China's advanced technology. Beijing's testing of anti-ship ballistic missiles and long-range hypersonic missiles that can probably evade US defence systems underscored how critical innovation is as a deterrence.

Blank, of Stanford, puts it like this: "The question [for the Pentagon] is what else should we be putting in the air or in the water to make a problem for China so complicated that they have to think about peace, not conflict."

And, then of course, came the biggest game-changer of all: the rapid development of AI, already believed to be the most significant invention to the future of war since the US developed the atomic bomb in the 1940s. The existing military "kill chain" — shorthand for the process by which warfighters identify, track and kill targets — would be rendered obsolete by AI: kills could potentially be carried out at hypersonic speeds without human involvement.

Mass firing of long-range anti-ship missiles could wipe out hardware such as aircraft carriers — on which the US spends tens of billions a year — on day one of a conflict with China. The battlefield infrastructure of the 20th and 21st centuries would stand little chance against swarms of autonomous drones, unmanned attack submersibles and synthetic aperture radar that can observe practically any movement on the planet.

"The advancement [of AI] over the past six months has changed everything," says Tull, of the ITF, adding that the technology is still in relative infancy.

Several defence tech start-ups that harness the power of AI have already changed the way the US military gathers and deploys intelligence. Almost half of Palantir's $1.9bn revenues last year came from US government contracts, including to provide AI software that uses surveillance technology and data analytics to track and follow suspected terrorists, for example. In April, Palantir demonstrated how its AI could be used to rapidly analyse a battlefield situation, generate potential courses of action and submit an operational plan to "neutralise" the threat.

San Francisco-based PrimerAI, which scrapes thousands of sources of "open intelligence" and uses natural language processing to analyse it, delivered crucial intelligence to the US shortly before Russia invaded Ukraine.

AI is also changing military hardware. In December 2022, ShieldAI piloted the first unmanned F-16 fighter jet at an airfield north of Los Angeles. It was a breakthrough for the US Air Force, which has contracted ShieldAI to develop unmanned aerial vehicles.

> 'For the first time, the US military is dependent on commercial tech to win a war, but they're not organised to deal with commercial tech'

> 'The AI advancement over the past six months has changed everything'

American start-ups like BlackSky, Capella and PlanetLabs — remote sensing companies that fuse AI and satellite technology to provide real-time detailed overhead images — have allowed Ukraine to pinpoint the precise location and status of advancing Russian convoys. Now they have prototype deals with the DIU.

Between 2001 to 2016, while the US was focused on the war on terror, Russia and China were building advanced capabilities that countered what we have been using, says ShieldAI boss Tseng. "We needed a plan to modernise [in order to deal with] these threats."

Tech battlefield

So far, that plan has not been borne out by the numbers. The 100 largest venture-funded defence start-ups have collectively raised $42bn from investors in their lifetimes. By contrast, the total revenue they have made from government contracts is between $2bn and $5bn, according to the Silicon Valley Defense Group — a non-profit organisation aimed at increasing collaboration between the region and politicians. Of those 100 companies, two-thirds are start-ups that have developed space or machine-learning technologies.

In a report published in July, the SVDG accused the DoD of dishing out "door prizes but no sustained commitments" to include start-ups producing cutting-edge systems in major defence acquisition programmes. This echoed the sentiment of a letter from founders and investors of Silicon Valley start-ups to defence secretary Lloyd Austin weeks earlier, criticising the government's "antiquated" process for buying military technology. The letter also warned the US was rapidly losing ground on the "technological battlefield".

It would be wrong to claim the US is doing nothing. Last year's Defense Authorisation Act established a Congressional commission to examine ways to modernise military acquisition. In April, the DoD reorganised the DIU, elevating its new director, former Apple executive Doug Beck, to sit directly under Austin. Beck, who served in the US Navy for 26 years before joining Apple, where he reported directly to chief executive Tim Cook, is regarded as key to accelerating plans to bring the military and Silicon Valley closer together. Congress allotted $111mn to fund the DIU's mission in 2023, about $45mn more than the DoD had requested.

That the DIU introduced 100 new vendors to the Pentagon under his tenure shows a shift is under way, says former director Brown. "But it's not yet happening at scale," he adds.

"If you analyse total spending, for now it looks like we're buying the same large hardware we always have. But over the next couple of years, that will start to change."

The FT View

FINANCIAL TIMES
'Without fear and without favour'

ft.com/opinion

The Bank of Japan's timely tweak

Reaching the inflation target means getting serious about fiscal policy

Kazuo Ueda has passed his first big test as governor of the Bank of Japan. With last week's cleverly designed tweak to yield curve control — as the BoJ's cap on 10-year bond yields, in place since 2016, is known — he appears to have pulled off the delicate task of changing that policy without causing financial markets to fear an imminent rise in interest rates. Ueda's careful, patient stance is sound: Japan needs to entrench a habit of raising wages before the interest rate cycle turns downwards in the rest of the world. Rather than the BoJ, it is Japan's government that has more to do on economic policy.

The central bank's immediate challenge last week was to raise the cap on 10-year bond yields from 0.5 per cent without signalling a normalisation of policy. It did this by keeping the 0.5 per cent figure in place but said it will now regard this as a "reference"; it raised the hard cap on yields to 1 per cent. The tactical success of this manoeuvre is clear from the limited market reaction, with 10-year yields rising modestly to around 0.6 per cent, while the yen is little changed. Ueda should feel well satisfied.

Broadly speaking, yield curve control has worked well in Japan, providing a clear guarantee of ultra-easy monetary policy through some difficult times for the economy. Nevertheless, issues have become apparent over time. In particular, fixing bond yields has made the yen highly sensitive to interest rate changes overseas, and as with any fixed price, the interest rate cap is vulnerable to speculative attack if markets think it may be changed. Raising the cap now, when there is no acute market pressure to do so, is therefore an astute move by Ueda. It provides insurance against further yen weakness at limited cost.

With inflation running at 4.2 per cent, excluding volatile fresh food and energy prices, there have been calls for Japan to tighten monetary policy much faster. Ueda should beware of this path. For the past 30 years, the BoJ has been struggling to meet its 2 per cent inflation objective. A crucial ingredient to hit the target sustainably in future is a steady rise in labour incomes, but despite stronger wage-setting this year, Japan's economy is still some way from delivering.

The BoJ expects inflation to hit its target next year before dipping below it again the year after that. Meanwhile, China is on the verge of deflation and the rate cycle in the US and Europe is near a peak, so the external inflationary pressures on Japan are likely to abate.

Rather than the BoJ rushing to raise interest rates, the government of Prime Minister Fumio Kishida needs to complement monetary policy by setting out clearer fiscal plans. Efforts to boost worker productivity and support innovation in the private sector would help deliver the sustained wage growth needed to meet the 2 per cent target. Yet debate in Japan is centred on the government's desire to increase defence spending and pay for it with gimmicks such as a potential sale of shares in telecoms company NTT. Japan emerged from Covid with a renewed fiscal deficit adding to its enormous public debt. Further out, spending on pensions and healthcare will inevitably have to increase as the population ages.

> Rather than the BoJ rushing to raise interest rates, the government needs to complement monetary policy by setting out clearer plans

Getting fiscal and monetary policy to work together has been a constant challenge for economic management in Japan. Part of the argument for stimulative monetary policy was always the need to generate enough private demand to allow for fiscal consolidation. If Japan really is getting close to sustainable, on-target inflation then it behoves the government to think seriously about a fiscal policy that works in that environment. Ueda has started well, but the Bank of Japan cannot do this alone.

Opinion Society

Barbenheimer and the pointlessness of rivalry

Ewan White

Stephen Bush

The phrase "know your enemy" is generally synonymous with the importance of keeping tabs on the competition, whether by simply sampling your rival's product or by more nefarious means such as espionage. But another, less frequently used meaning is just as important: correctly identifying who your rivals actually are.

That's the act of corporate genius that saw the marketing and creative teams behind *Oppenheimer* and *Barbie* embrace the light-hearted meme about these two divergent films sharing a release date. Not only did it see more than 200,000 people in the US buy tickets for both films on the same day, it also increased the amount of free media that both received.

Although not much connects a brilliant, three-hour polemic about the nuclear bomb with a witty, self-referential comedy on a children's doll, the fact that mention of one has been largely accompanied by mention of the other has given them a greater level of prominence. It's part of why the pair managed an opening weekend box office performance hitherto reserved for the biggest of the Marvel movies and other established film franchises.

> The idea that those you superficially compete with aren't your biggest threat almost always holds true

The studios' coup lay in realising that, while plenty of people will see both films, they are not, in any meaningful sense, competing with one another. There are certainly lessons here for film. An ill-conceived sense of who is and isn't a rival, has seen many production companies set up their own streaming services, spending vast sums on new content to attract subscribers. Initiatives like Lionsgate Plus or Disney's decision to rush new releases from the cinema (a model with a clear path to profit) to streaming (which is not yet proven) will surely endure as symbols of the excesses brought about by near-zero interest rates.

But how much sense do they make as commercial strategies? Ironically, they fail to internalise the most important lesson from Netflix, whose founder Reed Hastings once named his major competitor as "sleep".

But the lessons of "Barbenheimer" apply far more broadly than entertainment. Politicians today would also be well-served by thinking very seriously about who are their competitors actually are. In France, the various political parties, other than the far-right National Rally, might jostle for power but, come the second round, the "republican front" has recognised the difference between competitor and enemy. Now that old understanding is fraying, which could result in disaster for both France and Europe.

In the US, the "No Labels" centrist group has convinced themselves that their most important competitors are the daft ideas that can be found in both political parties. But while Democrats certainly have no shortage of eccentric beliefs, a victory for Joe Biden is extremely unlikely to prevent centrists from clawing back power at a subsequent election. A victory for Donald Trump just might.

In the UK, Rishi Sunak seizes on whatever dividing line he can find with Keir Starmer, including the latter's willingness to build on the greenbelt. But Sunak's biggest enemy isn't Starmer: it's the country's sluggish growth rates. Even if he is able to pull off a remarkable turnaround in Tory fortunes, he will do so at the cost of further limiting his own ability to deliver the policies he wants: such as teaching maths to 18, an admirable aim which cannot possibly be met without finding some way to increase the amount of money in the education budget.

Sunak surely can't do that without increasing sluggish growth, and part of the solution there is to abandon the dysfunctional planning regime. All too often, the prime minister is a Lionsgate Plus politician: what he does makes sense as part of a contest with his opposite number, but as an overall strategy it has a hole in it.

Most of us, of course, are not considering how to hold off Marine Le Pen in France or protect the rules-based order in the US or boost the UK's sluggish growth. But the "Barbenheimer principle" — that you should remember that the people you superficially compete with aren't the biggest threat to you — holds true almost everywhere.

In our romantic lives, our rivals aren't every attractive person our partners might happen across in work or at play. It's a general sense of drift or neglect. In our professional lives, we aren't really in direct competition with our internal rivals. It's our ability to make more sales or more discoveries or more entertainment that drives how we do. All too often, we end up in pointless acts of intrigue against our supposed "rivals" rather than working on the real obstacles to success.

stephen.bush@ft.com

Letters

Email: letters.editor@ft.com
Include daytime telephone number and full address
Corrections: corrections@ft.com
If you are not satisfied with the FT's response to your complaint, you can appeal to the FT Editorial Complaints Commissioner: complaints.commissioner@ft.com

Starmer has a chance to seize high ground on climate policies

If, as seems likely, the Conservatives conclude from the Uxbridge and South Ruislip by-election that their best hope in the general election will be to turn themselves into opponents of net zero climate policies, what should Labour do? As Robert Shrimsley notes ("Conservatives declare war on Big Everything", Opinion, July 27), there are voices within the party (including possibly his own) urging Keir Starmer to follow suit.

But this would be a strategic mistake. This is not just because net zero is a moral and economic imperative in the face of rapidly accelerating climate change, or even because opinion polls show that climate policies have very wide public support, including in both the red and blue "walls". It is because Tory climate scepticism can finally give Starmer a defining narrative.

The Labour leader's competence and decency are evident. But the polls and focus groups show that he lacks definition: people don't know what he stands for.

The recent watering down of various policies in pursuit of fiscal rectitude only makes this problem worse. To give people reason to vote for them, politicians need "narrative identity": clearly defined causes they are for, and others they are against.

The Tories' lurch into an anti-green position gives Starmer the opportunity to achieve such an identity. He should define himself as the pro-climate-action leader, passionately championing a safe future for young people and voters' grandchildren, and challenging the Conservatives head-on as truth-deniers and handmaidens of planetary disaster.

The world is crying out for leaders who can acknowledge honestly what is happening as the wildfires rage and Antarctica melts. Starmer is fortunate that this can also give him the clarity he needs to overcome his major weakness in public opinion polling.

Michael Jacobs
Professor of Political Economy, University of Sheffield, Sheffield, UK

Lobbying activity should be captured on register

It speaks volumes that both the Conservative head of the Commons public administration and constitutional affairs committee and the lobbying watchdog have criticised various elements of the government's proposed reforms to lobbying rules ("UK lobbying watchdog criticises government for rejecting reforms", FT.com, July 27). The latter, after all, has long avoided public comment.

As the industry body for UK lobbyists, the CIPR argues that the government has missed the chance to expand the scope of the lobbying register, which is currently blind to around 95 per cent of lobbying activity, to capture the huge numbers presently exempt from signing. Instead, we have been offered some tweaks, requiring government departments and civil servants to publish more information more regularly while obliging already-registered lobbyists to disclose more details about clients. Root and branch reform is needed, but the government is instead pruning a few branches while leaving the rotten oak untouched.

Transparency is need to restore faith in Britain's political system

Until we have a register that captures lobbying activity rather than who is doing the lobbying, we will not have the transparency needed to restore the public's faith in the political system.

Alastair McCapra
Chief Executive, Chartered Institute of Public Relations, London W3, UK

Ministers have shown a contempt for governance

Too little attention has been paid in the crisis at NatWest Group to the role of UK Government Investments.

In its annual report, published on July 18, UKGI proudly describes its role in acting as steward of the taxpayer's stake in NatWest.

If a government minister has concerns about the conduct of the CEO of a company in which the government has a stake, the proper course is to take that up with UKGI so that it can — along with the other shareholders, who between them own the majority of the shares — discuss the matter with the chair and the board.

Instead the City minister, the chancellor and the prime minister all appear to have ignored the stewardship role of UKGI. In doing so, they have undermined the authority and leadership of UKGI.

They have also shown contempt for principles of good governance and stewardship on which a healthy market economy depends.

Mark Goyder
Suffolk, UK

Comments by NatWest chair are alarming

Recent articles about NatWest chair Sir Howard Davies and his praise for his former CEO, who broke a variety of the most basic governance principles, paints a picture that is embarrassing for the UK financial markets.

As anyone who has served on a board of directors knows, the main job of a chair is to set clear governance rules and lead by example. Sir Howard has done none of this and has not exercised his most fundamental duties. All very alarming for a former FSA boss. Time for a new chair who has read the job description.

Tom Berger
London SW1, UK

Correction

● Paramount Energy & Commodities SA's subsidiary in the United Arab Emirates was incorporated in 2020 and was not created for the purpose of trading Russian oil at prices above $60 per barrel, as incorrectly stated in a Lex note on July 6.

OUTLOOK

BRITAIN

MPs are stuck as parliament crumbles around them

by Lucy Fisher

Big Ben's clock tower is the unrivalled showpiece of Britain's parliament. Enveloped by ugly scaffolding in recent years while it underwent an external restoration project, Elizabeth Tower (renamed after the late queen) has just reopened following internal renovation.

But its gleaming condition — with regilded panels and a new coat of Prussian blue paint on the clock dial numerals — belies the sorry state of the old Palace of Westminster. Even newer parts of the estate are crumbling: just last month, rainwater deluged the covered courtyard of Portcullis House, when a pane of glass broke in the atrium's roof.

Six incidents of falling stonework, 10 fires, and one incident of potential asbestos exposure have been recorded since 2020, while leaking pipes regularly flood politicians' offices. The prospect of a blaze tearing through the estate remains a serious threat: parliament's archive, containing acts handwritten on 500-year-old vellum, is being rehoused in Kew.

MPs, however, appear paralysed over how to manage the problem — as they are over so many policies requiring system overhaul or spending commitments that will outlast the current government. Breaking political impasses over the NHS or university funding models, or fundamentally rethinking the pensions system, seem impossible.

Much of the parliamentary estate is over half a century old and its water, electric, sewage and gas infrastructure needs urgent replacement. Proposals range from multibillion-pound options that involve moving MPs and peers off-site, to slower and even more expensive plans to do the work in stages so they can remain in the building. Meg Hillier, Labour chair of the public accounts committee, which scrutinises government spending, laments that the full upgrade has been repeatedly deferred. "It's what I call 'slow politics' — nobody thinks in the long term."

A board of cross-party MPs and peers, clerks and lay members is now in charge of devising a new shortlist of restoration options and parliament will vote on the final proposal this December. But the issue provokes conflicting and impassioned views. A 2018 vote to move parliamentarians off the estate and get on with the job was scotched last year when the Commons and Lords commissions swooped in to scrap the independent body overseeing the project, accusing it of having acted "in haste".

In the meantime, doing nothing is not cost neutral. The ad hoc patch-ups already cost the taxpayer £2mn a week. Politicians of all parties fear making a multi-decade, multibillion pound spending commitment at a time when public finances are tight. Even if the Palace of Westminster is a Unesco world heritage site, releasing funds for their own workplace risks looking self-serving. There is similar timidity elsewhere: England's social care model and planning system need wholesale reform, yet neither the government nor opposition dare pursue it. Ministers admit privately that local government finance is convoluted and unfair, but memories of Thatcher's poll tax disaster discourage reform. Theresa May's equally doomed plans to transform social care will also cast a long shadow. Such issues tend to be shunted into what former Labour home secretary Charles Clarke called the "too difficult box" and shelved.

The political system is beset by an inertia-crisis paradox. Alice Lilly of the Institute for Government points to net zero ambitions — now being scaled back by the government in the hope of electoral gains — as another victim of this trend. "You get moments where there's a bit of political will and momentum, but that can quickly slip away because stasis is always easier than major reform," she says. When crises erupt, the response is "a knee-jerk reaction, rather than longer term, more strategic thinking", Lilly adds.

A sticking plaster approach to complicated policies and floundering organisations, such as the newly revamped Elizabeth Tower, may appear to mitigate economic and political costs but are in fact a false economy. In the long term, the UK's most difficult policy challenges face the same prognosis as parliament's restoration: the bigger the delay, the more tricky and expensive reform becomes. Even physical decay cannot shake politicians out of their inertia.

lucy.fisher@ft.com

Opinion

The real scandal of central bank digital currency

ECONOMICS

Andy Haldane

Driving down the M1 motorway in England recently, I was struck by a spray-painted message across a flyover: "Stop CBDC". It was the same message I'd seen earlier that week on a placard opposite Downing Street. These are not isolated views. Judging by a petition currently doing the rounds, tens of thousands of people across the UK have put their name to stopping CBDC. For them, CBDC is a scandal.

For the uninitiated, CBDC is central bank digital currency — a digital replacement for physical cash. At least 130 countries around the world are now considering issuing digital cash to their citizens. In the UK a consultation document was issued by the Treasury and the Bank of England in February, to which the above-named petition is the citizen response.

Eight years ago, before CBDC was even an acronym, I wrote in a speech a few (I thought uncontroversial) lines about the possibility of digital cash. Cue howls of derision. A former lecturer of mine wrote a paper entitled "Haldane Cashes Out on Cash". A petition was mounted to stop me scrapping cash (which I signed, in a failed attempt to lighten the mood).

If nothing else, these responses make clear that cash is much more than a payments technology. It is one of the purest and oldest forms of public good, a symbol of identity and sovereignty. Choices about this public good are, ultimately and rightly, ones for citizens rather than central bankers or cryptographers. They are social, not technological, choices — and sometimes emotional ones.

And the social issues raised by CBDCs are without question real. This includes concerns about the privacy of the currency and about retaining access to cash for those who neither want nor can access CBDC. There are also those who fear deposits might flee from commercial banks to the safe haven of CBDC at the first whiff of financial grapeshot.

Such concerns about financial stability are not to be dismissed. They have caused almost all CBDC designers — and all commercial banks — to conclude that it should pay no interest, since doing so would tend to add to the attraction, and increase the liquidity pressures on banks under duress. This design choice has largely gone unnoticed by the public. This is strange because paying no interest on CBDCs has large and lasting implications for citizens, even though they may not realise it.

> Designers of CBDCs have opted to continue levying a large, stealthy, regressive tax on their citizens

Cash is not just a payments medium; it is also a means of financing governments and central banks. Physical cash is an interest-free loan to government, a direct tax on citizens levied in proportion to their cash holdings at a tax rate given by the interest rate. Most people are blissfully unaware they are being taxed in this way. The name of this tax — seigniorage — adds to its mystery and oddity.

The oddity does not end there. Seigniorage is a stealth tax that is both large and highly regressive. Highly regressive because cash is held disproportionately by the poorest and least advantaged in society. Large because, with a global stock of physical currency estimated at around $8.3tn among the world's biggest economies, and interest rates of say 5 per cent, it amounts to a tax on global citizens of over $400bn each year.

In a world where all cash was physical, central banks and governments could legitimately argue that it was technologically impossible to pay interest. Seigniorage was an unavoidable consequence of providing the public good of physical cash. With the advent of CBDC, those arguments are now otiose. Interest could easily and simply be paid on the CBDC held by citizens, just as it has been for many decades on the CBDC held by banks (whose mystery name is "reserves").

For many decades, cash has been the only form of money on which no interest rate is paid, disadvantaging those who hold it. With the advent of CBDCs, we could remunerate cash and level the monetary playing field to the benefit of all citizens. Designers of CBDCs have foreclosed on this option, opting to continue levying a large, stealthy, regressive tax on their citizens. They have done so to protect banks and their own finance, both of whom have long benefited from this privilege.

Cash is our money, not theirs. This social choice is one that citizens should be debating and deciding. At present, we are doing neither. At the very point we could be lowering the fiscal burden of a large and regressive stealth tax, governments and central banks are instead choosing to reinforce and raise it. This *is* a CBDC scandal, if not the one discussed by graffiti artists on motorway flyovers or indeed anyone else.

The writer, an FT contributing editor, is chief executive of the Royal Society of Arts

Ukraine's EU road is littered with obstacles

EUROPE

Tony Barber

A year ago, Ursula von der Leyen, the European Commission president, told Ukraine's parliament: "There is a long road ahead but Europe will be at your side every step of the way, for as long as it takes, from these dark days of war until the moment you cross the door that leads into our European Union."

She was right that Ukraine's road to the EU will be long. Just how long became apparent when Ukraine's push to join Nato, the western world's other premier institution, received the delicately worded response in July that the alliance would issue an invitation when "allies agree and conditions are met".

If anything, EU membership may turn out to be even harder for Ukraine to secure than Nato entry. In both cases, unanimous agreement among alliance states is a prerequisite for expanding the membership. As Sweden has discovered since applying to join Nato, this process is not necessarily smooth.

But Ukraine's EU bid raises an additional set of formidable challenges. In the first place, it is entangled with the process, to which the EU is formally committed, of admitting at least five other countries: Albania, Moldova, Montenegro, North Macedonia and Serbia. Like Ukraine, none comes close for the moment to meeting the EU's exacting requirements on democracy, the rule of law, a functioning market economy and an ability to fulfil the obligations of bloc membership.

Turkey is the sixth official EU entry candidate, but its membership prospects — never strong even when Brussels and Ankara enjoyed a more constructive relationship than now — are remote in the extreme. The queue at the EU's door also includes Bosnia and Herzegovina, Georgia and Kosovo.

This long line of potential entrants, which would expand the EU club from 27 to 33 or even 37 countries, throws light on a second obstacle to the bloc's expansion. No matter how desirable as a way of stabilising Europe's eastern and south-eastern neighbourhood, enlargement will require far-reaching changes to the EU's institutions, policies and financial arrangements for which neither national governments nor electorates in most of the 27 member states appear prepared.

With respect to institutions, it would be difficult but not impossible to accommodate new members by reallocating seats in the European parliament, reweighting votes in the European Council (in which national governments meet) and redesigning the commission. Much more vexed is the question of whether, or how, to replace unanimity in fields such as taxation and foreign policy with a system of majority voting.

This is precisely what German chancellor Olaf Scholz proposed in a speech last year at Charles University in Prague. He correctly pointed out that, as enlargement proceeded, the risk would grow that one country could use its veto to block a common policy. If, however, the EU decided to stick with majority voting, various groups of countries might choose to move ahead on their own in different policy areas.

"It would be a confusing tangle — and an invitation to all those who want to bet against a united geopolitical Europe and play us off against each other," Scholz observed.

It is a strong argument but not everyone likes it. Mateusz Morawiecki, Poland's prime minister, told an audience at Germany's University of Heidelberg in March that the EU's responses to the debt crisis and pandemic each exposed "the limits of supranational governance in Europe". Expanding on his implicit criticism of Scholz's proposals, Morawiecki added: "In Europe, nothing will safeguard the freedom of nations, their culture, their social, economic, political and military security better than nation states. Other systems are illusory or utopian."

> Enlargement will require far-reaching changes to the bloc's institutions, policies and financial arrangements

It is ironic that Poland, a fervent supporter of Ukraine's EU entry, objects to the kind of institutional reforms that might make enlargement workable. But the irony does not end there. Like Bulgaria, Hungary, Romania and Slovakia, Poland wants the EU to extend curbs on Ukrainian grain imports in order to protect domestic farmers.

This dispute suggests how hard it will be for the EU to incorporate Ukraine, one of the world's largest agricultural producers but also one of Europe's poorest countries even before the war. Without extensive reform of the EU's Common Agricultural Policy and regional aid schemes, Ukraine would have an enormous claim on the EU budget — some 65 per cent of which goes to these two spending programmes.

Other candidate countries, admittedly smaller than Ukraine, would also expect access to the EU's largesse. Yet budgetary reform on the scale needed to pay for enlargement would mean less for many states in central and eastern Europe that have received tens of billions of euros since joining the EU from 2004 onwards.

Are political parties and voters ready for such concessions in the name of a safer Europe? Let us not forget that another obstacle in Ukraine's path is Hungary's allegation that western Ukraine's ethnic Hungarian minority suffers mistreatment.

The EU, anxious to reward Ukraine for its courageous resistance to Russian aggression, can and must press on with enlargement. Ukraine and others should be given benefits, such as some access to EU funds and a voice in policymaking, even before gaining full membership. Even so, enlargement promises to be the most difficult task in the EU's almost 70-year history.

tony.barber@ft.com

AI entering the dating pool is a bleak prospect

TECHNOLOGY

Elaine Moore

Terrible news from the world of online dating. As if a parade of dubious romantic prospects and dead-end chats weren't bad enough, artificial intelligence has dipped its toe into the dating pool.

Eleven years ago, Tinder helped to turn dating into a series of quick-fire interactions on the internet. But for some jaded users, even writing "Hi" to a romantic prospect is now too much effort. Tech start-ups such as Rizz and YourMove AI are gaining a foothold in the sector by offering AI assistance in creating witty opening lines and appealing profiles.

Meeting strangers on the internet is by nature a random affair. Artificial chat is at least a less sinister way to help that process along than asking users to swab the insides of their mouth, as DNA-dating app Pheramor once did. But a proliferation of AI-assisted conversations suggests that eventually dating apps will simply be full of computers trying to woo other computers.

One start-up even offers the chance to watch this exact premise unfold. Teaser AI asks users questions about themselves and their personalities and then crafts AI-generated chat that is designed to mimic them. When individuals match, they can sit back and watch as their chatbots try to chat each other up.

The companies behind the biggest dating apps are following these developments with great interest. Bumble claims that AI is improving matches. Chief executive Whitney Wolfe Herd has also said that AI might be used to simplify the process of creating an online dating profile, helping people to become more confident. Match, which owns Tinder and OkCupid, notes that Tinder already uses AI to moderate photos (a bid to keep the site respectable). Now it wants to see if it can help with profile creations. Generative AI could ease online dating "fatigue", said Match chief executive Bernard Kim in May. He argues that having an AI assistant at hand could help to tackle the scourge of modern dating that is ghosting — ie someone abruptly terminating all contact without warning.

> Computer-enhanced seduction may turn out to be no more sophisticated than the human kind

But daters who need AI to remind them to end a conversation may not bother to take the advice. Plus, already fragile ties between strangers will fracture further if one or both suspect that they are not engaging with a real person. Ghosting would become even more common. Undeterred, online tech magazine Wired made the bold claim this year that AI would make dating more fun by serving up pithy icebreakers. It claimed any opposition was the result of tedious cynicism. Yet even the pithiest of opening lines loses value once you know that it didn't come from a real person. Journalist Nancy Jo Sales, who once wrote a book about her online dating exploits, points out that AI eliminates the entire point of dating, which is supposed to be about getting to know another person.

There is also the possibility that the technology will supercharge the problem of fake accounts. If real users are adding AI-generated chat then bots will become more difficult to identify.

This is something that dating apps and their users are both very sensitive about. Putting off users is a gamble that these apps cannot afford to take. The number of paying users at Tinder have flatlined. Parent company Match Group's share price has fallen by more than a third in the past 12 months. Rival dating app company Bumble, which listed on markets in 2021 at $43 per share, now trades at just over $18.

It's not as if users of other forms of social media have shown much interest in chatting with AI, either. After Snapchat added an AI chatbot called My AI, users were so cross that they posted multiple negative reviews on Apple's App Store. "Either make your new AI experiment bearable to speak to, or remove it from the top of my friends list," wrote one.

Meta's suggestion that AI personas can help its users in messaging apps WhatsApp and Messenger has also received little positive feedback.

In the end, AI-enhanced seduction may turn out to be no more sophisticated than the human kind. The test will come when the conversation moves beyond the app. In the real world, it will quickly become apparent who was blessed with genuine charm and who was flirting with a little help from AI all along.

elaine.moore@ft.com

West must match Russia and China in dark arts of grey zone

Michael Miklaucic

Russia's unprovoked war against Ukraine grinds into its 18th month. It is a war fought with blood and iron. Shorn of the nuance or ambiguity of the so-called grey zone, this is old-fashioned, heavy metal warfare. Desperate to prevail, Russia has dangled the threat of nuclear retaliation against any western-supported escalation. In these circumstances one might ask if the grey zone remains a valid concept? Are cyber attacks, disinformation and influence campaigns still relevant? The answer is a resounding "Yes".

Ukraine is but a single front in a larger war on a global scale over what is and is not permissible in international relations. While defending Ukraine's sovereignty is vital, the war over the future global order is also being fought along many other fronts and Russia is not our only adversary.

Ināra Mūrniece, Latvia's defence minister, warned recently that it is wrong to think Russia has been weakened by this war and is incapable of strategic surprises. On the contrary, though its military has performed dismally in Ukraine, Russia maintains a robust capacity to subvert our interests with a full range of tools below the threshold of military combat. In 2016 Russian trolls interfered with the US presidential election. In 2017 the Kremlin-backed Sandworm hacker group unleashed NotPetya malware on the online world, costing billions of dollars. Russia's information warfare machine can sow discord in strong and weak countries alike.

China, too, uses a sophisticated grey zone toolbox, including economic and trade coercion, naval power, a huge fleet of "fishing" vessels to bully neighbours in the South China Sea, militarisation of atolls in the South China Sea, Confucius Institutes at western universities and foreign police outposts which monitor expatriate Chinese. In 2021 China imposed a trade embargo and other sanctions on Lithuania in retaliation for the opening of a Taiwan Representative Office in Vilnius.

> Military support alone cannot win in Ukraine, much less in the struggle over the liberal global order

The non-military means available to advance a country's strategic interests have expanded in recent years. Our adversaries make effective use of them. Russian and Chinese information campaigns cast blame for the Ukraine war on Nato expansion and the hegemonic "west". Ukraine's friends may recognise this as the lie it is, but it resonates in the global south and in enclaves of gullible opinion in Europe and the US.

Weapons, training and intelligence provided to Ukraine are holding off a Russian military victory but, on their own, will lead to a frozen conflict with Russia in indefinite possession of over 15 per cent of Ukrainian territory. That would amount to a victory for Russia. It already occupies 20 per cent of Georgia and 12 per cent of Moldova, and is swallowing Belarus into its "union state".

Military support alone cannot produce a Ukrainian victory, much less victory in the bigger struggle over the liberal global order. If we wish to preserve this order, we must master the dark arts of the grey zone, using a full arsenal of sub-threshold tools based on the non-military elements of strategic power.

The portrayal of Vladimir Putin as a war criminal, and support for the International Criminal Court's arrest warrant, show how the west can do this. As a result of the ICC warrant, Putin was forced to cancel a trip to South Africa's meeting of the Brics countries. In July, only 17 African heads of state out of 54 attended Putin's Russia-Africa summit, as opposed to 43 that attended in 2019, limiting his ability to exert influence. To exploit this success, western countries should continue to ostracise Putin and mobilise their full information firepower to portray Putin as the criminal that he is.

The enduring relevance of the grey zone should not be dismissed. On the contrary, it is there that victory will be won in Ukraine and in the wider conflict over the future global order.

The writer is a senior fellow at National Defense University and the editor-in-chief of the PRISM journal

Lex.

Twitter: @FTLex

Carbon capture: injection election

Will it be a case of third time's a charm for carbon capture and storage in the UK? Rishi Sunak has now identified four CCS projects he hopes will be built this decade. This will bolster investor confidence in a fledgling industry that has suffered many false starts over the past 16 years. Previous administrations cancelled CCS funding competitions in 2015 and 2011.

Energy groups, including Harbour Energy, Shell and BP, have interests in the two projects named by the prime minister yesterday. These were the Acorn scheme in Scotland, led by Macquarie-backed Storegga, and the Harbour Energy-led Viking scheme in England's Humber region. The UK picked two other projects, in England's north-west and north-east, in 2021.

Jefferies estimates that globally CCS could develop into a $600bn ebitda industry if net zero goals are achieved. For oil and gas companies, repurposing pipelines and depleted reservoirs to transport and store CO_2 emitted by power plants and heavy industry is attractive. But more transparency is needed on financing models and capital costs first.

CCS is yet to play a significant role in the equity story of oil and gas groups such as Harbour, even though it has interests in both the Acorn and Viking schemes. Investors await more clarity on revenue streams.

The attractiveness of CCS for investors will depend on allowed returns under a regulated asset base financing model. The RAB model is used to finance UK infrastructure such as energy networks and airport terminals, and is well understood. Nevertheless, CCS is uncharted territory. Formal negotiations with UK officials are yet to commence.

Capital costs are also murky. The overall cost of the Viking project is estimated at £7bn but that includes sums expected to be invested by emitters. Harbour and its junior partner in Viking, BP, are yet to disclose the costs of the CO_2 transport and storage, although they are likely to be a minority share of the overall sum.

Companies such as Essar are in talks with UK officials over separate funding models that will incentivise them to invest in technologies to capture CO_2. Those also need to conclude swiftly to persuade investors to back transport and storage schemes. Planning permission must be secured too.

CCS is finally gaining momentum in the UK but many hurdles remain.

Legal services: laying down the law

In most walks of life, take-home pay of some £2mn would be hailed as an unequivocal success. Not so amid the UK's "magic circle" law firms. Clifford Chance, Allen & Overy and Linklaters and Freshfields have reported stalling or declining profits per partner. Gazing into a crystal ball offers little in the way of relief.

The problem, for the UK's elite law firms, is that they have been forced to jack up salaries and offer perks to stop ambitious US competitors from poaching their staff. That has loaded up their cost base, just as they headed into a dealmaking slump.

To be fair, elite law firms do not just work on M&A transactions. They try to be a one-stop shop for their clients' legal needs. But advising on successful transactions is more profitable than most work. The $90mn that Wachtell, Lipton, Rosen and Katz charged Twitter, which is now being contested by Elon Musk, is a case in point.

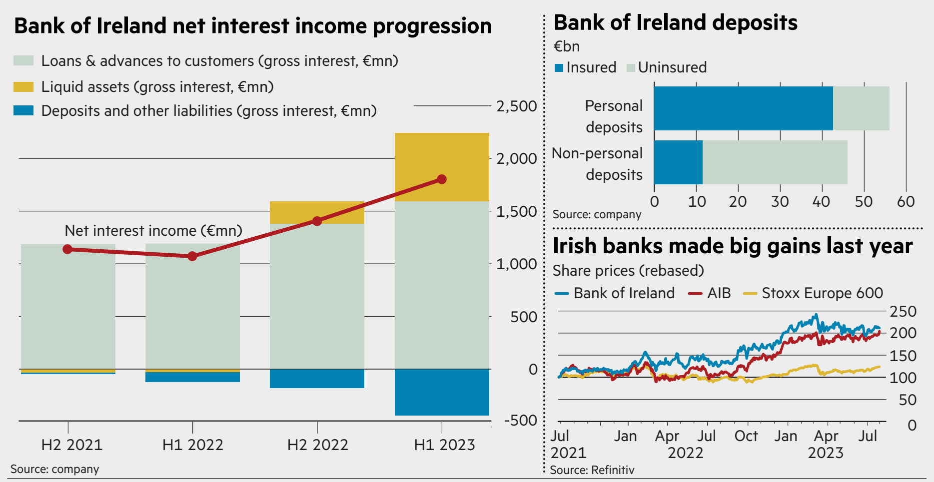
The cyclical dearth of transactions helps explain the squeeze on pre-tax profits, which fell marginally at Linklaters, A&O and Clifford Chance. But the bigger issue, for the UK's magic circle, is that US behemoths such as Kirkland & Ellis or Skadden Arps are stealing their lunch.

Top US firms are structurally more profitable. They make pots of money on their home turf — the world's largest capital market and a litigious one to boot. On top of that, they get to tag along when key corporate or private equity clients snap up European companies. In a UK ranking of revenue per lawyer, US firms occupy the first five spots, according to Law.com's recent international ranking.

That means they can afford to pay people more. At top US firms, partners often take home more than twice what magic circle partners make. Starting salaries, too, used to be much higher — although the UK has recently had to catch up. That is going to stoke the fire of cost inflation at UK law firms — keeping profits under pressure even when boom times return.

Bank of Ireland: beta cheater

Large customer deposits are boosting earnings at Ireland's biggest bank. It is paying little in the way of interest to savers, while deposits sitting with the European Central Bank are generating strong income. Shares have outperformed, with windfall shareholder returns expected.



Higher interest rates and reduced competition are a potent mix in the banking sector. Witness the tripling of the Bank of Ireland's pre-tax profits in the first half, when returns on tangible equity hit 18.5 per cent.

There are few signs of weakness in the loan book, with earnings supported by a strong economy and favourable demographic trends. Why, then, are its shares trading below their March peak?

While the market forgives, it rarely forgets. Bank investors remain a cautious clique following US regional bank blow-ups and Credit Suisse's failure earlier this year. Ireland has made huge progress dealing with bad debts and tightening lending standards since the financial crisis.

Yet there are concerns that Bank of Ireland's reliance on a glut of deposits puts peak profits within sight.

It had €100bn of these at the end of June, with €60bn in current accounts earning zero interest. The withdrawal of two banks from the Irish market has allowed remaining lenders merely to pass on an estimated 5 per cent of interest rate rises to savers so far.

Contrast that with the UK's NatWest, which closed its Irish banking businesses last year. Its deposit beta — the proportion of market rate changes passed on to customers — was 75 per cent in the second quarter.

One potential risk to Bank of Ireland's earnings from deposits lies with the European Central Bank. Some €30bn of its excess liquidity is stashed with the ECB, with the bulk earning the 3.75 per cent ECB deposit rate.

Interest on these liquid assets, which also include bond holdings, totalled €648mn in the first half, from €210mn in the second half of last year. Strip out this effect and net interest income is in essence flat over one year. As the ECB ramps up its inflation fight it has already tweaked what it pays banks on minimum reserves. Further tightening is possible.

Some investors will favour Bank of Ireland because it is expected to distribute about 10 per cent of the market value in dividends and buybacks. Risks, though, are now weighted to the downside. That makes shareholders reluctant to bite.

AI: pricing SaaS services

Forecasts for generative artificial intelligence disruption are hampered by the lack of clarity around pricing. AI excitement has lifted software-as-a-service stocks from last year's slump. But how can AI be a multitrillion-dollar market if customers pay little to access AI-enhanced services?

When Salesforce launched AI Cloud in June, it did not raise rates. Box does not charge for AI services. Microsoft's bet on start-up OpenAI has lifted its share price to a record high. So far, however, the sharp rise in share prices has not corresponded with a jump in AI-driven sales and profits.

For software companies adding AI capabilities, there are two options: employ a freemium model and price services at low rates to encourage high take-up, or charge premium rates that reflect the costs. AI hype suggests the first strategy is unnecessary. But how should premium rates be fixed?

GitHub priced its AI Copilot services at $19 a month per person for businesses. Microsoft went further, opting to charge an extra $30 a person per month. This means the premium service is twice as expensive as the cheapest version of Microsoft 365. It is a fair starting point. If a fifth of Microsoft's Office 356 enterprise users opt to pay for Copilot, Mizuho estimates an annual $9bn revenue rise, equal to an extra 3 per cent.

This sort of increase is welcome, if not transformative. Microsoft's new Office software with AI features gives users the chance to create PowerPoint presentations more easily and parse documents quickly. The challenge is convincing customers that AI is not just a productivity enhancement but an essential service.

If companies succeed in doing that, there is one further danger to consider: AI services require high compute costs and are expensive to provide. Raising per person subscription rates means higher recurring revenue. But if customers use AI tools more than expected, then charging a flat rate will weigh on future margins.

Johnson & Johnson: dry powder

Johnson & Johnson is a very valuable company, notwithstanding its efforts to convince US federal judges of the contrary. Late on Friday, a New Jersey bankruptcy court ruled that the big pharma company could not pursue a bankruptcy deal with tens of thousands of consumers who claim its talcum powder caused serious illness.

The court said a financially engineered J&J subsidiary — created through the so-called Texas two-step process — was "not sufficiently financially distressed to avail itself of bankruptcy". Yesterday, J&J shares fell about 4 per cent, or $17bn of value, on fears litigation could go on for years.

Alleged victims now will have to rely on the broader US court system to potentially get settlements. The bankruptcy court acknowledged this process was slow and perhaps more inefficient than a single global deal struck in bankruptcy. Big companies, including the likes of 3M, have tried to use US bankruptcy law as a way to quickly resolve so-called mass torts.

The Friday bankruptcy dismissal was a second attempt by the J&J subsidiary known as LTL to satisfy the courts bankruptcy was appropriate. A previous 2023 ruling had said that LTL was insufficiently financially distressed to belong in bankruptcy court because it had secured funding from its parent J&J and had its own assets.

With some more asset shuffling, along with a raised $8.9bn settlement offer and agreements with thousands of victims, J&J tried again. But the court said that, even this time, LTL had far too much in the bank for a bankruptcy filing. It had access to perhaps $30bn in resources.

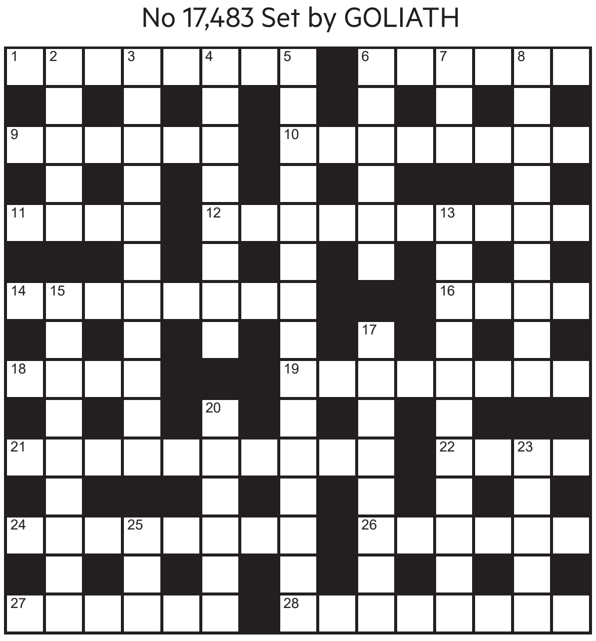
J&J and other big companies say they are not trying to shirk responsibilities. The particular powers of the bankruptcy court make for a cleaner resolution for all sides, they argue.

US courts are not impressed with their arguments. But when ad hoc litigation proves to be disappointing, US jurisprudence will probably need to be reformed.

FT **Lex on the web**
For notes on today's stories go to **www.ft.com/lex**

CROSSWORD

No 17,483 Set by GOLIATH



ACROSS

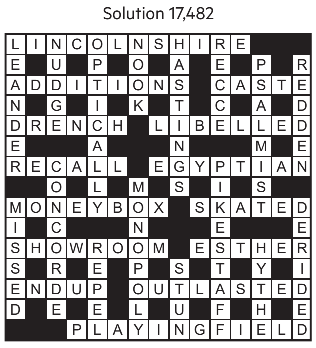
1 Pedant needs adhesive label edge hidden (8)
6 Troubles the Financial Times to take a wrong step (6)
9 Laid back about S&M being horrible (6)
10 Society values philosopher (8)
11 In Paris, it's OK to be bubbly (4)
12 Meant to conceal criminal act and got involved (10)
14 Too much God in prayer (8)
16 He's into cooking fancy starters (4)
18 Flirtation on the phone is an indicator (4)
19 Many an egg is not scrambled — cheers! (8)
21 Ultimate solution on vacation to change at the end of the eleventh hour? (4,6)
22/25 Function about university level (4,3)
24 Not aware of Signor Antonio (8)
26 Believer is first to follow article (6)
27 Put an end to drink (6)
28 Little money in bank of late (8)

DOWN

2 Wild animal heard in forest (5)
3 Say something about role division (11)
4 Sweet medicine swallowed up in some water (8)
5 Lose Iraq pursuit badly and it speaks for itself (3,4,8)
6 See 7
7/6 Marine creature lookin' to eat you ultimately (3,6)
8 Name of 7 where Athene, age questionable, originated (3,6)
13 Read an edition about sound of mathematician (11)
15 Lacking energy having crushed the garlic (9)
17 Grandma joke is crude to begin with (8)
20 Capital of Kashmir regularly dry perhaps (6)
23 Stand inside to take a selfie (5)
25 See 22 Across*

JOTTER PAD

Solution 17,482



You can now solve our crosswords in the new FT crossword app at ft.com/crosswordapp