



AI transformers and the innovation dilemma

THE BIG READ, PAGE 17

Israeli democracy is in an existential crisis

YUVAL NOAH HARARI, PAGE 19

Eyes right Spanish mood put to the test

Spaniards headed to the polls yesterday to choose whether to re-elect Pedro Sánchez's fractious leftwing alliance or let conservatives reverse the prime minister's reforms in a possible pact with the hard right.

Most opinion polls suggested that the opposition People's party would win but fall short of an outright majority in results that were expected to be announced overnight.

The PP would probably need the support of the Vox party to take office, meaning the hard right could enter government for the first time since Spain's return to democracy after the death of dictator Francisco Franco in 1975.

A conservative win would make Spain the latest European country to shift to the right, joining Italy – whose prime minister Giorgia Meloni appeared via video link at a Vox rally this month – as well as Greece, Sweden and Finland.



Emilio Morenatti/AP

DeSantis policies spur billionaires to rethink support for presidential bid

Griffin and Peltz turn cool on Florida governor Campaign heavily reliant on wealthy patrons

HARRIET AGNEW AND ORTENCA ALIAJ
LONDON

Powerful Republican donors and billionaires Ken Griffin and Nelson Peltz are rethinking plans to support the US presidential bid of Ron DeSantis over concerns that the Florida governor has veered too far to the right.

They have been discouraged by DeSantis's interventionist policies, people familiar with their thinking told the Financial Times. Griffin objected to a recent clampdown on teaching about gender and sexuality, and DeSantis's ongoing fight with Disney, while Peltz has taken issue with his stance on abortion, the people said.

DeSantis, 44, was widely seen as the candidate best positioned to challenge Donald Trump for the Republican

party's nomination for president, but he has slumped in the polls and there are increasing doubts about the strategy behind his 2024 White House bid.

A retreat by donors such as Griffin and Peltz, hedge fund managers who are among the biggest taxpayers in Florida, could further harm the DeSantis campaign. The pair supported Trump and were expected to be among DeSantis's biggest backers.

Griffin gave \$5mn to DeSantis's 2022

'I am assessing how the policies of each candidate strengthen our democracy'

Ken Griffin

re-election effort but more recently he has become unsettled by DeSantis's policy initiatives that undermine individual rights and liberties, a person familiar with his thinking said.

Griffin declined to comment on specific candidates but told the FT: "As the presidential campaigns unfold, I am assessing how the policies of each candidate will strengthen our democracy."

"I care deeply about individual rights and freedom, economic policies that encourage prosperity and upward mobility, children having access to a high-quality education, ensuring our communities are safe, and a strong national defence that secures the future of the United States and its allies," he added.

Peltz, founder of investment firm

Triam Partners, is also reconsidering his position. "Nelson Peltz thinks that most of DeSantis's policies are acceptable, but his position on abortion is way too severe. That may undermine Peltz's desire to financially support DeSantis as a candidate," a person familiar with his thinking said. Peltz declined to comment.

In an effort to outflank Trump, DeSantis has veered sharply to the right on issues ranging from gay rights to abortion and immigration. In April he signed into law a six-week abortion ban in Florida, which is among the strictest curbs in the nation.

This month he admitted his position had "lost a lot of really big supporters". "We did what was right," he said. "If I had a chance to do it again, I would."

The DeSantis campaign has relied heavily on deep-pocketed donors. Filings with the Federal Election Commission show that just a sixth of the \$20.1mn it raised in the second quarter came from small donors.

Last week DeSantis courted wealthy backers with a fundraiser in the Hamptons. But neither Griffin nor Peltz have met him in months or provided any financial support since he announced his candidacy in May.

Andrew Romeo, a DeSantis campaign spokesperson, expressed gratitude to the "tens of thousands of grassroots supporters – and major donors – who have made it possible for us to build an unmatched organisation... with the ability to compete for the long haul". Additional reporting by Lauren Fedor

Briefing

Russian missiles shower historic port of Odesa

Russian forces continued to pound the Ukrainian port city of Odesa with missiles as a historic cathedral, residential buildings and architectural monuments were severely damaged. — PAGE 2

EY enlists crisis specialist

Lord David Gold, a leading adviser to crisis-hit companies, has been hired by EY to carry out a review of the failed attempt to split its businesses. — PAGE 6

Israel protests flare up

As the fight over plans to overhaul the judiciary neared boiling point, Israeli prime minister Benjamin Netanyahu was taken to hospital for a pacemaker operation. — PAGE 4

Italy eyes ECB continuity

Rome plans to put forward Piero Cipollone to join the European Central Bank board after Favio Panetta leaves to head Italy's central bank. — PAGE 2

UK savers fare better

UK savers have been boosted more by interest rate rises than customers in the US and Europe as British banks have passed on more of the benefits. — PAGE 6

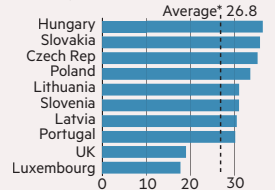
Crossword and Lex

The Lex column, Business Life and the FT crossword can be found inside today. — PAGE 9

Datawatch

Human or robot?

% of total employment of occupations at the highest risk of automation



*Includes OECD countries in Europe and the US
Source: OECD Employment Outlook 2023

Countries most exposed to automation include Hungary, Slovakia and Czech Republic, where automation could affect more than one-third of their labour forces, according to the OECD. The UK and Luxembourg are the least exposed



Deutsche finally sees light at end of its data tunnel

Costly IT integration — PAGE 7

Country	€/\$	Country	Dh/\$
Austria	€4.50	Morocco	Dh50
Bahrain	Dh118	Netherlands	€4.30
Belgium	€4.50	Norway	Nkr45
Croatia	Kn33.91/€4.50	Oman	OR160
Cyprus	€4.20	Pakistan	Rupee350
Czech Rep	Kc125	Poland	z125
Denmark	Dkr166	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	FtH50	Switzerland	Sfr6.70
India	Rup220	Tunisia	Din750
Italy	€4.20	Turkey	TL110
Luxembourg	€4.50	UAE	Dh24
Malta	€4.20		

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US consultancies failing to land China contracts after Beijing's security raids

RYAN MCMORROW, JOE LEAHY
AND NIAN LIU — BEIJING
ELEANOR OLCOTT — LONDON

Top US consultancies are struggling to attract business in China as Beijing's national security raids scare away local clients and global investors pull back from dealmaking in the country.

Management consultancy Bain is telling new China hires to wait until as late as 2025 to start their jobs while roughly half of McKinsey staff do not have paid client projects to work on. Boston Consulting Group's China team has been holding strategy sessions on how to revive its flagging business, according to half a dozen people close to the firms.

In May, China's state security services said they were investigating the industry for jeopardising national security after they carried out raids on Bain's

Shanghai office and Capvision, which specialises in connecting management consultants and investors with a network of 450,000 experts.

Without sufficient work for their existing teams, all three top-tier US management consulting firms are delaying start dates for new recruits, leaving the incoming consultants instead to sharpen their skills, gain an extra degree or travel while they wait, the people said.

When BCG China failed to meet internal revenue projections in the first half of the year, executives began strategising on how to turn around their own business in the second half, according to people at the group.

McKinsey is also struggling to land new projects with many staff working on proposals or other work that cannot be billed to clients, three people close to

the firm said. "Being at McKinsey China feels like being on a sinking ship," said one junior consultant.

The consultancies' struggles come after geopolitical tensions between the US and China increased, and Beijing has heightened vigilance over possible spying. Its anti-espionage laws were broadened in April from covering state secrets and intelligence to any "documents, data, materials or items related to national security and interests".

Three senior consultants at US firms said cross-border activity had been a big driver of demand, so declining foreign interest and China's inward turn had resulted in less business.

McKinsey said it had a "solid client and recruiting pipeline" in China. Bain told the FT it did not comment on client work. BCG did not respond to requests for comment.

World Markets

STOCK MARKETS

	Jul 21	Prev	%Chg
S&P 500	4550.36	4534.87	0.34
Nasdaq Composite	14088.78	14063.31	0.18
Dow Jones Ind	35320.07	35225.18	0.27
FTSEurofirst 300	1841.15	1834.27	0.38
Euro Stoxx 50	4390.87	4373.73	0.39
FTSE 100	7663.73	7646.05	0.23
FTSE All-Share	4182.58	4177.94	0.11
CAC 40	7432.77	7384.91	0.65
Xetra Dax	16177.22	16204.22	-0.17
Nikkei	32304.25	32490.52	-0.57
Hang Seng	19075.26	18928.02	0.78
MSCI World \$	3029.70	3047.99	-0.60
MSCI EM \$	1018.06	1019.59	-0.15
MSCI ACWI \$	697.89	701.76	-0.55
FT Wilshire 2500	5884.34	5927.78	-0.73
FT Wilshire 5000	45875.50	46215.00	-0.73

CURRENCIES

	Jul 21	Jul 14	Jul 21	Jul 14
\$/€	1.111	1.124	€/\$	0.900
\$/¥	1.285	1.312	¥/\$	0.779
€/¥	0.865	0.857	¥/€	1.156
¥/\$	141.755	138.495	¥/£	157.539
¥/€	182.092	181.685	£ index	81.959
Sfr/€	0.962	0.967	Sfr/£	1.112

GOVERNMENT BONDS

	Yield (%)	Jul 21	Jul 14	Chg
US 2 yr	4.88	4.86	0.02	
US 10 yr	3.83	3.86	-0.03	
US 30 yr	3.89	3.91	-0.02	
UK 2 yr	4.39	4.96	-0.03	
UK 10 yr	4.35	4.34	0.01	
UK 30 yr	4.39	4.37	0.02	
JPN 2 yr	-0.04	-0.05	0.01	
JPN 10 yr	0.46	0.45	0.01	
JPN 30 yr	1.35	1.36	0.00	
GER 2 yr	3.09	3.17	-0.08	
GER 10 yr	2.47	2.48	-0.02	
GER 30 yr	2.49	2.50	-0.01	

CRYPTO

	Jul 21	Prev	%Chg
Bitcoin (\$)	29843.30	29812.25	0.10
Ethereum	1891.48	1891.93	-0.02

COMMODITIES

	Jul 21	Jul 14	%Week
Oil WTI \$	76.66	75.91	0.99
Oil Brent \$	80.60	80.36	0.30
Gold \$	1976.10	1958.05	0.92

Prices are latest for edition
Data provided by Morningstar

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INTERNATIONAL

Ukraine war

Odesa cathedral damaged in Russian strike

Air campaign designed to block grain exports from Black Sea city, says Kyiv

ROMAN OLEARCHYK — KYIV

A historic cathedral, architectural monuments and residential buildings in Odesa were severely damaged yesterday as Russian forces continued to pound the Ukrainian city with missiles.

"Another night attack by the non-humans," Odesa's governor Oleg Kiper said, adding that one person had been killed and 19 injured, including three children.

Kyiv and its allies say the air strike campaign aims to block maritime grain exports from the Black Sea port city to

global markets and destroy Ukrainian culture.

"Missiles against peaceful cities, against residential buildings, a cathedral... There can be no excuse for Russian evil," Ukrainian president Volodymyr Zelenskyy posted on Twitter.

Ukraine's air force said it had intercepted nine of the 19 missiles aimed at the once cosmopolitan, multi-ethnic city of 1.1m people.

Photos and videos posted by Ukrainian officials revealed the roof of the Transfiguration Cathedral partially collapsed, fires burning inside and its altar in ruins, though its dome and clock tower remained standing.

Ukrainian television showed residents rushing to rescue icons and other religious artefacts from the building,

which is part of a Christian following linked to the Russian Orthodox Church.

Along with other southern port cities, Odesa has been relentlessly bombed for almost a week after Russia withdrew from a UN-brokered deal agreed last

'Russian missile terror on Unesco-protected Odesa constitutes yet another war crime by the Kremlin'

summer that had allowed grain exports during its full-scale invasion of Ukraine.

Previous attacks have damaged regional ports and grain silos, but yesterday's strikes severely affected Odesa's historic town, which was desig-

nated a world heritage site by Unesco in January. "Continuous Russian missile terror on Unesco-protected Odesa constitutes yet another war crime by the Kremlin, demolishing also the main Orthodox Cathedral — a world heritage site," Josep Borrell, the EU's foreign policy chief, wrote on Twitter.

"Russia has already damaged hundreds of cultural sites, trying to destroy Ukraine," he added.

The Transfiguration Cathedral was originally built in the early 1800s to be the main church in southern areas of Ukraine conquered by the Russian empire and designated "New Russia" — a term Russian president Vladimir Putin has used to justify his invasion to reconquer what he claims are historically Russian lands. The original cath-

dral was demolished in 1936 under Soviet leader Josef Stalin but was rebuilt between 1999 and 2003 under independent Ukraine.

"There will definitely be a retaliation to Russian terrorists for Odesa," said Zelenskyy, a day after pledging that his army's counteroffensive launched last month would soon "gain pace".

Ukrainian forces have so far made small gains in liberating Russian-occupied eastern and southern regions representing about 18 per cent of state territory.

Russia's defence minister denied that one of its missiles, or missile debris, had hit the Transfiguration Cathedral, insisting that the church had been struck by "the fall of a Ukrainian anti-aircraft guided missile".

Europe

Rome eyes Bank of Italy veteran to keep seat on ECB board

MARTIN ARNOLD — FRANKFURT

Italy will try to maintain its influence on European Central Bank affairs by proposing Piero Cipollone, a senior Bank of Italy official, as its candidate to join the eurozone's top monetary decision-making body.

Three sources close to the decision said Cipollone was the Italian government's favoured candidate to replace Fabio Panetta, the ECB executive board member who is set to become Bank of Italy head later this year.

However, he is yet to be formally nominated by Italy's finance minister, Giancarlo Giorgetti. Other eurozone member states could also put forward their own candidates, despite a convention that each of the eurozone's four big economies is granted one seat on the ECB's six-strong board.

A successful nomination would maintain votes for two Italians — Cipollone and Panetta — on the ECB's interest rate-setting governing council, although its 26 members are meant to put their nationalities aside and act in the interests of the overall eurozone.

Italy prime minister Giorgia Meloni has frequently attacked the central bank's moves to rapidly raise borrowing costs, saying last month its "simplistic" approach to combating inflation was likely to hurt European economies more than help them. Panetta is considered to be one of the more dovish members of the current council, favouring a more cautious approach to raising rates.

Analysts view Cipollone, one of four deputy governors at the Italian central bank, as a solid candidate, although one senior Italian financier said he was "uninspiring" and little known outside the Bank of Italy.

Panetta's exit deprives the ECB's six-person executive board of one of only three members with economics training, making it key for his replacement to have such a background. Cipollone ticks this box, having studied economics at La Sapienza University in Rome and Stanford University in California before being a visiting scholar at the University of California, Berkeley.

Cipollone also has experience in payments, having worked in the balance of payments office after joining the Italian central bank in 1993 and later taking charge of its directorate general for currency circulation and accounting. This could be valuable, as Panetta's successor is likely to take over his role overseeing the ECB's plan to launch a digital euro.

Italy has also clashed with Brussels, however, over plans to allow local merchants to refuse digital payments for transactions under €60, which were eventually scrapped last year.

Some think Italy could face a challenge from one of the smaller eurozone countries that have never had a top executive at the Frankfurt-based institution. Spain went without a seat on the ECB board for six years until Luis de Guindos was made vice-president in 2018.

There could also be pressure from the European parliament for a woman to be appointed to improve diversity on the ECB governing council, which includes the 20 national central bank governors and where 24 of its 26 members are men. *Additional reporting by Sam Fleming and Amy Kazmin*

Inflation fight. Quantitative tightening

Central banks weigh up pace of bond shrinkage

Economists more confident that speed of cutting holdings could be accelerated

MARTIN ARNOLD — FRANKFURT
DELPHINE STRAUSS AND
MARY MCDUGALL — LONDON
COLBY SMITH — WASHINGTON

European central banks could accelerate the process of shrinking their vast bond portfolios, according to officials and economists, who say this would reinforce their fight against inflation and make room to buy assets again in the next crisis.

Rate rises have been the main tool for central banks to tackle the recent surge in inflation and both the US Federal Reserve and European Central Bank are expected to lift rates again this week, while the Bank of England looks set to follow suit next month.

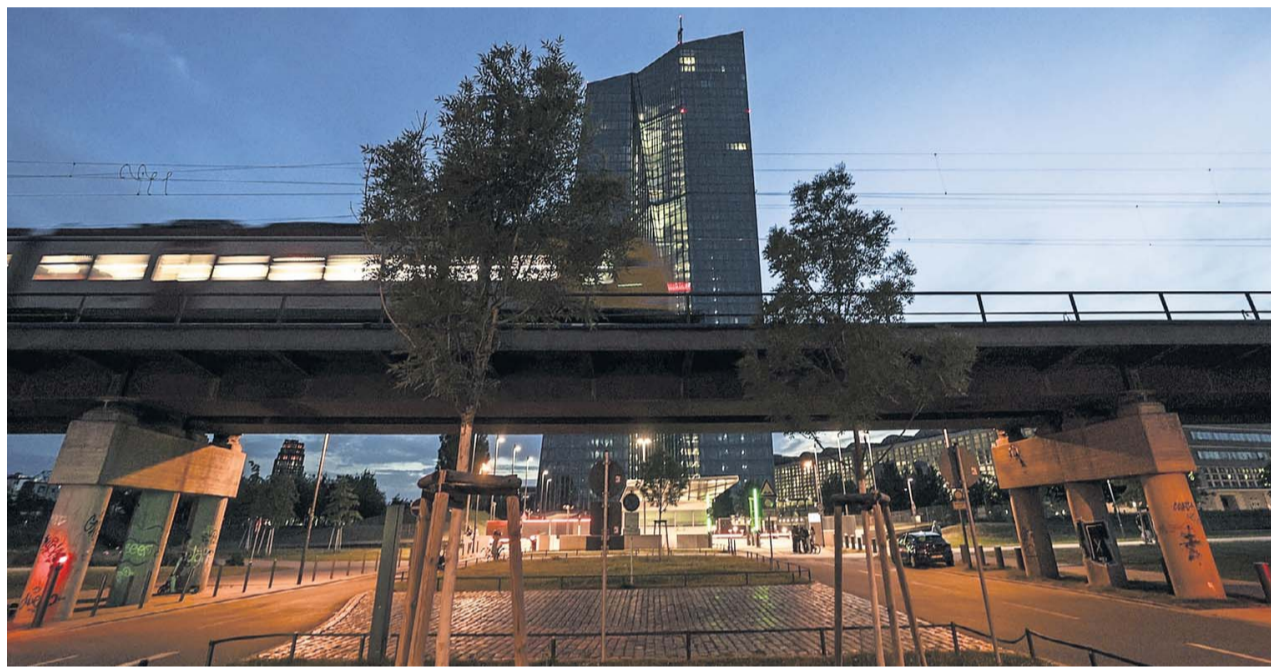
But they have also begun cutting their bond holdings in a process known as quantitative tightening, which shrinks the size of their balance sheets. The ECB and BoE still hold more than a quarter of their governments' outstanding debt, while the Fed holds a fifth, according to data analysis by the Financial Times.

This QT process, which started last year, has so far gone relatively smoothly with few signs of disruption in bond markets. This is giving economists and some senior central bank officials more confidence that it could be accelerated.

Mark Wall, chief economist at Deutsche Bank, said: "It would be reasonable for the ECB to start thinking about the next step in the gradual unwind of the expanded balance sheet," adding that this "could be a strategy to reinforce the credibility of further rate hikes".

Tomasz Wieladek, chief European economist for fixed income at T Rowe Price, said that QT was "another way of taking demand out of the economy". "Central banks don't like to talk about it because there's a fine line between monetary and fiscal policy. If they used it more forcefully as an instrument, it could work," he said.

At the ECB's annual conference in Sintra, Portugal, last month one rate-setter told the Financial Times it could soon discuss the possibility of actively selling some bonds before they mature. German central bank boss Joachim Nagel, said in March that "at a later stage" this



Frankfurt: the European Central Bank has been reducing the size of its balance sheet

Alex Kraus/Bloomberg

year the ECB could also consider a faster shrinkage of a separate €1.7tn bond-buying programme it launched in response to the pandemic.

Jens Eisensmidt, chief Europe economist at Morgan Stanley, predicted the central bank could start shrinking this pandemic emergency purchase programme in January next year and completely stop reinvestments by July, which would reduce it by €135bn next year. "All the evidence so far suggests there is no reason they can't go faster."

Dave Ramsden, the BoE's deputy governor for markets and banking, said last week that it could quicken the pace of QT after September, because its experience had proved it was possible for the exercise to operate "in the background" and had not had a big economic impact.

By contrast the US Fed has shown no sign of planning to adjust that: inflation has fallen faster in the US than in Europe, and it has reason to be cautious on liquidity levels in financial markets. In 2019 the Fed was forced to halt QT, after a \$750bn reduction in its asset holdings in two years caused a jump in short-term funding costs.

The Fed's balance sheet peaked in April 2022 just shy of \$9tn and has shrunk by roughly \$850bn, according to calculations from Scott Skyrim, a repo trader at Curvature Securities.

Praveen Korapaty, chief global rates strategist at Goldman Sachs, said the Fed can plough forward with QT this year and into 2024 without any issues given the financial system is "pretty far" from any kind of crunch point. However, he warned that an uneven distribution of bank reserves could mean certain institutions facing more immediate pressures than others.

"I'm very confident system-wide we are still saturated with liquidity... but it might not be the most useful distribution in the sense that clearly there are some small and midsize banks that are more constrained for reserves," he said.

The collapse of several lenders including Silicon Valley Bank earlier this year was a warning against overtightening financial conditions, some analysts said.

"Before SVB happened, many at the Fed probably felt comfortable really pressing the issue on QT and seeing how low they could run the balance sheet,"

'Central banks don't like to talk about it because there's a fine line between monetary and fiscal policy'

Tomasz Wieladek

said Blake Gwinn, head of rates strategy at RBC. "If we see any kind of hiccups or any kind of signs that banks are starting to become a little scarce on reserves, there is going to be a bit more anxiety there and they are going to be quicker to pull the trigger on ending QT."

Stepping up QT could help rebalance the distributional impacts of monetary policy tightening, Wieladek argued. "Policy rates remain the main instrument but it's not clear that this is the best thing to do, especially if you end up pushing all the monetary adjustment on just one actor in the economy", such as mortgage holders, he said.

But, he warned, the process carried risks: "There is a risk that we don't know the consequences of QT. [It] may be non-linear so the cost of government borrowing suddenly rises significantly."

"This is uncharted territory for many of the world's major central banks," said Ashok Bhatia, the IMF director of offices in Europe. "On balance, we think the approach adopted thus far is appropriate, with room for periodic reassessments of the pace in the future."

See Market questions Companies pages

Immigration

Regional leader calls for Germany to restrict right to asylum

GUY CHAZAN — DRESDEN

One of Germany's most powerful regional leaders has blamed the rise of the far-right Alternative for Germany (AfD) on a recent surge in illegal immigration and called for the country's constitution to be amended to restrict the right to asylum.

Michael Kretschmer, prime minister of the eastern state of Saxony, where the AfD is polling at around 32 per cent, told the Financial Times that rising numbers of refugees were placing enormous strain on local communities and fuelling popular anger with the government.

He said ministers must do more to restrict irregular immigration and said he "wouldn't exclude changing the constitution to try to modify the right to asylum".

Critics condemned the idea, saying the principle of offering a safe haven to those fleeing political persecution was one of the towering achievements of German constitutionalism after the horrors of the Nazi era.

Kretschmer, who is also deputy chair of the centre-right Christian Democratic Union, Germany's main opposi-

tion party, has called for an annual 200,000 upper ceiling on migrants and the creation of a national, cross-party commission to discuss reform.

"All the mayors and county council chiefs say they have reached the limits of their capacity," he said. "There aren't enough flats, school classes, kindergartens, German courses, integration courses. And we have to deal with that."

Kretschmer governs a state that has become a stronghold of the AfD, a party that has steadily radicalised since its founding in 2013. It is polling ahead of its own party, the CDU, which has governed Saxony, one of five states in Germany's former east, since reunification.

Experts suggest it could end up winning the Saxon regional elections in September next year, though it is unlikely ever to take the reins of government because no other party will form a coalition with it.

Despite its status as a pariah, the AfD has notched up some impressive victories in recent weeks. Its candidate won an election for district council head in the eastern town of Sonneberg in June, while another was elected mayor of Raguhn-Jeßnitz, also in the east, earlier

this month. Kretschmer said the AfD's recent success was largely due to the German government's failure to tackle the latest surge in refugee numbers, as well as a new bill to phase out oil and gas-fired boilers.

"The election in Sonneberg was all about immigration, the consequences of the war in Ukraine, the heating law and energy policy more generally, all issues that people are really upset about," he said. "Why didn't the government try to address them?"

Many experts have drawn parallels



Michael Kretschmer: says a surge in illegal immigration helped the AfD

between the current situation and the refugee crisis of 2015-16, when more than 1.1m migrants, mainly from the Middle East and north Africa, arrived in Germany.

Around 150,000 applied for asylum in the first half of 2023, much more than in the same period last year. They come on top of the 1.1m Ukrainians the country has taken in since the start of the war.

Kretschmer welcomed a recent deal in the EU to toughen up asylum and migration policies across the bloc, but said it would only come into effect late next year and deal with a small proportion of the migrants entering Europe.

Government parties rejected a proposal this month by Thorsten Frei, the CDU chief whip, to abolish the right to claim asylum on European soil and replace it with an EU-wide commitment to accept an annual contingent of 300,000-400,000 people.

Social Democrat MP Sebastian Hartmann described the individual right to asylum as "non-negotiable". "Such demands just raise expectations in society that on closer inspection are neither practical nor feasible in terms of the rule of law," he told the FT.

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INTERNATIONAL

Jet stream's 'heat domes' fuel soaring temperatures

Fast-moving band of air is key driver of extreme weather around the world

CAMILLA HODGSON AND STEVEN BERNARD — LONDON

Simultaneous heatwaves and flooding in swaths of the US, Europe and Asia are being fuelled by a specific jet stream pattern that creates a series of "heat domes", which in turn drive up temperatures, scientists say.

The fast-moving band of air that is a key driver of global weather systems has been locked for weeks in a pattern characterised by five large U-bend shapes, dubbed "wavenumber 5".

Scientists say such a pattern was also behind extreme weather around the world last year. Heat domes form in the regions south of the U-bends, raising temperatures in places within the dome as hot air is trapped and warms as it is squashed downwards.

Many regions are "suffering mightily" under these heat domes that have been "parked in place" for about a month, according to Jennifer Francis, a scientist at the Woodwell Climate Research Center.

Scientists have been trying to understand whether the band of fast-moving air that controls weather in the mid-latitudes is changing in a way that makes heatwaves and rainfall more frequent and persistent.

Following the month of June as the hottest on record globally, the World Meteorological Organisation has said preliminary data indicated that the start of July was the "hottest week on

record". National meteorological agencies said records had been set in places including Xinjiang in China, which hit 52.2C last week, and Rome in Italy, which hit 41.8C.

Scientists are clear that extreme weather events will become more frequent and intense as climate change accelerates. The world has already warmed by at least 1.1C since pre-industrial times.

How climate change is changing the behaviour of the jet stream is less clear. Researchers are trying to untangle the relationship between the two phenomena and what it might mean for future weather patterns.

"It's entirely normal for the jet stream to have this variability and get stuck in certain positions," said Cathryn Birch, professor of meteorology and climate at the University of Leeds in the UK. "It's not really possible to say whether climate change has influenced that."

Although heatwaves can occur in the absence of a wavenumber 5 pattern, the presence of the naturally occurring phenomenon can drive simultaneous heatwaves since it creates a series of heat domes.

Heat domes can be self-reinforcing, since dry hot ground can heat up faster as a result of the lack of moisture that might otherwise evaporate and help cool the atmosphere.

Human-induced climate change exacerbates the conditions, given that



Overcome: a visitor is affected by heat at the Acropolis in Athens
Louiza Vradi/Reuters

average global temperatures are higher than they would otherwise be.

At present, marine heatwaves in the Pacific and Atlantic oceans were also "dumping heat into the atmosphere", said Francis.

"It's really remarkable what's going on [in the oceans] right now and very disturbing," she said. "When we get wavenumber 5 as well it accentuates the heat that's being dumped into the atmosphere."

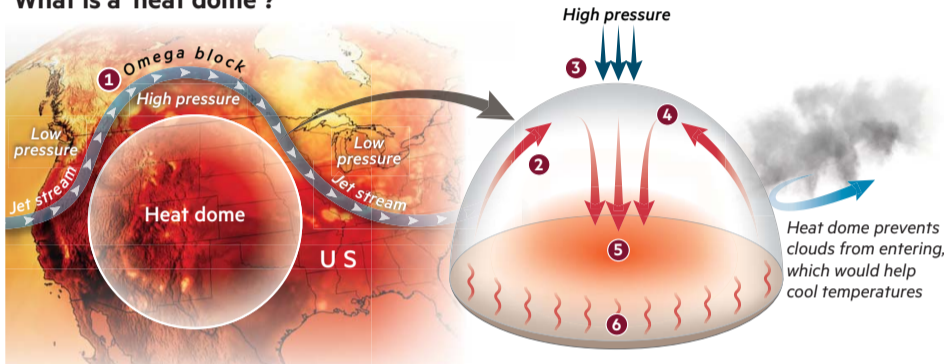
Scientists have warned that this year and next are likely to be unusually hot as a result of the developing El Niño weather phenomenon, which is associated with a warmer Pacific Ocean surface temperature.

But most concur that El Niño's consequences are more likely to be felt in coming months as it strengthens.

Looking ahead, researchers said the wavy jet stream pattern was expected to continue into August, although it could shift pattern or location, which would

'It's really remarkable what's going on [in the oceans] right now and very disturbing'

What is a 'heat dome'?



- 1 Warm Pacific air gets trapped in jet stream, forming 'omega block' loop
- 2 Warm air expands upwards
- 3 High pressure forms a dome that prevents warm air from escaping
- 4 High pressure forces warm air back to the ground
- 5 Warm air compresses as it sinks, releasing more heat
- 6 Heat causes ground to lose moisture, creating further warming and increasing likelihood of wildfires

Visual Journalism: Steven Bernard
Sources: National Oceanic and Atmospheric Administration; FT research
Follow @ftclimate on Instagram
Sign up for The Climate Graphic: Explained newsletter ft.com/climate

alter which regions are affected by heat domes and rainfall.

The wavy jet stream was in a slightly different position in June, for example, causing the UK to experience unusually hot temperatures and Europe to endure heavy rainfall. Regions that are between heat domes — such as parts of the US and South Korea in July — may experience sudden rainfall and flash flooding.

"You need something quite big to kick [a wavenumber 5 pattern] out of shape," such as a large amount of energy from tropical thunderstorms, said Paul Davies, chief meteorologist at the UK's Met Office.

The pattern is less common in winter in the northern hemisphere, as there is more energy in the atmosphere created by weather such as storms, which allows the jet stream to plough through potential waves. There were indications the jet stream pattern might be shifting and changing further, forming into a wavenumber 6, which would mean an additional U-bend, said Davies.

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INTERNATIONAL

Israel

Netanyahu in hospital as protests escalate

Government's plans to overhaul the judiciary approach crunch stage

JAMES SHOTTER — JERUSALEM

Israel's prime minister Benjamin Netanyahu was taken to hospital to have a pacemaker fitted to his heart yesterday, as a bitter battle over his government's plans to overhaul the judiciary approached boiling point.

Lawmakers are due to vote today on the first plank of the overhaul, which has plunged Israel into its deepest political crisis in years, sparking 29 weeks of mass protests, drawing criticism from the US and opening up fissures in the

country's crucial military reserve.

Doctors at the Sheba Medical Center near Tel Aviv said the urgent procedure to fit the 73-year-old Netanyahu with the pacemaker was necessary because he had suffered an arrhythmia.

Netanyahu had been fitted with a heart monitor a week earlier after being treated in hospital for what his office said at the time was "dehydration" caused by spending too long in the sun.

"All went well, the prime minister is doing very well," Eyal Nof, head of Sheba's invasive electrophysiology service, said yesterday.

In a video posted yesterday, Netanyahu said he was "doing great". He is expected to leave hospital today and said he would attend the vote. "We're

continuing with the efforts to complete the legislation and with the effort to do so with agreement," he added.

Netanyahu's hospital admission came amid a crescendo of protests against the overhaul being pushed by his coalition with far-right and ultrareligious parties. Tens of thousands of protesters streamed into Jerusalem on Saturday evening after a 70km, four-day march from Tel Aviv, while more than 100,000 others took part in a demonstration in the centre of Tel Aviv.

Further protests were due yesterday evening and Arnon Bar-David, the head of Histadrut, Israel's biggest union, said it would "not hesitate to act" if a compromise could not be found. "Everyone on both sides must recognise that we are

in a historic and critical time for our country's future," he said.

The street rallies have been accompanied by an intensifying drum beat of protests from reservists in Israel's military, with a group of 10,000 known as the Brothers in Arms saying on Saturday that they would stop volunteering for duty in protest at the overhaul.

Their announcement followed a similar threat by 1,100 air force reservists on Friday, which prompted Rear Admiral Daniel Hagari, the military's chief spokesperson, to warn the military's "cohesion has been damaged [in a way] which will take a long time to repair".

In a sign of the concern among military leaders about the impact of the reservists' threats, the chief of staff

Herzi Halevi warned in a letter to soldiers yesterday that "we will not be able to exist as a country in this region" if the army was not unified and strong. "It is our duty to prevent these cracks from widening," he wrote.

A cabinet meeting due yesterday morning was cancelled because of Netanyahu's hospital admission and trips to Turkey and Cyprus he had been due to make later this week were postponed. But a parliamentary debate on the first of the judicial changes being pushed by his coalition began as planned. At issue is a bill that would prevent Israel's top court from using the standard of "reasonableness" to strike down government decisions.

See Opinion

India

Modi tax crackdown leaves top think-tank struggling

JOHN REED AND BENJAMIN PARKIN
NEW DELHI

One of India's best-regarded public policy think-tanks is struggling to continue its work after authorities stripped it of its tax-exempt status and permission to raise foreign funds as part of an intensifying crackdown by the Modi government on civil society.

The New Delhi-based Centre for Policy Research, which conducts grassroots data collection, publishes research and organises talks, had its licence to raise money abroad suspended by India's home affairs ministry in February.

Tax authorities in late June informed the 50-year-old group, which formerly raised about 75 per cent of its funds outside India, that it had lost its tax-exempt status, a move it describes as "a debilitating blow" that "strikes at the core of its ability to function".

A senior official at the CPR, whose past backers included the Bill & Melinda Gates Foundation, told the Financial Times that the centre had been forced to dismiss most of its staff, cutting headcount to fewer than 60 from more than 200 last year.

"CPR reiterates that it is in complete compliance with the law and has been co-operating fully and exhaustively at every step of the process with all government authorities," the group said in a statement, adding it would seek "all avenues of recourse" on the withdrawal of its tax exemption. "We are hopeful of a just and swift resolution to current challenges."

Staff said they did not know why the authorities had acted against the think-tank. But some have speculated they may have been motivated by the CPR's independent research, media articles by staff criticising government policies and its work with local activists opposed to controversial coal mine development. An Indian government spokesman did not immediately respond to requests to comment.

The CPR was one of several organisations, including Oxfam India and the Independent And Public-Spirited Media Foundation, a non-governmental organisation that funds journalism, that were simultaneously raided by income tax officials in September. Staff said they were forced to hand over their laptops and phones, which were cloned.

Under the control of Amit Shah, a top deputy of prime minister Narendra Modi, India's home affairs ministry tightly controls the activities of charitable groups and NGOs.

The Modi government and its supporters have hit back in recent months against critics of its policies both in India and overseas, including US financier and philanthropist George Soros, who made a speech attacking Modi in February. Modi defended his record on upholding India's democratic principles last month, saying "democracy flows in our veins".

Leo Saldanha, co-ordinator of the Environment Support Group, an NGO based in Bengaluru, said government action against civil society groups had become "far more frequent and much more harsh".

India's moves against the CPR are part of decades-long efforts to tighten financial controls on think-tanks, academia, and other independent institutions that predate Modi but have intensified since he took office in 2014.

Asia powerhouse. Statistics

China data triggers doubts on transparency

Lack of full explanation about revisions adds to difficulties in parsing latest growth claims

THOMAS HALE — SHANGHAI

For investors and policymakers worldwide, China's quarterly economic data is a starting point in decoding the state of the world's second-largest economy, but the latest figures contained a puzzle of their own.

The country's gross domestic product had grown 0.8 per cent in quarterly terms and 6.3 per cent year on year in the second quarter. The combined quarter-on-quarter growth over the previous four quarters, however, implied growth of 6.8 per cent.

The mismatch arose because of official "seasonal adjustment" revisions by the country's National Bureau of Statistics to the quarterly growth data in 2022. While such revisions are routinely made, economists say their effect has become larger in recent years.

The lack of any detailed explanation on the process illustrates the difficulty in parsing China's statistics at a time when the trajectory of its economy is seen as crucial for global growth.

"That is where we are at the moment. How much has the economy grown in the second quarter, or [has it] not? That is a very important question for the markets and policymakers alike," said Louis Kuijs, chief Asia economist at S&P Global. "Everyone is asking, 'Is the Chinese economy stalling? It's not easy to give a waterproof answer to that.'"

China has "certainly become more of a black box, and it's just continuously moving in that trajectory", said Shehzad Qazi, chief operating officer at China Beige Book, which publishes alternative economic indicators based on surveys of private companies in the country. The surveys have consistently implied weaker consumption than official figures show.

Longstanding questions over how to interpret China's economic indicators have a new sense of urgency in 2023, when official data has pointed to a loss of momentum following the lifting of Covid-19 restrictions. Policymakers are grappling with trade headwinds, weak consumption and a property cash crunch that has dragged on for almost two years.

As in many other countries, China's official data is typically seen as a "reference" that can be supplemented with



Beijing: policymakers are grappling with trade pressures, weak consumption and a property cash squeeze
Mark Schiefelbein/AP

other indicators, ranging from steel production to energy consumption. But while some new data series have been added, a wide range of other sources have been discontinued, often for no clear reason. It has also become more difficult to access supplementary and detailed information.

"Disappearing series has been part of the challenge of analysing China in general, but accessing reliable data has definitely become harder in the past few years," said Diana Choyeva, chief economist at forecasting company Enodo Economics in London.

Questions around the reliability of domestic data flared up under the country's zero-Covid policy. In the absence of clear information from local authorities, traffic data was used as an indicator of the severity of citywide lockdowns. The government stopped publishing death data after a nationwide outbreak began. This month, the province of Zhejiang released and then deleted figures showing a sharp rise in cremations.

Carlos Casanova, senior economist for Asia at UBP, said he had been unable to access detailed data on local government land sales on Wind, a data plat-

form, since its use outside the country was restricted this year. "If I were to guess, I would say the reason for that is that pockets of stress have appeared . . . and they don't want the market to get too carried away," he said.

With the government tightening control on information, including a new data law that in many cases requires multinationals to split off their domestic and external data, fewer people are providing data of any kind. "When China Beige Book first got started, we had a multitude of competitors," said Qazi, who testified before a US congressional committee on China this month regarding the country's economic data. "Much of that has now disappeared."

Another economist working for an international investor, who asked to remain anonymous, said there was currently "less frank dialogue" within China and there were "some data constraints that are tightening".

That said, he doubted the government would disguise a growth shock. "They are sensitive to accusations that the data aren't quite reliable," he said. "[The government] would just have to print the numbers."

'How much has the economy grown in the second quarter, or [has it] not?'

A sense of slowing economic momentum in China has largely been based on the official data itself. The government has set a cautious growth target of 5 per cent, which Premier Li Qiang said last month the country was on course to achieve.

Still, as China's economy has proceeded to occupy a more significant position in a global context, there has been little corresponding development in its communications, analysts said.

In its data release this week, the NBS said in a footnote that the revisions from its "seasonal adjustment model" related to month-on-month revisions for industrial enterprises, fixed asset investment and retail sales. It declined to comment further in response to a question on how the seasonal model works, and instead pointed to the release.

"The national accounts data in China is still not produced in a way that we are familiar with in advanced economies," said Kuijs. "In terms of accountability and transparency standards, you can go to [other countries] and ask them questions, and they are supposed to explain, 'Why did we change this?'"

Additional reporting by Andy Lin

Emerging diseases

Funding crisis hits pandemic warning system

ANDREW JACK — NEW YORK

An influential early warning system for identifying emerging infectious diseases is in danger of financial collapse, raising concerns over experts' capacity to track future pandemics despite pledges by policymakers to learn lessons from Covid-19.

The Program for Monitoring Emerging Diseases (ProMED) was among the first to detect viral outbreaks including Sars, Mers and Covid-19, which it flagged in late 2019. But the system's operators are considering selling its Brookline, Massachusetts, office as they struggle to find fresh sources of funding to cover costs.

The free web and email-based notification service, which uses medical specialists to flag, interpret and share reports on infectious human, animal and plant diseases to aid mitigation efforts, has only raised \$20,000 nearly a year after launching a \$1m fundraising campaign. "ProMED is in dire financial straits," its staff warned as they announced plans to introduce pass-

words and attract paying subscribers, limit web scraping of its data and restrict access to its archive.

Linda MacKinnon, executive director of the International Society for Infectious Diseases, itself a small non-profit organisation that has run ProMED since

Linda MacKinnon: "We need sustainable funding. Right now it's just keeping the lights on"



1999, said: "We just cannot go on like this. We need sustainable funding. Right now it's just keeping the lights on."

The free service, which launched in 1994 and sends out 4m emails a month to over 20,000 recipients, is widely consulted by medical researchers, public health officials, governments and international agencies, as well as many commercial organisations including pharmaceutical groups, insurers and banks.

However, while ProMED continues to

be respected for its expert analysis, technological developments including widespread scraping of social media have led to the emergence of multiple competitors such as Bluedot.

As well as tracking early signs of respiratory diseases such as Covid-19 and Mers, ProMED was among the first to alert health officials to mosquito-borne diseases Zika and Chikungunya.

ProMED has functioned on a budget of less than \$1m a year to pay employees and stipends to a network of expert contributors. It has received sporadic grants and some core funding, notably from the Wellcome Trust up to 2025. Its latest strategic plan aims to raise \$5m a year.

Other surveillance systems have emerged that often integrate ProMED reports, including the World Health Organization's Epidemic Intelligence from Open Sources. ProMED has complained that commercial companies also re-use its data for their own benefit or sale beyond the terms of their licences.

Climate change

Saudis lead opposition to G20 fossil fuel deal

ATTRACTA MOONEY — LONDON

Several countries led by Saudi Arabia have blocked a move by G20 nations to reduce the use of fossil fuels, in the latest sign of the global tensions over the future role of oil, gas and coal as the world grapples with climate change.

G20 countries released a summary document on Saturday after several days of intense discussions hosted by India in Goa. It said that some member states had emphasised the need to cut back the use of fossil fuels without the capture of emissions "in line with different national circumstances". But others "had different views on the matter".

Those countries instead want to focus on the development of technology to capture greenhouse gas emissions.

Several people familiar with the negotiations said Saudi Arabia was prominent in the push against phasing down fossil fuels, and was backed by several other countries.

In past negotiations Russia and China have consistently opposed the move,

and they stymied a pact at the UN climate summit in Egypt late last year.

The G7 nations have already agreed to accelerate the phasing out of fossil fuels.

Saturday's gathering also failed to make progress on setting a global goal for renewable energy development.

The deadlock comes as countries

The failure to reach an agreement puts pressure on the UAE to intensify its discussions with leaders

around the world are suffering extreme weather including severe heatwaves and flooding.

The EU has been a leading supporter of efforts to shift away from burning fossil fuels, which account for about three-quarters of all greenhouse gas emissions.

Speaking at the end of the meeting, RK Singh, India's minister of power, acknowledged that the reduction of fos-

sil fuel production was a "sticking point" in the discussions. He said a larger part of the G20 was in favour and it was a "great conference".

India has committed itself to reaching net zero by 2070, while China has set a 2060 goal to be "carbon neutral".

A report prepared for India's G20 presidency estimated the cost of the energy transition at \$4tn a year globally and stressed the need for finance for developing countries; this has become a key demand of India's Prime Minister Narendra Modi.

The failure to reach an agreement is likely to pile pressure on to the United Arab Emirates to intensify its discussions with ministers and leaders. It will host COP28 in December.

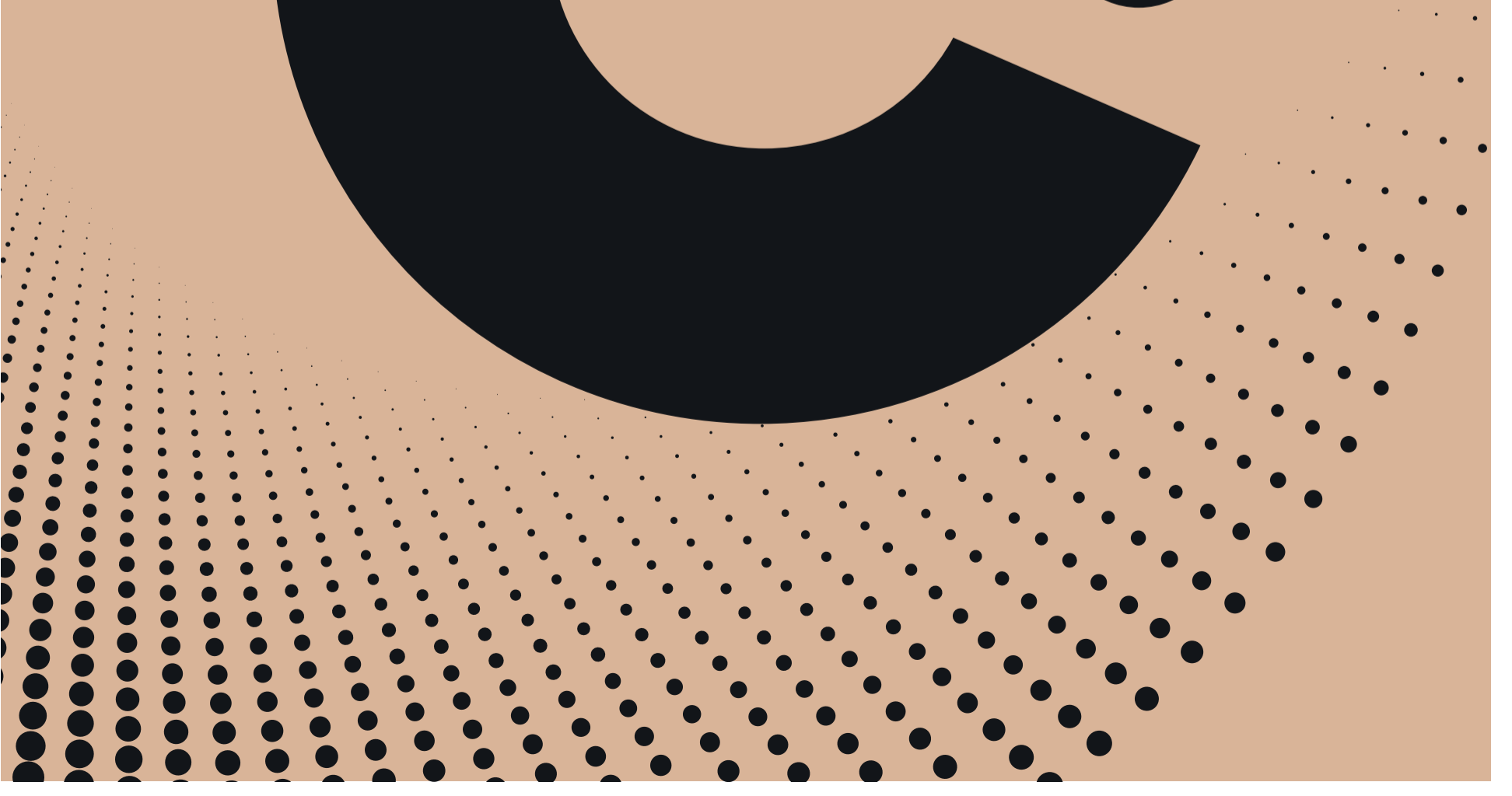
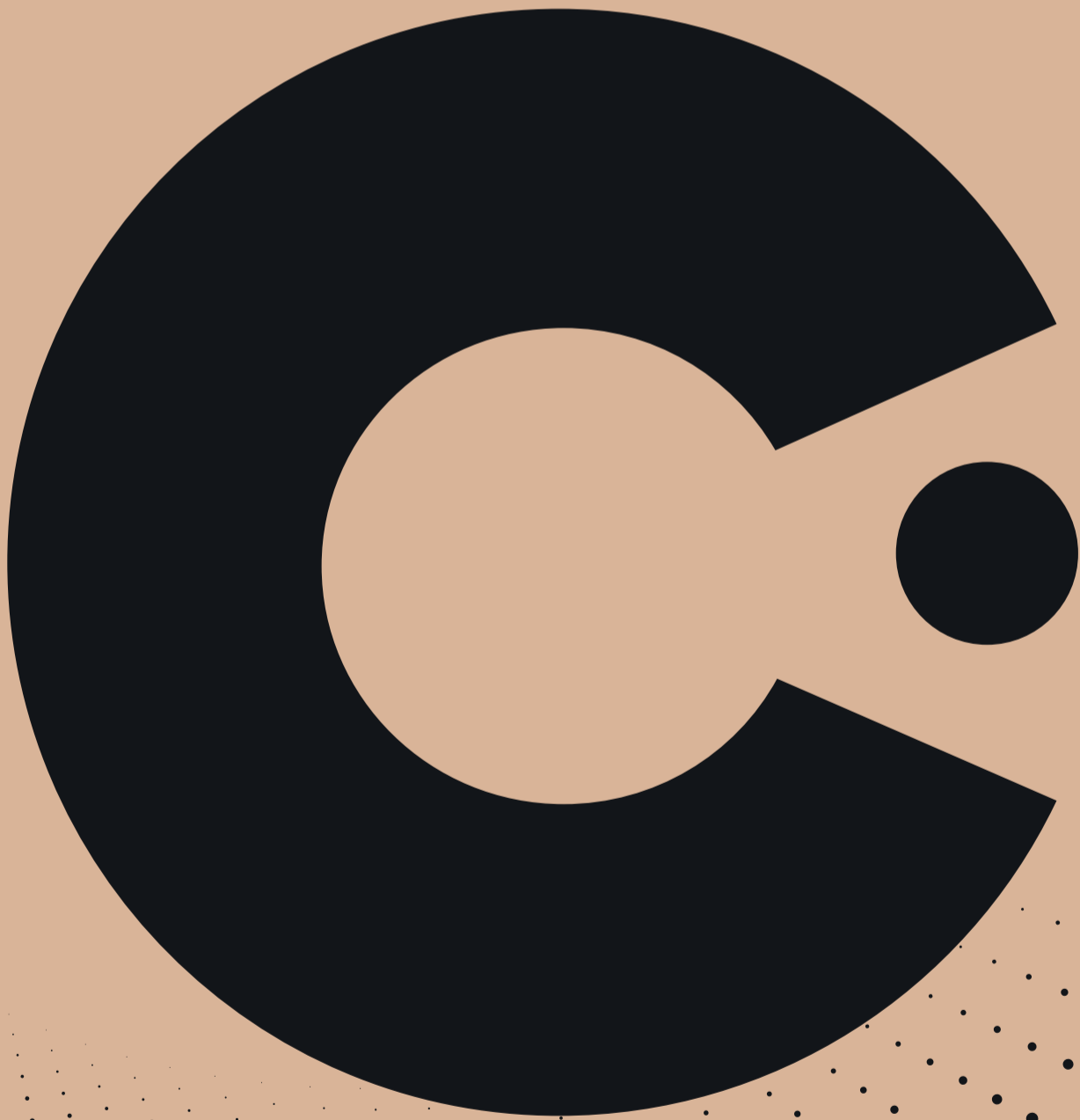
Global emissions need to be cut by 43 per cent by 2030 to stop temperatures rising above 1.5C above pre-industrial levels. But the world is on track for a temperature rise of between 2.4C and 2.6C by 2100, according to the UN Environment Programme. Temperatures have already risen at least 1.1C.



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Golden egg NetEase's unlikely smash hit game exceeds 30mn daily viewers, leaving rival Tencent racing to catch up → PAGE 8

Companies & Markets

EY appoints crisis expert to examine failed break-up plan

- Top lawyer to review Project Everest
- Collapsed scheme cost \$600mn

MICHAEL O'DWYER — LONDON
STEPHEN FOLEY — NEW YORK

EY has hired a leading adviser to crisis-hit companies to conduct a review of the failed attempt to split its audit and consulting businesses.

The Big Four firm has engaged Lord David Gold to examine the process behind Project Everest, which collapsed in April after leaders of its US business blocked the global break-up, according to people familiar with the matter.

Gold led Herbert Smith, one of the UK's top law firms, from 2005 to 2010 and has subsequently built a new business advising large companies facing high-profile problems with ethics, gov-

ernance and corruption. His review will attempt to identify shortcomings in EY's processes and governance during its planning for the abortive break-up, the people said. It is also expected to consider who within the organisation was responsible for any failings, according to one of the people.

EY's global bosses spent more than a year devising the split, which would have been the biggest shake-up of the accounting industry since the collapse of Enron auditor Arthur Andersen more than two decades ago.

Preparations for the deal, which would have seen the consulting business spun off and floated on the stock market, were beset by delays caused by infighting and the practical complexity of splitting the 390,000-person firm.

The ambitious move was an attempt to escape conflict of interest rules that restrict EY's consultants from working with audit clients. Its collapse left some of the firm's leaders "disappointed and embarrassed" and cost \$600mn.

Global boss Carmine Di Sibio, the driving force behind the attempted break-up, told partners last month that he would step down in June 2024 but insisted he was proud of what the firm had tried. He said it had "set the entire sector on a new course that will only become apparent in the years to come".

The factors that led to the break-up plan's demise are likely to fall under the microscope in Gold's review, which is his latest high-profile corporate appointment. Gold's previous clients include aerospace and defence groups trying to clean up their operations after corruption scandals that led to large financial settlements with authorities.

The US Department of Justice appointed him in 2010 as a monitor to ensure BAE Systems was complying with the terms of a \$400mn settlement over corruption charges.

Gold also advised Rolls-Royce on its anti-corruption policies after a bribery scandal. More recently he advised Airbus on ethics and governance ahead of a €3.9bn deal to end an international corruption investigation.

Dubbed the "king of litigation" by the City, Gold built a reputation as one of London's top lawyers in the almost four decades he spent at Herbert Smith. He has sat in the House of Lords, the upper house of the UK parliament, as a Conservative life peer for 12 years.

The UK's then prime minister David Cameron selected him in 2012 to lead an inquiry into the Conservative party's fundraising methods after a "cash-for-access" scandal.

EY and Gold declined to comment.

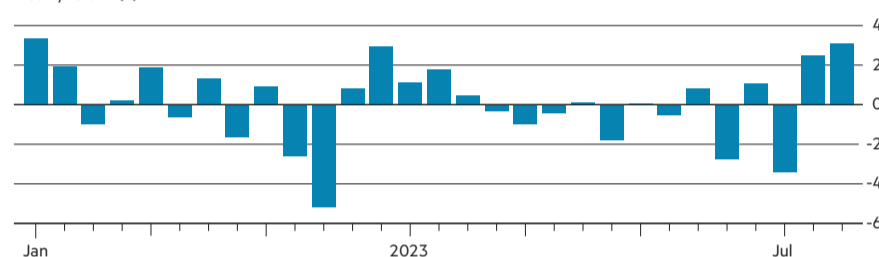
Building up UK stocks enjoy biggest rally since January as investors welcome falling inflation



Jason Alden/Bloomberg

FTSE All-Share index posts biggest weekly gain since early January

Weekly return (%)



Source: Bloomberg

GEORGE STEER — LONDON

UK stocks staged their biggest rally since January last week as investors warmed to a market that has missed out on global gains this year.

A bigger than expected drop in UK inflation in June helped London's FTSE All-Share index rise 3.1 per cent in the week to Friday, its best run since recording a 3.3 per cent gain in the first week of the year, according to Bloomberg data.

Property groups and housebuilders were among the biggest winners, with Persimmon, Barratt Developments and Taylor Wimpey all rising more than 10 per cent over the week as tentative signs of cooling price growth left traders scaling back expectations of where interest rates might peak.

The FTSE 100 eked out a modest 1 per cent gain last year and hit a record high in February. But the index has lagged far behind those in Europe and the US in 2023. New York's benchmark S&P 500 and Europe's region-wide Stoxx 600 have climbed 18 per

cent and 9.3 per cent respectively since January, compared with the FTSE 100's 2 per cent rise.

But some argue that UK stocks suddenly have the wind at their backs. "I wonder whether we'll look back at that June [inflation] print and think that was the day, that was the catalyst for a turn," said Neil Birrell, chief investment officer at Premier Miton.

The UK stock market was cheap, whether by international or historical standards, Birrell said. "Companies here are 20-30 per cent cheaper than their rivals overseas but they are not 20-30 per cent worse," he said. "Yes, there's a malaise hanging over the UK, but I think it's got to a stage now where the out-and-out value that exists here in the stock market is at a level that's not been seen before."

Becky Qin, multi-asset investor at Fidelity International, said she too was attracted by the prices on offer in the UK. "Valuation is truly quite cheap, we are happier to own UK large cap versus continental Europe or the US on valuation grounds," she said.

Others say that the UK remained a value trap for investors. Fund manager Nick Train said last week that UK equities were "abysmally" out of favour and could stay "frustratingly cheap for a very long time".

Data suggests his claims have merit. UK equities have yet to enjoy a single week of inflows so far this year, according to Barclays, while the latest Bank of America global fund manager survey showed a net 21 per cent of investors were underweight the UK.

Sonja Laud, chief investment officer at Legal & General Investment Management, told the Financial Times the UK was on track to slip into a recession that would weigh on equities.

Birrell was less concerned. "There probably will be a recession, but unless it's a really deep one it may not matter," he said. A potential uptick in mergers and acquisitions worried him more. "Our fund managers don't want too many takeovers. You don't get the chance to make money if others start picking off companies doing well."

Additional reporting by Mary McDougall

British banks best at passing rate benefits on to savers

OWEN WALKER — LONDON

UK banks have handed more of the benefits of interest rate rises to savers than their counterparts in Europe or the US, as politicians, regulators and clients push for a greater share of the haul.

Global banks are coming under pressure to pass on the gains of higher interest rates to their customers — but lenders in less competitive markets have proved far less generous than others, according to an analysis by rating agency S&P.

The rapid interest rate increases by central bankers over the past 18 months to combat the threat of inflation have been a boon for banks, which generate profits from the difference between the rate they pay depositors and what they charge borrowers, known as net interest income.

Analysts estimate the profit margins European banks make from net interest will peak in the third quarter this year.

But while the banks argue that healthier margins are a return to normal business conditions following record low and even negative interest rates, they have faced pressure to share more of the bounty with their customers.

Comparing markets based on the share of the increase in policy rates that banks pass through to the interest rates on deposits — a metric known as deposit beta — shows that customers in countries that began raising rates sooner have benefited the most so far.

In the UK, the Bank of England began raising rates in December 2021, one of the first big central banks to do so. Since then, it has raised its policy rate from 0.1 per cent to 5 per cent, with investors betting it could jump to 6.5 per cent by next March.

The UK's biggest banks, meanwhile, have passed on 43 per cent of the benefits to their customers in higher deposits. US banks passed on 25 per cent of the Fed's interest rate increases since it began raising rates in March 2022 to April this year.

Across the eurozone, where the European Central Bank began raising rates in July 2022, banks have been slow to pass on the benefits to their customers.

The average deposit beta for large eurozone banks in the nine months to April this year was 18 per cent, compared with 36 per cent in the first nine months of the previous period of sustained rising rates in 2005-08.

Technology. Semiconductors

Start-ups seek to challenge Nvidia over AI chips

Newcomers sense opportunity to capitalise on group's battle to meet surging demand

TIM BRADSHAW — LONDON

Start-ups are rushing to capitalise on surging demand for the specialist chips that power artificial intelligence, as a shortage of Nvidia's latest products presents a once-in-a-generation opportunity for new challengers to the dominance of the world's most valuable semiconductor company.

A huge upgrade to Nvidia's sales forecast, driven by AI, pushed its market capitalisation above \$1tn in May but demand is expected to outstrip supply for its latest chips well into next year.

Among the companies developing alternatives include SambaNova, Graphcore and Tenstorrent which have together raised more than \$3bn over the past several years, according to figures collated by Dealroom.co, which tracks private tech deals.

Yet few have yet made significant inroads against Nvidia, whose A100 and H100 chips have become the go-to for companies such as OpenAI and Inflexion AI that must process massive volumes of data to create their AI services.

Cerebras, a Silicon Valley-based AI chip start-up that has raised \$730mn since it was founded in 2016, this week announced it would build and run a network of supercomputers for Abu Dhabi-based tech group G42.

The deal will be worth "in excess of \$100mn" if certain milestones are met over the coming months, according to Cerebras chief executive Andrew Feld-

man. "AI right now has an insatiable demand for compute," he said. "When you're David fighting Goliath you look for cracks... [Nvidia's] inability to meet demand is just such a crack."

The deal with G42, a private company that works across multiple sectors such as healthcare, energy and cloud computing, is one of the biggest contracts of its kind for a would-be rival to Nvidia.

G42 plans to use some of the new computing resources itself, while also selling on any "excess capacity" to other customers through its cloud-computing arm alongside Cerebras.

"People can't get the hardware they want, or it's too expensive," said Talal Alkaissi, chief executive of G42 Cloud. "The market is hungry for alternatives."

Over the years, start-ups have variously claimed to outperform certain Nvidia products for particular kinds of workloads, including training the large language models that power chatbots such as ChatGPT and other "generative AI" systems capable of producing humanlike text and realistic imagery.

But AI researchers, and the start-ups that are turning their research into commercial products, still overwhelmingly prefer Nvidia's technology, according to entrepreneurs, investors and analysts in the sector. "None of these start-ups are making any significant amounts of revenue," said Jakob Zavrel, whose company Zeta Alpha tracks references to specific processors in AI research papers for tech investor Air Street Capital's State of AI report.

While Cerebras had seen an uptick in research citations this year, overtaking Graphcore, they numbered in the dozens compared with thousands of researchers who mentioned Nvidia

chips, Zavrel said. He predicted that the latest chips from AMD were more likely to take share from Nvidia than any of its private rivals. Intel is also readying its own attack on Nvidia after acquiring another AI accelerator start-up, Israel-based Habana Labs, for \$2bn in 2019.

At the same time, many of the cloud computing providers that buy chips to provide services to the new wave of AI companies and their enterprise customers are also developing their own semiconductors. Amazon Web Services launched Trainium, its custom chip for machine learning, in 2020, while Google Cloud has been offering its TPUs, or tensor processing units, to customers for five years.

Microsoft, which ended a relationship with Graphcore in 2020 after just a year, is also developing its own custom silicon for AI, further squeezing the opportunity for the start-ups that would hope to go to market via cloud providers.

To win the contract with G42, Cerebras had to go beyond creating some of

the world's most powerful processors — already an engineering feat few venture capital investors are willing to fund — by constructing and operating the entire infrastructure needed to host them too.

Some AI investors argue that chip start-ups must go even further to match Nvidia's offering. "It's not just a matter of designing the best chips, manufacturing those chips and bringing them to market in a way that people want them," said David Katz, a partner at Radical Ventures, an AI-focused tech investor.

"Nvidia has invested for a very long time in an ecosystem that lives around those chips... that has won the hearts and minds of the engineers that are working at the bare metal level."

That includes software and support, in particular its Cuda toolkit for programming its chips.

Faced with such a daunting set of tasks, some start-ups have pivoted away from a head-on competition with Nvidia. Celestial AI, a Silicon Valley-based start-up that raised \$100mn in June, refocused on "complementing" rather than competing with Nvidia, according to chief executive Dave Lazovsky, by developing optical technology for connecting AI processors with the high-performance memory needed to feed them data.

Fabrizio Del Maffeo, chief executive of Netherlands-based Axelera AI, is developing AI chips designed for cars, medical devices and security cameras, rather than the cloud and data centres where Nvidia's most powerful chips are in such high demand. "I always said it's crazy to go against a trillion-dollar company with unlimited resources," he said.

Additional reporting by Richard Waters
See The FT Big Read and Opinion



Nvidia: few rivals have made inroads against the trillion-dollar company

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Telephone: +1 (284) 346 9600. Email: kingateglobal@interpathadvisory.vg

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COMPANIES & MARKETS

Deutsche draws line under costly IT integration

Lender transfers final data from Postbank after 13 years of dithering and botched efforts following initial stake in retail bank

OLAF STORBECK — FRANKFURT

Over the first weekend in July, the most ambitious integration project in Deutsche Bank's history was confronted with the unlikely of obstacles.

Inside one of the lender's buildings in Frankfurt, a 200-strong team of retail bankers and IT specialists were racing to complete the final 2,833 tasks needed to transfer the remaining data of German lender Postbank's 12mn customers over to Deutsche's computer systems.

The tech sprint was the culmination of its latest effort to integrate Postbank, a retail lender in which it first acquired a stake during the global financial crisis before assuming full control in 2010.

A successful weekend would raise hopes of drawing a line under 13 years of dithering and botched attempts to make a success of the Postbank deal. Failure risked Postbank's operations grinding to a halt.

As the meticulous plan, rehearsed several times in previous months, unfolded, an unsuspecting member of the team opened a dishwasher in mid-cycle, with the escaping steam setting off a smoke detector and forcing the evacuation of the building. Precious minutes were squandered before firefighters gave the all-clear.

"My first thought was: 'This just can't be true,'" said Karl von Rohr, Deutsche's executive board member who was in charge of the integration.

Given the stakes, von Rohr's alarm was understandable. Since 2010, Deutsche has been operating two IT platforms: one for its own retail business and another for its Postbank brand.

"It was like having two banks in one. The systems generated twice the costs," Lars Stoy, Deutsche's head of retail banking in Germany, told the Financial Times, which was given access to the final IT push this month.

The team recovered the lost time and completed the data migration, meaning Deutsche's 19mn retail customers were all on the same tech platform for the first time when its branches opened the following Monday.

The transfer of customer data opens up the prospect that Postbank could yet be transformed into an asset for Deutsche's chief executive Christian Sewing, who has pitched the retail operations to investors as a way to cut the bank's reliance on its often erratic and capital-intensive bond trading business.

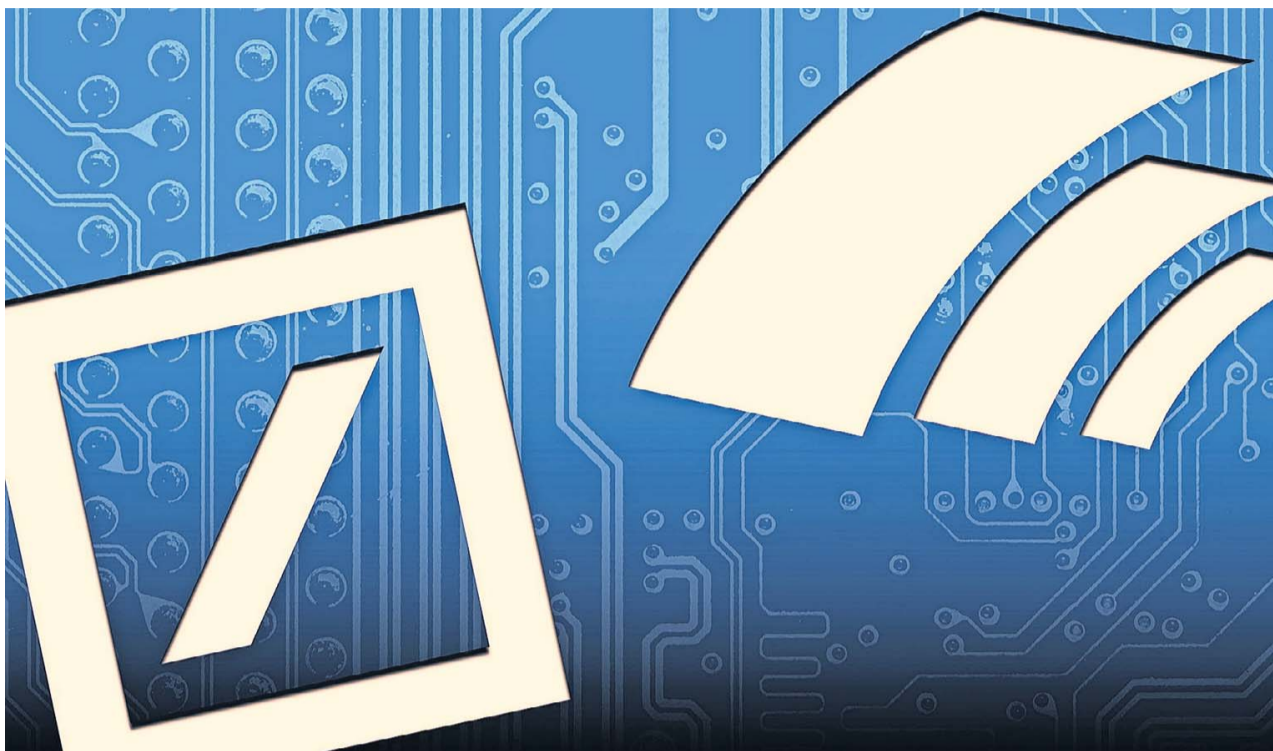
But that will require shareholders to regain confidence in an acquisition that has become a case study on how costly IT blunders and flawed integration efforts can be.

Sewing ran Deutsche's retail operations between 2015 and 2018, but long before he took the reins, Deutsche's initial rationale for buying Postbank, which was founded in 1909, had begun to crumble.

While Berlin encouraged its interest in Postbank, Deutsche sold the deal to shareholders with a seemingly compelling logic: Postbank's large retail deposits would provide cheap funding for an institution that harboured global ambitions for its investment bank.

Yet for almost a decade after Deutsche first began building its stake in Postbank, Germany's financial regulator insisted on the ringfencing of the latter's deposits.

Between 2010 and 2015, Deutsche squandered €1bn on its first big IT integration effort, dubbed "Magellan". The bruising failure helped persuade Deut-



Deutsche's acquisition of Postbank became a case study on how expensive IT blunders and flawed integration efforts can be

FT montage/Dreamstime

sche to put Postbank up for sale in 2015, before a fruitless search for a buyer led to a decision to fully absorb the business.

Dubbed "Unity", the renewed integration effort in 2017 aimed to get rid of Postbank's own IT systems while delivering €900mn in annual cost savings and additional revenues by 2022. Neither target survived.

"The integration of processes and [corporate] structures took way too long. We should have started working on this much earlier," conceded a senior manager.

Until 2018, its efforts were also hobbled by a complex structure in which Deutsche's German retail bank, Postbank and the wider group were three notionally independent legal entities with their own boards that each needed to approve decisions.

Deutsche is now targeting €500mn of cost savings by 2025 in the latest iteration of Project Unity. The stakes are high for Sewing, who has promised to increase revenues at the bank's retail business between 4 per cent and 5 per cent a year. That would be a radical departure from its recent performance, with the division delivering negative returns on tangible shareholder equity in four of the past six years.

A lacklustre retail business has failed to galvanise Deutsche's share price, which has fallen 20 per cent under Sewing and the bank now trades at just 0.36 times its book value.

It is not just shareholders who need persuading that the ill-fated acquisition can be rehabilitated. Despite the euphoria among executives that the final migration of data went as planned, the confidence of Postbank's 12mn customers needs rebuilding following a series of mishaps.

In January, after an earlier migration of data, Postbank's online operations were beset by outages for several days. Many customers struggled with a new mobile app, call centres were overwhelmed and social media was flooded with scathing comments. "IT chaos at

'Integration of processes took way too long. We should have started working on this much earlier'

Postbank," thundered Bild, Germany's largest tabloid.

As a result, Deutsche increased its customer support and flagged more clearly another weekend of data migration in April and the final one this month, helping to avert another wave of criticism.

Pointing to the complexity of the task, Stefan Peschke, co-head of Project Unity, is adamant that the migrations that culminated this month unfolded without big hitches. In total, more than 100bn data sets relating to 12mn customers were extracted from Postbank's IT, transformed into a format that Deutsche's systems could digest and then

moved. "We needed to ensure that we did not lose a single piece of data – that was the most important point," said Peschke.

The groundwork was laid just as the coronavirus pandemic struck Europe in the spring of 2020, when for the next 18 months more than 1,000 staff analysed the Postbank data, worked out how to move it and unearthed complications.

One stemmed from the fact that some Postbank clients were erroneously still listed as residents of defunct states such as Czechoslovakia or Yugoslavia, designations that Deutsche's systems rejected. "In such a project, you not only have to deal with decades of data and

history but also with junk data," said Karsten Roesch, who ran the Unity project alongside Peschke.

Roesch, who also led Project Magellan, said lessons were learnt from that failure in which an attempt was made to design a new IT architecture for both Deutsche and Postbank. "For the first 18 months during Magellan we just wrote one concepts paper after the next and built test systems for current accounts. None of that got implemented," Roesch said.

This time Deutsche was both more brutal and less ambitious, deciding to transfer all Postbank data to its existing IT system but expunging everything tied to Postbank – with the exception of the brand and the branches. "That was a difficult decision which initially did lead to internal scepticism and opposition," said von Rohr, adding that it was essential to meet cost-cutting targets.

Despite this month's success, the process of drawing a line under Postbank's IT is not finished. While they are no longer in daily use, some systems will remain live until next year as historic transaction data needs archiving.

"As an example, for current accounts, we are obliged to keep the transaction history more than 10 years," explained Peschke.

As Deutsche prepares to release its second-quarter results next week, Sewing can expect questions about whether the retail bank can turn its performance around. Claudio de Sanctis, who will succeed von Rohr as the executive board member responsible for retail banking in October, said further IT improvements can be made "even after the successful completion of the Unity project".

But, for now, there is relief at some rare good news on its troubled relationship with Postbank. "This was a massive drain on the whole organisation, and not always great for our clients," said Stoy. While insisting that the integration would prove "crucial for our transformation", he also admitted that "I won't become a big fan of IT migrations".

Industrial goods

US battery start-up bets on German demand

PATRICIA NILSSON — FRANKFURT
HARRY DEMPSEY — LONDON

A US battery start-up aims to begin producing silicon in Germany, as the company bets on rising demand from the country's car industry for technologies that cut its reliance on China.

Washington-based Group 14 has bought Schmid Silicon Group and plans to revive its idled silane gas plant "as soon as possible" to start making next-generation battery materials.

Its pitch is to replace all or part of the graphite in the negatively charged anode of a battery, increasing the potential appeal of the still untested technology to companies seeking ways around China's near monopoly of graphite production.

"Our biggest investors are the German auto companies," said Rick Luebbe, founder and chief executive of Group 14, which is backed by Porsche and has been granted \$100mn by the US government to help boost the country's battery supply chains. "They also want domestic supply chains [of battery materials]," he added.

Rising tensions between China and

the US, and the increasing number of export controls between the world's two superpowers on key technology and raw materials, has spurred western companies to look at diversifying their supply chains away from China.

European carmakers are particularly vulnerable, as the looming EU ban on combustion engine vehicles is forcing incumbents to replace technology that they pioneered with batteries that are largely powered by raw materials and innovations from China.

China has a stronger grip on global graphite production than on lithium,



Schmid Silicon has been bought by Washington-based Group 14

cobalt and nickel, the raw materials used in a battery's positively charged cathode.

According to Benchmark Mineral Intelligence, China controls all of the world's processing capacity for battery-grade graphite from mined materials.

"Both the US and EU are recognising that batteries are of economic strategic importance – so having such a big reliance on another part of the world is a risky strategy," Luebbe said.

Battery experts say that replacing graphite with silicon in the anode would enable fast charging and increase the range of an EV significantly.

Critics of the silicon-based technology say it faces several challenges, including expanding and contracting upon charging, which can cause the battery to die quickly.

"Silicon dominant technologies are a few years away from commercialisation," said Rory McNulty, an analyst at Benchmark Mineral Intelligence. "Cost is one of the big questions hanging over silicon if it can compete with graphite."

But Luebbe argued that silicon-based batteries would bring additional benefits, including on emissions.

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COMPANIES & MARKETS

Banks

Swiss authorities made plans for Suisse failure

Finma and other state groups had contingency aims before UBS takeover

OWEN WALKER
EUROPEAN BANKING CORRESPONDENT

The Swiss government planned to install Sergio Ermotti as chair of Credit Suisse in the event it was forced to nationalise the beleaguered bank.

Ermotti was eventually brought back as chief executive of UBS in March, days after it rescued Credit Suisse from collapse in a deal that removed the need for Swiss authorities to take the 167-year-

old lender under state control and test bank failure rules put in place after the global financial crisis.

Swiss authorities — including the finance ministry, national bank and financial regulator Finma — pushed hard in mid-March for UBS to take over its ailing rival, but they had been drawing up detailed contingency plans since Credit Suisse was hit by a damaging bank run in October, according to three people with knowledge of the preparations.

Among the plans was drafting a shortlist of financial executives who could be shuttled in as chair of Credit Suisse and would be allowed to bring in their own

emergency executive team. Ermotti was top of the list and talks between the 63-year-old banking executive and representatives of the Swiss government took place in the days leading up to Credit Suisse's collapse, according to the same people.

But by the time negotiations were taking place over the fate of Credit Suisse during the weekend of March 18 and 19, Switzerland's Federal Council had decided nationalising the bank would not be an option as similar moves by UK, Dutch and Irish governments following the global financial crisis had proved costly and time-consuming.

The alternative plan for dealing with

Credit Suisse if the takeover by UBS fell through was resolution, a form of insolvency proceeding that has yet to be tested on a large global bank since the financial crisis.

Under the resolution plan, Finma would have taken control of Credit Suisse and the bank's equity and additional tier 1 bonds would have been wiped out.

Its bail-in bonds would have been converted to equity, said the people with knowledge of the plans.

Finma would have then made changes to Credit Suisse's board and management team with the aim of accelerating the wind-up of its invest-

ment bank — though slower than the plan currently being carried out by UBS — the people added.

Ermotti had been chief executive of UBS for nine years up to 2020, but was brought back to replace his successor, Ralph Hamers, just days after the takeover of Credit Suisse was agreed.

The deal is the first time two global systemically important financial institutions have been brought together.

Ermotti is due to set out his plans for the combined business at UBS's second-quarter results on August 31.

Credit Suisse, UBS, Ermotti, Finma and the Swiss finance ministry all declined to comment.

Financials

Windhorst discloses loss on German football club

ROBERT SMITH AND SAMUEL AGINI
LONDON

US private equity group 777 Partners has paid Lars Windhorst less than €15mn up front to buy his majority stake in Hertha Berlin football club, a heavy loss on the financier's original €374mn investment.

Windhorst confirmed previously undisclosed details of the recent sale during a London court hearing last week when a barrister representing one of his creditors cross-examined him about his financial arrangements.

During the hearing, Windhorst said he had sold Hertha Berlin for a €65mn purchase price, offset against a €50mn loan that 777 had previously provided.

The deal also included a "performance-related" payment of up to €35mn potentially due in future. It was agreed in March between one of Windhorst's Dutch investment companies and a Belgian company belonging to 777.

Windhorst told the hearing that 777 had not yet paid all of the €15mn and that he did not remember how much had been received so far. He disagreed with the barrister that this meant 777 had defaulted on the deal.

"There was no default as far as I'm concerned," he told the court, adding that he had agreed to defer some of the payment and could receive a "triple-digit"-million amount from the sale in future.

The claimant's barrister asked Wind-

Windhorst had promised big spending to turn the struggling Hertha Berlin into a 'big city club'

horst how this would be possible if the deal allowed for an extra €35mn at most and even this payment was conditional on Hertha Berlin — which was recently relegated — coming first in Germany's top-level Bundesliga.

Windhorst replied that he was "not on top" of the details of the deal, noting that he was "personally doing lots of transactions". 777 declined to comment.

Windhorst first took a stake in Hertha Berlin in 2019, at a time when he was still receiving large amounts of funding from France's H2O Asset Management. He promised big spending to turn the struggling team into a "big city club".

But its fortunes failed to improve on the pitch even after Windhorst's spending spree and his tenure as owner was overshadowed by a Financial Times revelation last September that he had hired an Israeli intelligence firm to orchestrate a campaign to oust the club's president, Werner Gegenbauer.

Many fans were outraged and German news outlet Der Spiegel called the clandestine campaign against Gegenbauer a "scandal that is unparalleled in the history of the Bundesliga".

Windhorst initially dismissed the story as "nonsense" but an investigation commissioned by Hertha Berlin found that invoices related to the campaign were paid from one of his bank accounts.

In November, he struck the deal to sell Hertha Berlin to 777, which is pursuing a strategy of buying lower league football clubs, including Red Star FC in Paris, the Rio club Vasco da Gama and Italy's FC Genoa.

Market questions. Week ahead

Investors split on whether Fed has finished lifting rates

Will the Federal Reserve signal it has finished lifting rates?

The US Federal Reserve is widely expected to lift its key interest rate by 0.25 percentage points this week. Investors will be watching for clues from chair Jay Powell as to whether the rise is the last in its 16-month monetary policy tightening campaign.

Ahead of the two-day meeting that ends on Wednesday, several Fed policymakers have indicated a resumption of tightening after the central bank paused its tightening cycle in June for the first time in over a year. The Fed has lifted rates from near-zero at the start of 2022 to a range of 5-5.25 per cent today.

Investors and economists are split on whether the expected July increase will be the last. Pricing in the futures market suggests that the Fed will stop raising rates after July. This view gained steam after inflation data for June showed that consumer prices rose at the slowest pace since 2021, though pressures still remained in some core sectors.

But hawkish Fed official Christopher Waller has said he could push for another increase in rates after July — potentially as soon as September — if inflationary pressures in core sectors persist.

Economists have pointed to the consistent strength of the US labour market both as an indication that inflation could remain high, and as evidence that the Fed could safely continue to raise interest rates without necessarily pushing the economy into a recession.

Kate Duguid

How close is the ECB to the finishing line?

There is little doubt that Christine Lagarde will announce another quarter percentage point increase in interest rates after the European Central Bank meets on Thursday.

The main suspense is over what the ECB president will say about the likelihood of further rate rises to ensure eurozone inflation keeps falling towards its 2 per cent target. Some of the more hawkish members of the central bank's rate-setting governing council have signalled some doubts over whether monetary policy will be tightened further at its meeting in September.

Economists expect the eurozone economy to remain weak and even slightly shrink when second-quarter gross domestic product figures are released later this month and inflation is



Federal Reserve chair Jay Powell will be closely watched for clues about whether further interest rate rises are likely

Tom Williams/CO-Roll Call, Inc via Getty Images

likely to slow further in July, while remaining well above the ECB's target.

Dirk Schumacher, an economist at French bank Natixis, predicted Lagarde would adopt a "neutral tone regarding the September meeting" and that she would "leave all options on the table, also further rate hikes beyond September should this be deemed necessary".

However, others are convinced the ECB will keep rates steady after this week. Silvia Ardagna, an economist at UK bank Barclays, said the fact the eurozone was "flirting with recession", bank lending was contracting and insolvencies rising meant she expected no more rate rises after July. "Weaker activity is helping the disinflationary progress," she said. *Martin Arnold*

Will the Bank of Japan relax its grip on the bond market?

Investors are bracing for the Bank of Japan's policy meeting this week after official figures showed inflation accelerated in June, adding pressure on the

bank's committee to unwind its ultra-loose monetary policy.

Market expectations for the BoJ's meeting have fluctuated in recent weeks, with the yen rising 3.5 per cent against the dollar in early July on expectation of a policy tweak, but falling back last week after governor Kazuo Ueda signalled his intention to maintain current easing measures.

Economists had expected Japan to relax its yield curve control policy this month, through which it buys 10-year government bonds to hold down yields, because the BoJ will publish its inflation projection for the next fiscal year, which is widely anticipated to be revised higher than 2 per cent.

But last week Ueda signalled that the central bank would maintain its easing measures at its policy meeting this week. "There is still a distance to sustainably and stably achieving our 2 per cent inflation target," he said.

Chris Turner, head of FX strategy at ING, said: "It seems that Ueda's com-

"The BoJ has surprised us before and there are those that think the possibility for a surprise is live"

Themos Fiotakis, Barclays

ments poured cold water on the views of those expecting a policy change."

Despite Japan's inflation rising to 3.3 per cent in June, it was in line with the expectations of economists polled by Reuters and the yen fell 1.2 per cent on the news, as markets continued to pare expectations of a policy change. "We have moved back from the view that July will be the date they loosen policy and now we expect it towards the end of the year," said Themos Fiotakis, head of FX research at Barclays.

Still, traders are not ruling out the possibility that the world's third-largest economy will shock the market this week, as it did in December when the target range for yield curve control was doubled to plus or minus 0.5 per cent.

"Overall expectations for a policy change [this] week are very low," Fiotakis said. "However, the BoJ has surprised us before and there are those that think the possibility for a surprise is live — that would be a big market event."

Mary McDougall

Technology. Mobile success

'Eggy Party' cracks gaming market and leaves Tencent racing to catch up

NetEase app takes rivalry to new level after racking up

30mn daily active users

ELEANOR OLCOTT — HONG KONG

When Chinese tech group NetEase launched *Eggy Party* last year, a mobile game featuring cute, squishy eggs navigating obstacle courses, it appeared to be a flop. But then the unexpected happened — it cracked the market.

NetEase executives were stunned as the game, which according to company insiders had a smaller development budget than other big titles, racked up 30mn daily active users and became the most downloaded games app in China earlier this year.

Eggy Party has put NetEase in direct competition in the casual games market with its larger rival Tencent and underscored the unpredictable tastes of China's more than 660mn gamers, who collectively spent \$45.5bn on gaming last year, according to Niko Partners.

The viral mobile game, where friends

compete against each other, has deepened the rivalry between the two largest Chinese gaming companies after Tencent's investee company Epic Games put off the publication of a mobile version of a similar title because of a bitter legal dispute with Apple, according to company executives.

NetEase, which derives 77 per cent of its revenue from gaming, has excelled in so-called "hardcore games", including *Fantasy Westward Journey* and *Tianxia*, which appeal to seasoned gamers and are geared towards PC and consoles.

Eggy Party is NetEase's first smash hit in casual titles, which are easy and usually free to play on mobile, a domain that Tencent has traditionally dominated with games such as *Fight for the Golden Spatula* and *Triple Match 3D*. The Shenzhen-based internet giant has leveraged its ubiquitous messaging and payment app, WeChat, to cement its top position by building games into its platform.

Lola Kang, a 19-year-old university student in the southern city of Guangdong, is an *Eggy Party* fan because it breaks the mould of many other games

filled with buxom female avatars in skimpy outfits designed to appeal to the "male gaze".

"This is not a 'bro' game but a 'sis' game," she said, adding that she enjoyed the user-generated content that allowed players to create their own gaming worlds.

NetEase's founder and chief executive, William Ding, has become directly involved in *Eggy Party*'s development to ensure its continued popularity, according to company insiders.

He is pushing for the game, which is popular among young women, to be a testing ground for generative artificial intelligence tools for users to create their own obstacle courses. In a recent investor call, he exuded confidence that *Eggy Party* would become an enduring title with at least a 10-year shelf life.

While Tencent's gaming portfolio remains popular in the country, NetEase's ability to create a viral social game like *Eggy Party* has caused consternation in its rival's headquarters after it spent billions of dollars between 2019 and 2021 acquiring studios to secure its next hit title. Tencent is expecting a big

revenue boost this year from the domestic launch earlier this month of the popular shooting game *Valorant*. But one staffer in the gaming team said senior leadership was still "very anxious about the pipeline of new mobile games".

NetEase's share price has risen 35 per cent this year, bolstered by a positive turn in investor sentiment after Beijing started issuing gaming licences follow-



'Eggy Party' is seen as breaking the mould of many other games

ing an 18-month pause during a regulatory shake-up of the sector.

Tencent's stock, meanwhile, has risen just 4 per cent over the same period. The group, which gets around one-third of its revenue from gaming, has been more exposed to the economic downturn, with slowdowns in online advertising and consumption hitting its social media and fintech businesses.

Robin Zhu, gaming analyst at Bernstein, said *Eggy Party*'s success underscored the sometimes random and unpredictable nature of the gaming industry successes.

"There is enough evidence of massive companies spending so much money on game development and getting nowhere to suggest that some companies are better at developing games than others," he said.

He added that NetEase, famed for its free-wheeling and artistic culture, in which teams continuously pitched new game ideas and were given financing through various rounds of testing, had been conducive to yielding good results.

Another Tencent manager in the gaming department, who plays *Eggy*

Party in their free time, said they lacked the same "creative atmosphere".

Tencent's frustrations have been compounded by the perception that *Eggy Party* is a "copycat" game of *Fall Guys*, another obstacle course title developed by developer Mediatonic.

Epic Games purchased Mediatonic in 2021, in a move to cement its position in this burgeoning sub-genre. But according to people familiar with the matter, Mediatonic's plan to launch the mobile version of *Fall Guys* was derailed by its parent company's legal battle with Apple over its app store policies.

The void was filled by *Eggy Party* in China, while Finnish-developed *Stumble Guys* became popular overseas.

Tencent is fighting back by developing what one gaming staffer called a "copycat of the copycat game". It is testing a new multiplayer obstacle course game *Playground* in a move designed to attract *Eggy Party*'s player base. But the same employee noted that "with *Eggy Party*, in this important party game genre, NetEase is in a much better position than Tencent. Once you have a strong product in a genre, you're the winner".



Rutherford Hall
 'It's getting to a point where a business can't launder its brand image'
 WORK & CAREERS

Tattoos have reached a turning point at work



Pilita Clark
 Business Life

Markéta parties in a gown . . . but keeps her trainers on," marvelled a headline in the Daily Mail last week about Markéta Vondroušová, Wimbledon's new women's tennis champion. A photo with the report confirmed that the 24-year-old Czech had gone to a celebratory ball on Sunday night in a strapless black gown and a pair of white trainers. But just as I was working myself up into a snit about the cultural oppression of women sensible enough to wear comfortable shoes to a black tie do, I noticed something else in the photo. What were all those black squiggles on Vondroušová's arms? From the wrists right up to her shoulders? Were they . . . tattoos? They were. As more attentive Wimbledon watchers had clocked days earlier, Vondroušová, who got her first tattoo for her 16th birthday, has amassed so many since that she has lost count of the total. Her arms are festooned with a sword, a fairy, a heart and slogans such as "no rain, no flowers", that presumably make some sense to a star athlete. My first thought about this was that



Kenneth Andersson

it was a wonder Wimbledon's famously demanding dress code allowed it. Organisers only agreed last year to relax their all-white clothing rules so female players could wear dark undershorts and avoid the added stress of playing in white while menstruating. My second thought was, if Wimbledon doesn't care, and if the Daily Mail finds trainers under a gown more noteworthy, what's going on in the office? Are tattoos so mainstream now that even the most buttoned-up employers no longer police them? I contacted a few to find out. At the 134-year-old Slaughter and May law firm, "tattoos are definitely not prohibited," a spokeswoman told me. The even older HSBC bank also has no rules on tattoos, or shorts for that matter, but does expect staff to dress in a manner "appropriate to the business situation".

Goldman Sachs is in a similar boat, **“If you discriminate in the labour market against those with tattoos, you'll be left with a pretty small labour pool”**

which is no surprise considering the arms of its former chief financial officer, Marty Chavez, were adorned with large Japanese language tattoos. Bankers and lawyers are not alone. "I think many people would be shocked to know how many physicians have tattoos," says Professor Michael French, chair of the department of health management and policy at the University of Miami. He knows this because he teaches a lot of doctors, has four tattoos himself, and has done some of the most interesting research on tattoos in the workplace. Some show getting inked is associated with risky behaviours, such as smoking and sexual activity. But the more surprising study that led me to call him last week was a 2018 paper which revealed that in the US, the inked were just as likely to be employed, and to earn as much as the uninked. Indeed, men with tattoos were 7 per cent more likely to be employed than men without them. Lest any male reader is now frantically googling his nearest tattoo studio, we are talking correlation, not causation here. A tattoo won't necessarily boost your salary, but it isn't likely to harm your job prospects.

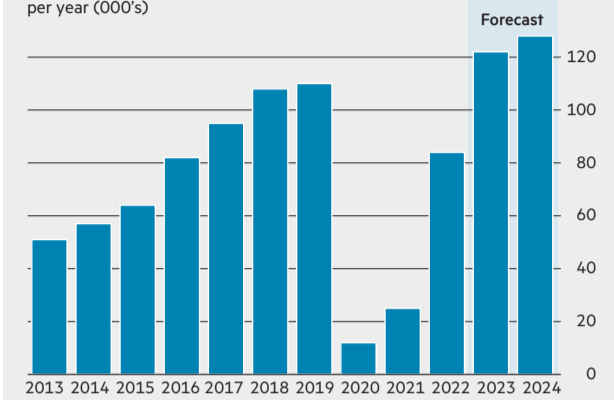
That doesn't mean the tattooed face no discrimination at work. It is possible some companies have no rules on body art because they quietly ensure the visibly inked don't make it past a job interview. But it is clear there has been a turning point for tattoos at work. That probably shouldn't be surprising considering the size and, crucially, the age of the tattooed population. About 30 per cent of Americans and 26 per cent of Brits are estimated to have at least one tattoo, and they are mostly relatively young. Last year, more than 30 per cent of Britons aged between 25 and 54 said they had a tatt, compared with just 14 per cent of those aged 55 or older. No wonder employers in constant need of new recruits have had to ease their rules on tattoos. Air New Zealand, the US Air Force and London's Metropolitan Police are among the many groups to have loosened their rules in the past five years. French puts it well: "If you are discriminating in the labour market against those with tattoos, you'll be left with a pretty small labour pool."

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Lex.

Migration: moneybags on the move

Millionaire migration is on the rise
 Number of individuals with over \$1mn relocating per year (000's)



Source: Henley & Partners Private Wealth Migration report

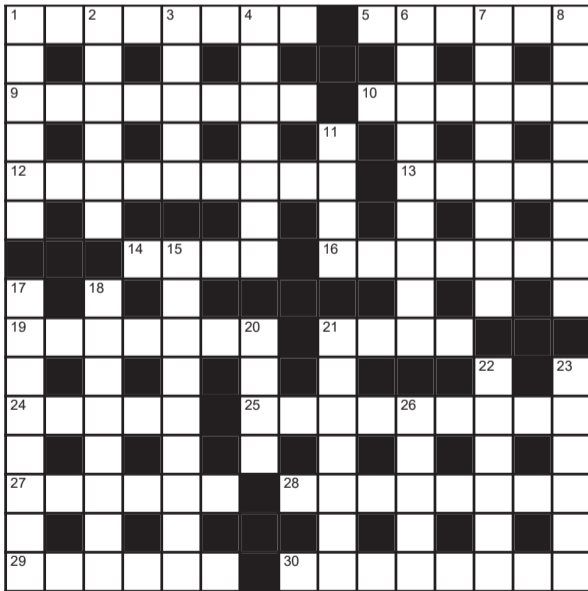
As banker Walt Wriston noted, capital goes where it is welcome and stays where it is well treated. Political instability means a proportion of the world's wealthy are on the move. Nations are vying to attract them — even as they struggle to keep out much larger numbers of poor migrants. The EU this week inked a €1bn deal intended to stem immigration via Tunisia. The UK parliament meanwhile passed a bill that could result in Rwanda receiving £170,000 per migrant relocated there. The efficacy of both schemes is questionable. Developed countries make a quieter pitch to attract footloose millionaires and billionaires. About 122,000 are expected to relocate in 2023, according to a report from Henley & Partners, a consultancy. The biggest beneficiary is likely to be Australia, which offers nice beaches and no inheritance tax. The countries with the largest net outflows are China and India. In contrast, the UK — before Brexit, a magnet for the rich — is forecast to lose 3,200 wealthy individuals. Fewer rich people are expected to quit Russia. The prizes for host nations are higher consumption, employment and investment. Governments solicit the latter by doling out residency permits

or passports to people who invest a threshold amount. This has become a sizeable business. Countries raised more than \$21bn from the programmes in 2021, according to analysis by Investment Migration Insider. Indebted southern European countries make compelling offers Caribbean island states rely on the programmes to balance budgets. They account for 40 per cent of government revenue in Saint Kitts and Nevis. The footloose wealthy are seeking "domicile diversification" in case the country they inhabit raises taxes, suffers a health crisis or pursues policies hostile to their interests. Some schemes work too well. Portugal's "golden visa" programme has raised about €6bn over 10 years. But it has also fuelled a housing crisis. The government is looking at tighter criteria, including closing the option to access visas via property purchases. There is no shortage of alternatives. In Italy, investing €500,000 in local equity or debt will secure residence. For a different crowd, Thailand's relatively cheap programme is a popular lifestyle play. Poor migrants may risk their lives in a bid to switch domiciles. Rich migrants only need to risk some capital.

NIKKEI Asia The voice of the Asian century

CROSSWORD

No 17,476 Set by BRADMAN



ACROSS

- 1 Coastal places, each involved in games (8)
- 5 Drug I took in after work (6)
- 9/13 Container for something taken down and left in hall? (8,5)
- 10 Make good soldiers triumph? (6)
- 12 Sergeant out to limit one moving to new place in stadium? (9)
- 13 See 9
- 14 A sign there is more to come? (4)
- 16 Medical specialist in depression, one really good person (7)
- 19 A-listers going round Eastern island once (7)
- 21 Mum's hot potatoes made soggy? (4)
- 24 Merry learner always rolling over (5)
- 25 What actor must do before performance as one forced into duty? (9)
- 27 A loose woman in the family (6)
- 28 Crazy talker is pointedly bright? (8)
- 29 Plant nasty grey? No (6)
- 30 When Greek character gets to rave, being hopeful (8)

DOWN

- 1 Conventional place for public meeting? (6)
- 2 Lying in wait in the morning — with suitable cover? (6)
- 3 Hope radio can provide this? Radio 3 can! (5)
- 4 Scores in matches (7)
- 6 Birds got by country folk — hard to get caught (9)
- 7 A nameless idealist is fragrant (8)
- 8 Hasten from deep exit with difficulty (8)
- 11 Ancient piece of stage design (4)
- 15 Marking the French cocktail 'almost good' (9)
- 17 Item of clothing used by super criminal (8)
- 18 Negligent son beautiful, knight admitted (8)
- 20 Worker maybe not in religious group (4)
- 21 Accounts of previous meeting in *The Times* (7)
- 22 Note area with lowest values (6)
- 23 Demonstrate at international match (6)
- 26 Gosh — US soldier was a favourite of EIIR! (5)

JOTTER PAD

Solution 17474



You can now solve our crosswords in the new FT crossword app at ft.com/crosswordapp

Forum Auctions



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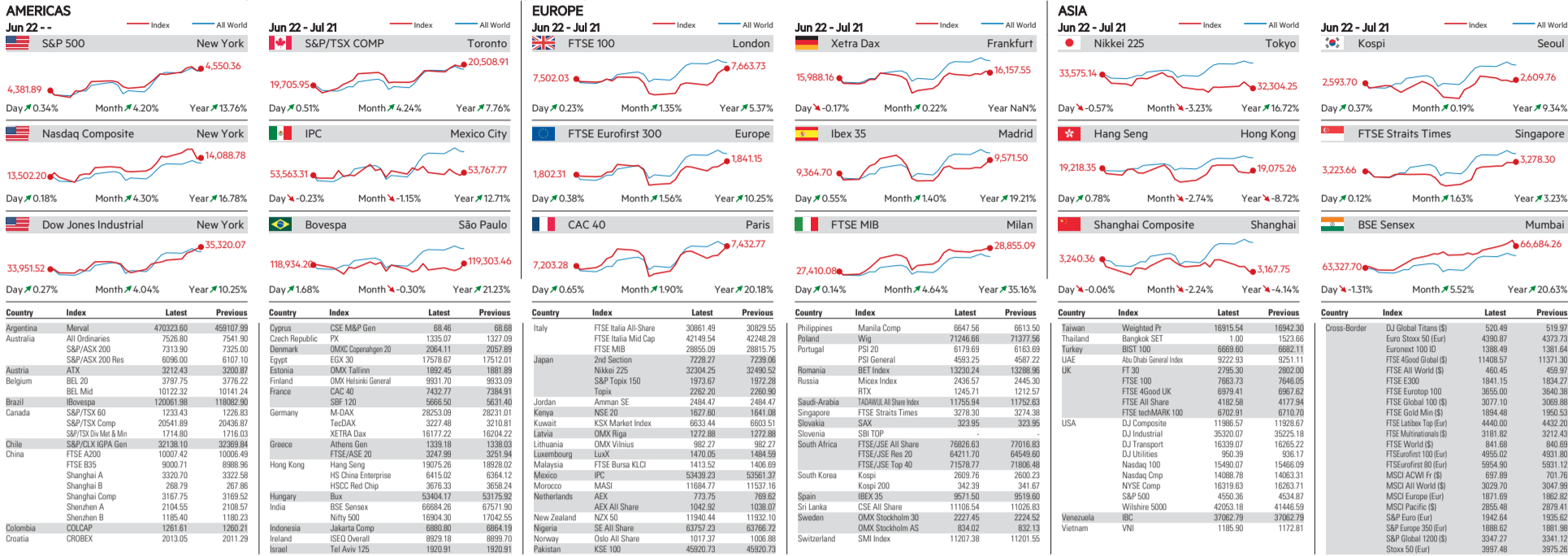
MARKET DATA

WORLD MARKETS AT A GLANCE

Change during previous day's trading (%)



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



(c) Unavailable. 1 Correction. Subject to official coverage. For more index coverage please see www.ft.com/worldindices. A fuller version of this table is available on the fcom research data archive.

STOCK MARKET: BIGGEST MOVERS

Table with columns for Americas, Europe, and Tokyo, listing stock symbols, prices, and percentage changes for various companies.

UK MARKET WINNERS AND LOSERS

Table listing UK market winners and losers with columns for company names, prices, and percentage changes.

CURRENCIES

Table showing currency exchange rates for Dollar, Euro, and Pound against various international currencies.

FTSE ACTUARIES SHARE INDICES

Table of FTSE Actuaries Share Indices with columns for index name, closing price, and daily change.

FT 30 INDEX

Table of FT 30 Index with columns for date, closing price, and daily change.

FT WILSHIRE 5000 INDEX SERIES

Table of FT Wilshire 5000 Index Series with columns for index name, closing price, and daily change.

FTSE SECTORS: LEADERS & LAGGARDS

Table of FTSE Sectors: Leaders & Laggards with columns for sector name, closing price, and daily change.

FTSE GLOBAL EQUITY INDEX SERIES

Table of FTSE Global Equity Index Series with columns for index name, closing price, and daily change.

FTSE 100 SUMMARY

Table of FTSE 100 Summary with columns for company name, closing price, and daily change.

UK STOCK MARKET TRADING DATA

Table of UK Stock Market Trading Data with columns for date, volume, and value.

FTSE Sector Indices

Summary table of FTSE Sector Indices with columns for index name and value.

Hourly movements

Table of hourly movements with columns for time, closing price, and daily change.

UK RIGHTS OFFERS

Table of UK Rights Offers with columns for company name, amount, and date.

UK COMPANY RESULTS

Table of UK Company Results with columns for company name, turnover, and EPS.

FTSE Global Equity Series

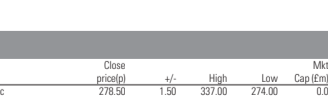
Text describing the FTSE Global Equity Series and its components.

All data provided by Morningstar

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Data provided by Morningstar

Text providing additional information and disclaimers for the data.



MARKET DATA

FT500: THE WORLD'S LARGEST COMPANIES

Stock	52 Week						P/E	MCP/m	Stock	52 Week						P/E	MCP/m	Stock	52 Week						P/E	MCP/m													
	Price	High	Low	Yld	P/E	MCP/m				Price	High	Low	Yld	P/E	MCP/m				Price	High	Low	Yld	P/E	MCP/m			Price	High	Low	Yld	P/E	MCP/m							
Australia (AS)								Denso	9581	384.00	9783	6389	171	23.03	52355.97	Richemont	139.00	-14.95	161.10	91.80	127.50	49.50	83790.66	Bristol-Myers	64.36	2.42	81.44	61.41	2.96	2175.15	13200.02	Linde	384.18	5.60	345.55	262.47	1.05	55.54	18837.74
ANZ Bank	25.16	0.80	26.08	21.80	6.14	10.29	50891.47	Espressi	7733	-37.00	8225	6635	5.61	6.81	20616.92	Rocha	274.60	6.40	335.26	295.05	2.89	19.49	18270.52	Broadcom	902.50	32.00	921.78	415.07	1.58	53.74	15244.58	Lockheed	454.65	9.67	508.10	381.55	2.32	25.00	11443.92
BNP Paribas	65.08	0.20	65.08	36.18	9.33	13.93	69489.82	Ferret	4722	-40.00	24830	4403	11.18	4.40	33413.39	Swiss Re	93.16	7.02	99.88	68.08	5.72	27.73	34176.36	Cadence Design	243.03	22.90	248.16	120.94	1.58	20.70	6270.76	McKesson	234.18	5.44	235.07	176.50	1.23	20.17	13724.96
Canada (CS)								FastRetail	33893	1590.00	37550	23693	1.81	13.95	7690.15	Swisscom	537.80	3.80	619.40	443.40	2.55	17.50	33381.18	Capgemini	116.03	4.48	123.94	83.93	1.63	4.54	44300.88	Lyondell	92.08	1.82	101.30	71.46	1.48	5.71	2541.14
CSL	261.10	2.63	314.21	255.67	1.16	37.31	86716.95	Fuji Heavy	2618	31.50	2775	1938	5.20	25.39	14205.51	USBS	18.48	0.40	20.45	13.87	1.95	8.69	6397.98	Cardinal Health	94.48	1.30	95.10	55.30	1.97	51.62	24054.63	Marathon Pet	126.02	7.67	138.83	83.62	1.75	65.51	119057.98
Nasdaq	27.90	1.35	32.63	25.10	3.30	14.50	58954.17	Hitachi	8831	4.00	9065	5983	15.22	11.36	58462.01	Zurich Fin	42.20	1.40	45.80	384.70	4.26	14.90	7305.41	Carnival	17.86	0.43	19.55	6.11	-	-	-	Masthead	150.02	6.30	194.16	148.11	1.32	31.30	45491.11
Telstra	4.23	0.01	4.46	3.69	2.42	34.57	33995.57	HondaMtr	4380	191.00	4583	2990	5.24	8.10	55970.21	Caterpillar	259.0	3.40	265.40	160.80	1.57	23.08	133487.42	MasterCard	401.14	-1.37	404.00	276.87	0.53	48.29	377186.78								
Woolworths	45.04	0.52	45.79	42.43	3.72	24.10	14296.06	JapanTtl	3992	365.00	3252	2275.0	5.16	13.81	24254.56	Carlisle Cos	71.17	5.53	86.53	61.34	3.21	31.90	5951.91	Johnson & Johnson	258.78	1.84	299.35	230.58	1.68	21.17	116077.27								
Woolworths	38.95	0.17	40.35	20.67	4.14	15.60	51937.16	KDDI	4297	50.00	4560	3925	3.21	12.60	6628.36	Chater Comm	399.45	23.98	496.37	290.66	-	-	-	Medtronic	89.84	1.96	95.77	2.64	25.75	119057.98									
Woolworths	38.95	0.17	40.35	20.67	4.14	15.60	51937.16	NissanMtr	105.10	2.00	128.90	146.36	74.25	0.46	10543.05	Chevron Corp	150.20	4.62	169.88	140.46	3.18	20.49	29972.62	Merck	110.18	2.84	119.65	84.52	2.27	23.90	27954.69								
Woolworths	38.95	0.17	40.35	20.67	4.14	15.60	51937.16	Mitsubishi	2063	38.00	2095	1273	2.28	11.68	31248.83	Chubb	200.06	11.73	220.17	173.78	1.51	10.55	40293.98	Meta	294.87	14.00	318.68	88.09	-	-	-								
Woolworths	38.95	0.17	40.35	20.67	4.14	15.60	51937.16	Mitsubishi	94.7	-34.22	1147.48	776.53	2.28	11.68	31248.83	Cintas Corp	514.07	12.21	540.11	240.50	1.29	17.97	97274.41	Netflix	454.78	0.71	456.27	429.10	1.59	11.29	16596.63								
Woolworths	38.95	0.17	40.35	20.67	4.14	15.60	51937.16	Mitsubishi	107.45	1.50	111.52	6132	62.90	5.96	96172.16	Constr	294.03	17.67	314.31	370.93	0.67	47.51	52277.27	Microsoft	346.38	1.14	366.78	214.63	0.63	80.83	295205.19								
Woolworths	38.95	0.17	40.35	20.67	4.14	15.60	51937.16	Mitsubishi	224.25	16.50	230.15	1537	4.06	9.40	40169.79	Cisco	52.79	2.41	53.00	38.81	1.68	19.76	21501.94	Oracle	74.06	1.78	78.59	54.72	1.70	15.01	39586.87								
Woolworths	38.95	0.17	40.35	20.67	4.14	15.60	51937.16	Mitsubishi	8275	126.00	8662	6438	1.70	14.49	39211.16	Alphabet	47.09	1.34	66.00	40.01	4.11	9.36	91682.81	Salesforce	100.07	0.11	111.33	9.56	-	-	-								
Woolworths	38.95	0.17	40.35	20.67	4.14	15.60	51937.16	Mitsubishi	105.10	2.00	128.90	146.36	74.25	0.46	10543.05	Amgen	112.87	5.58	128.49	108.51	1.84	15.92	132841.46	United Ther	15.23	0.59	16.83	9.87	1.21	12.39	1568.63								
Woolworths	38.95	0.17	40.35	20.67	4.14	15.60	51937.16	Mitsubishi	604.60	36.30	619.90	408.10	16.84	1901.89	Novartis	67.48	1.12	70.54	53.13	1.55	17.57	34246.1	Novartis	48.13	-15.80	480.00	211.50	39.97	18042.61										
Woolworths	38.95	0.17	40.35	20.67	4.14	15.60	51937.16	Mitsubishi	3065	91.50	3294	1893	3.05	4.15	20547.67	Novartis	77.40	0.96	83.81	67.84	2.19	32.00	64204.43	Novartis	100.03	1.08	129.23	82.22	1.02	30.25	13428.78								
Woolworths	38.95	0.17	40.35	20.67	4.14	15.60	51937.16	Mitsubishi	1738	63.50	1796	1096	1.58	10.57	30098.89	Novartis	43.21	1.20	43.29	28.79	0.89	25.13	40157.22	Novartis	232.64	2.14	234.22	196.33	1.20	35.34	25988.08								
Woolworths	38.95	0.17	40.35	20.67	4.14	15.60	51937.16	Mitsubishi	5882	205.00	6919	5246	2.05	19.14	36557.07	Novartis	108.24	2.11	109.24	128.55	1.81	27.12	127461.46	Novartis	95.29	0.59	106.49	54.29	1.11	12.39	1568.63								
Woolworths	38.95	0.17	40.35	20.67	4.14	15.60	51937.16	Mitsubishi	4522	-143.00	21055	3797	7.49	3.72	64569.75	Novartis	56.89	2.24	68.47	54.02	2.55	29.23	29245.56	Novartis	21.50	0.20	22.40	13.08	0.99	33.72	55673.13								
Woolworths	38.95	0.17	40.35	20.67	4.14	15.60	51937.16	Mitsubishi	105.10	2.00	128.90	146.36	74.25	0.46	10543.05	Novartis	28.87	1.48	30.73	28.98	2.73	21.03	28309.35	Novartis	118.28	0.11	127.54	60.78	1.04	10.15	203988.27								
Woolworths	38.95	0.17	40.35	20.67	4.14	15.60	51937.16	Mitsubishi	13115	105.00	14100	9231	0.53	14.71	11667.75	Novartis	56.89	2.24	68.47	54.02	2.55	29.23	29245.56	Novartis	21.50	0.20	22.40	13.08	0.99	33.72	55673.13								
Woolworths	38.95	0.17	40.35	20.67	4.14	15.60	51937.16	Mitsubishi	5083	60.82	6534	3962	3.67	10.62	60016.63	Novartis	112.87	5.58	128.49	108.51	1.84	15.92	132841.46	Novartis	95.29	0.59	106.49	54.29	1.11	12.39	1568.63								
Woolworths	38.95	0.17	40.35	20.67	4.14	15.60	51937.16	Mitsubishi	4381	61.00	4845	3863	4.79	13.50	48989.15	Novartis	67.48	1.12	70.54	53.13	1.55	17.57	34246.1	Novartis	48.13	-15.80	480.00	211.50	39.97	18042.61									
Woolworths	38.95	0.17	40.35	20.67	4.14	15.60	51937.16	Mitsubishi	556	12.00	573.90	464.30	4.83	3.82	14019.48	Novartis	77.40	0.96	83.81	67.84	2.19	32.00	64204.43	Novartis	100.03	1.08	129.23	82.22	1.02	30.25	13428.78								
Woolworths	38.95	0.17	40.35	20.67	4.14	15.60	51937.16	Mitsubishi	3065	91.50	3294	1893	3.05	4.15	20547.67	Novartis	43.21	1.20	43.29	28.79	0.89	25.13	40157.22	Novartis	232.64	2.14	234.22	196.33	1.20	35.34	25988.08								
Woolworths	38.95	0.17	40.35	20.67	4.14	15.60	51937.16	Mitsubishi	1738	63.50	1796	1096	1.58	10.57	30098.89	Novartis	108.24	2.11	109.24	128.55	1.84	15.92	132841.46	Novartis	95.29	0.59	106.49	54.29	1.11	12.39	1568.63								
Woolworths	38.95	0.17	40.35	20.67	4.14	15.60	51937.16	Mitsubishi	5882	205.00	6919	5246	2.05	19.14	36557.07	Novartis	67.48	1.12	70.54	53.13	1.55	17.57	34246.1	Novartis	48.13	-15.80	480.00	211.50	39.97	18042.61									
Woolworths	38.95	0.17	40.35	20.67	4.14	15.60	51937.16	Mitsubishi	4522	-143.00	21055	3797	7.49	3.72	64569.75	Novartis	77.40	0.96	83.81	67.84	2.19	32.00	64204.43	Novartis	100.03	1.08	129.23	82.22	1.02	30.25	13428.78								
Woolworths	38.95	0.17	40.35	20.67	4.14	15.60	51937.16	Mitsubishi	105.10	2.00	128.90	146.36	74.25	0.46	10543.05	Novartis	28.87	1.48	30.73	28.98	2.73	21.03	28309.35	Novartis	118.28														


MANAGED FUNDS SERVICE

SUMMARY

FT.COM/FUNDS

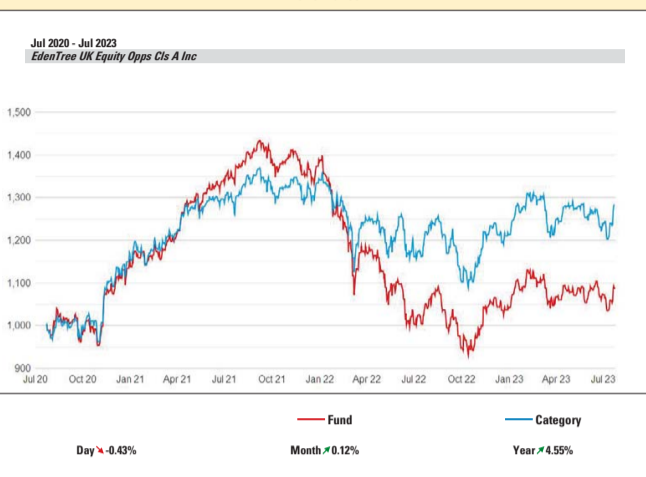
Winners - US Fund Mid-Cap Value						Losers - US Fund Mid-Cap Value						Morningstar Star Ratings					Global Broad Category Group - Fixed Income				
Fund Name	1yr Return GBP	3yr Return GBP	5yr Return GBP	2yr Sharpe Ratio	3yr Std Dev	Fund Name	1yr Return GBP	3yr Return GBP	5yr Return GBP	3yr Sharpe Ratio	3yr Std Dev	Fund Name	Base Currency	Morningstar Rating 3 Yr	Morningstar Rating 5 Yr	Morningstar Rating 10 Yr	Morningstar Category	Base Currency	Total Ret 1Yr GBP	Total Ret 3Yr GBP	Total Ret 5Yr GBP
Hotchkiss & Wiley Mid-Cap Value Fund	14.54	24.72	4.85	1.06	26.18	Frank Value Fund	13.86	6.09	5.45	0.48	14.88	New Capital Global Value Credit Fund	US Dollar	★★★★	★★★★	★★★★★	Emerging Bonds	Mexican Peso	-1.85	17.10	2.90
Pzena Mid Cap Value Fund	12.38	19.75	6.74	0.91	25.44	Nuance Mid Cap Value Fund	6.38	6.57	6.25	0.58	12.99	European Fund W-ACC-GBP	Pound Sterling	★★★★	★★★★★	★★★★★	World Bank Loan	Yen	8.42	12.09	5.97
Invesco Value Opportunities Fund	13.58	19.74	6.07	0.97	23.42	Virtus Concentrated Value Fund	9.21	7.14	6.24	0.64	13.30	MoneyBuilder Dividend Y-INC-GBP	Pound Sterling	★★★★	★★★★★	★★★★★	World High Yield Bond US	Yen	7.38	11.27	6.57
Victory Integrity Small/Mid-Cap Value Fund	10.82	18.11	6.45	0.94	22.64	Virtus Canadian Mid-Cap Value Equity Fund	7.97	9.74	5.00	0.66	18.24	BAM Systematic Energy Markets Core Eq	US Dollar	★★	★	-	World High Yield Bond Europe	Yen	17.05	9.31	4.06
Fidelity Advisor Value Strategies Fund	11.85	18.10	8.49	0.94	21.95	Carillon Charterwell Mid Cap Value Fund	5.19	9.92	3.66	0.67	16.36	Extra Income Fund Y-ACC-GBP	Pound Sterling	★★	★★★	★★★	World ST Bond/Money	Yen	5.01	9.06	4.91

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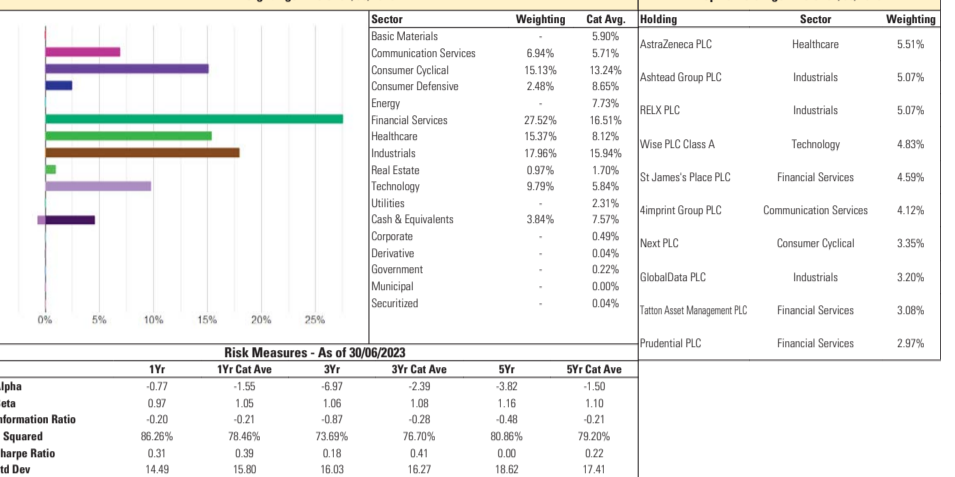


Edentree Investment Management Limited
Edentree UK Equity Opps Cls A IncMorningstar Category: UK Flex-Cap Equity
Max Annual Charge: -3Yr Rating: **Morningstar Sustainability Rating: -Bid Price: - KID Ongoing Charge: 1.54
Offer Price: - Day-End One Year Return: 6.79
+/-: 1.90 Total Ret 3Yr: 2.79

Performance



Weightings - As of 31/05/2023



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Fund	Bid	Offer	+/-	Yield	1Yr	3Yr	Fund	Bid	Offer	+/-	Yield	1Yr	3Yr	Fund	Bid	Offer	+/-	Yield	1Yr	3Yr	Fund	Bid	Offer	+/-	Yield	1Yr	3Yr	Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
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abrdn Capital (CI) Limited (JER)
PO Box 189, St Helier, Jersey, JE4 9RU 01534 709130
FCA Recognised
abrdn Capital Offshore Strategy Fund Limited

Bridge Fund	£2.1759	-	-0.0095	2.35	1.50	2.53
Global Equity Fund	£3.3934	-	-0.0126	1.50	4.96	5.43
Global Fixed Interest Fund	£0.7457	-	-0.0027	6.25	4.79	-3.20
Income Fund	£0.6220	-	-0.0025	3.22	0.14	2.99
Starling Fixed Interest Fund	£0.6593	-	-0.0024	4.69	-6.06	-6.89
UK Equity Fund	£1.8709	-	-0.0037	3.37	1.58	4.34

Atlantis Sicav Regulated (LUX)
American Dynamic \$724.22 - 151.66 0.00 13.69 10.65
American One \$740.55 - 197.09 0.00 21.71 13.95
Bond Global €1505.67 - 4.49 0.00 -4.87 -0.34
Eurocrossance €1379.37 - 33.36 0.00 6.36 6.00
Far East \$1049.79 - 21.44 0.00 4.67 0.93

CANDRIAM Regulated
A NEW YORK LIFE INVESTMENTS COMPANY

DWS
Tel: +44 (0) 20 7541 8999 www.dws.com
FCA Recognised
DWS Invest Top Dividend £147.20 147.20 0.98 3.26 1.82 6.18
DWS Invest Top Eurofund £165.93 165.93 -0.56 2.18 21.28 5.37
DWS Invest Multi Opportunities £116.86 116.86 0.05 0.00 5.53 4.68
DWS Invest Global Bonds £93.62 93.62 -0.15 0.00 0.85 -2.70

Fidelity Investments International
Other International Funds
Emerging Mkts NAV £ 7.21 - -0.16 2.02 0.19 -5.86

FOORD ASSET MANAGEMENT
www.foord.com

Algebris INVESTMENTS

BLUE WHALE GROWTH FUND

Candriam Investors Group (LUX)
FCA Recognised
Candriam Asia Pac Eq Mkt Neutral C-Cap € 205.65 - 1.04 0.00 1.03 3.54
Candriam Bds Euro High Yield Cap € 1215.75 - -0.07 0.00 6.99 0.73
Candriam Bonds Gls Hs Yield C-Cap € 245.52 - -0.47 0.00 5.69 2.45
Candriam Bonds Gls Int St Distn-Cap € 151.78 - -0.09 0.00 -2.20 0.85
Candriam Bonds Total Return - C-Cap € 132.23 - -0.36 0.00 0.43 -0.76
Candriam Diversified Futures I-Cap * € 1438.61 - 57.41 0.00 5.90 6.44
Candriam Eqts L Australia CapAS 196.47 - -4.94 0.00 12.62 13.15
Candriam Eqts L Emerging Mkts Cap € 855.95 - 0.91 0.00 -8.52 -2.76
Candriam Equities L Biotech-C-Cap € 775.61 - -1.72 0.00 8.38 -0.48
Candriam Equities L Europe Innov-R-Cap € 256.03 - -0.93 0.00 0.51 3.69
Candriam Eq US HighYieldCap Bond-R-Cap \$ 141.65 - -0.32 0.00 6.34 2.95
Candriam Index Arbitrage C-Cap € 1423.64 - 1.36 0.00 1.13 0.57
Candriam Long Short Credit-R-Cap € 107.22 - 0.02 0.00 2.32 1.06
Candriam Risk Arbitrage - C-Cap € 244.03 - -7.50 - -2.52 -0.43
Candriam Sust Bond Emerg Mkts-DIST € 820.24 - -4.23 2.49 6.47 -4.42
Candriam Sust Bond Euro Corp-R-Cap € 97.57 - -0.21 0.00 -0.71 -3.09
Candriam Sust Bond GlobalHighYieldCap € 1089.76 - -2.31 0.00 3.07 0.47
Candriam Sust Eq Crm Emer-R-Cap € 140.29 - -1.42 0.00 8.32 6.01
Candriam Sust Eq Dint Actn I-Cap € 167.54 - -12.46 0.00 7.46 7.57
Candriam Sust Eq Emerging Mkts C-Cap € 114.44 - 0.24 0.00 11.24 -3.85
Candriam Sust Eq EMU C-Cap € 172.53 - -0.33 0.00 14.80 6.56
Candriam Sust Eq ESG S&P Cap-Cap € 238.80 - -9.24 0.00 2.49 8.75
Candriam Sust Eq World C-Cap € 31.11 - -0.16 0.00 3.70 10.25

Dodge & Cox (LUX)
Tel: +44 (0) 20 7541 8999 www.dodge-cox.com
FCA Recognised
Dodge & Cox WorldWide Funds p/c - Global Bond Fund
EUR Accumulating Class € 15.88 - 0.03 0.00 -0.38 1.96
EUR Distributing Class (H) € 10.82 - -0.05 0.00 5.97 -0.70
EUR Distributing Class (H) € 11.24 - 0.03 2.41 -2.60 0.60
GBP Distributing Class (H) € 7.59 - -0.03 2.41 3.40 -2.10
GBP Distributing Class (H) € 11.96 - 0.02 3.34 0.38 0.12
GBP Distributing Class (H) € 8.20 - -0.03 2.39 4.87 -1.22
USD Accumulating Class \$ 12.76 - -0.05 0.00 9.06 1.04

Fidelity INTERNATIONAL

Foord Asset Management
www.foord.com
FCA Recognised - Luxembourg UCITS
Foord International Fund (I) R \$ 49.82 - -0.08 0.00 4.51 3.68
Foord Global Equity Fund (Lux) R \$ 17.38 - -0.13 0.00 10.03 -

Algebris INVESTMENTS

Algebris Core Italy I EUR	€ 150.39	-	-0.41	0.00	12.70	12.73
Algebris Core Italy R EUR	€ 142.10	-	-0.39	0.00	11.86	13.02
Algebris Financial Credit I EUR	€ 177.43	-	0.01	0.00	4.17	0.29
Algebris Financial Credit R EUR	€ 151.99	-	0.01	0.00	3.44	-0.31
Algebris Financial Credit R EUR	€ 88.81	-	0.00	6.04	3.43	-0.27
Algebris Financial Equity B EUR	€ 180.48	-	0.74	0.00	26.90	26.28
Algebris Financial Equity R EUR	€ 150.84	-	0.61	0.00	25.64	25.07
Algebris Financial Income I EUR	€ 188.80	-	0.38	0.00	12.33	12.51
Algebris Financial Income R EUR	€ 170.84	-	0.34	0.00	11.33	11.50
Algebris Financial Income R EUR	€ 100.68	-	0.20	4.81	11.33	11.50
Algebris Global Credit Opportunities I EUR	€ 130.45	-	0.03	0.00	7.79	2.60
Algebris Global Credit Opportunities R EUR	€ 127.05	-	0.03	0.00	7.31	2.23
Algebris Global Credit Opportunities R EUR	€ 108.34	-	0.02	2.61	7.33	2.35
Algebris IG Financial Credit I EUR	€ 98.95	-	0.37	0.00	2.01	-1.87
Algebris IG Financial Credit R EUR	€ 97.11	-	0.35	0.00	1.49	-2.36
Algebris Sust. World B	€ 111.23	-	0.15	-	-	-
Algebris Sust. World R	€ 110.16	-	0.15	-	-	-

Blue Whale Investment Funds ICAV (IRE)
www.bluewhale.co.uk info@bluewhale.co.uk
FCA Recognised - Ireland UCITS
Blue Whale Growth USD T \$ 10.66 - -0.14 0.00 22.01 -

Candriam Investors Group (LUX)
FCA Recognised
Candriam Bds Euro Sh. Term Cap € 2000.23 - -1.48 0.00 -0.60 -1.18
Candriam Bonds Credit Opportunities € 200.05 - 0.08 0.00 5.37 0.05
Candriam Bonds Emerg Mkt C-Cap € 235.14 - -9.40 0.00 11.18 -3.03
Candriam Equities L Europ Opt Qtr-Cap € 216.12 - -0.29 0.00 5.01 4.89
Candriam Equities L Global Demg-R-Cap € 264.04 - 0.46 0.00 5.65 1.12
Candriam Equities L Onco Imp-Cap € 262.84 - 7.97 0.00 2.52 9.20
Candriam Equities L Robotk/tech-Cap € 3784.71 - -94.22 0.00 22.50 1.80

Dodge & Cox WORLDWIDE FUNDS (IRL)
48-49 Pall Mall, London SW1Y 5JG, UK
www.dodgeandcox.worldwide.com 020 3713 7654
FCA Recognised
Dodge & Cox WorldWide Funds p/c - Global Bond Fund
EUR Accumulating Class € 15.88 - 0.03 0.00 -0.38 1.96
EUR Distributing Class (H) € 10.82 - -0.05 0.00 5.97 -0.70
EUR Distributing Class (H) € 11.24 - 0.03 2.41 -2.60 0.60
GBP Distributing Class (H) € 7.59 - -0.03 2.41 3.40 -2.10
GBP Distributing Class (H) € 11.96 - 0.02 3.34 0.38 0.12
GBP Distributing Class (H) € 8.20 - -0.03 2.39 4.87 -1.22
USD Accumulating Class \$ 12.76 - -0.05 0.00 9.06 1.04

FIL Investment Services (UK) Limited (200)F (UK)
Beech Gate, Millfield Lane, Lower Kingswood, Tadworth, KT20 6RP
Callfree: Private Clients 0800 414181
Broker Dealings: 0800 414 181
OEC Funds
Allocator World Fund W-ACC-GBP € 2.76 - 0.00 1.16 5.47 8.84
American Fund W-ACC-GBP € 58.05 - 0.00 4.72 -2.39 -2.36
American Special Sits W-ACC-GBP € 22.75 - 0.19 0.68 0.04 14.89
Asia Fund W-ACC-GBP € 15.01 - 0.01 0.81 -5.89 -2.79
Asia Pacific Ops W-ACC-GBP € 2.84 - -0.01 1.35 -2.17 6.09
Asian Dividend Fund W-ACC-GBP € 2.25 - 0.00 3.11 -2.13 5.79
Cash Fund W-ACC-GBP € 1.05 - 0.00 1.80 2.35 1.13
China Consumer Fund W-ACC-GBP € 2.42 - 0.02 0.32 -17.67 -12.61
Enhanced Income Fund W-ACC-GBP € 0.84 - 0.00 6.85 5.15 8.80
European Fund W-ACC-GBP € 25.54 - -0.02 1.48 16.62 8.75
Extra Income Fund W-ACC-GBP € 1.27 - 0.00 4.72 -2.39 -2.36
Global Dividend Fund W-ACC-GBP € 3.05 - 0.01 2.67 7.01 6.06
Global Enhanced Income W-ACC-GBP € 2.39 - 0.00 4.37 7.61 5.96
Global High Yield Fund W-ACC-GBP € 14.05 - 0.02 5.16 5.32 -1.09
Global Special Sits W-ACC-GBP € 1.84 - 0.01 2.09 -12.58 2.29
Global Property Fund W-ACC-GBP € 57.17 - -0.05 0.55 3.38 7.38
Index Emerging Markets P-ACC-GBP € 1.66 - -0.01 2.98 -2.08 -4.02
Index Europe ex UK P-ACC-GBP € 2.03 - 0.00 3.11 17.02 8.10
Index Japan P-ACC-GBP € 2.00 - 0.00 1.44 11.69 11.54
Index Pacific ex Japan P-ACC-GBP € 1.86 - -0.01 3.79 -0.23 4.97
Index Sterling Corporate Bond P-ACC-GBP € 0.82 - 0.00 3.07 -5.83 -

Fundsmith Equity Fund (UK)
PO Box 10848, Chesham, Essex, CM9 2BW 0330 123 1815
www.fundsmith.co.uk, enquiries@fundsmith.co.uk
FCA Recognised - Luxembourg UCITS
Foord Global Equity Fund (Lux) R \$ 17.38 - -0.13 0.00 10.03 -
Foord International Fund (I) R \$ 49.82 - -0.08 0.00 4.51 3.68
Foord Global Equity Fund (Sing) I B \$ 20.76 - -0.15 0.00 10.32 4.71
Foord International Trust (Gsy) \$ 48.56 - 0.07 0.00 4.52 3.71

The Antares European Fund Limited
Other International
AEF Ltd Usd \$548.14 - -3.44 0.00 5.06 -2.75
AEF Ltd Eur €499.44 - -3.34 0.00 4.21 -3.70

Brooks Macdonald International Fund Managers Limited (JER)
5 Anley Street, St Helier, Jersey, JE2 3JG
+44 (0) 1534 700 104 (int) +44 (0) 800 735 8000 (UK)
Brooks Macdonald International Investment Funds Limited
Euro High Income € 1.2091 - -0.020 2.50 -2.98 -5.09
High Income € 0.6351 - -0.025 3.77 -4.94 -6.21
Sterling Bond € 1.2180 - -0.053 2.06 -4.73 -2.55

Chartered Asset Management Pte Ltd
Other International Funds
CAM-GTF VCC \$ 3816.81 3816.81 1951.60 - -6.36 3.78
CAM GTI VCC \$ 780.49 - -32.39 - 12.31 4.69
RAIC VCC \$ 1.64 1.64 0.03 2.06 5.74 -1.66

Dodge & Cox WorldWide Funds p/c - Global Stock Fund (IRL)
USD Accumulating Share Class \$ 32.43 - -0.02 0.00 16.11 16.98
GBP Accumulating Share Class € 41.47 - 0.22 0.00 8.11 15.95
GBP Distributing Share class € 27.65 - 0.15 0.26 6.93 15.30
EUR Accumulating Share Class € 43.76 - 0.27 0.00 6.16 17.67
EUR Distributing Class (H) € 14.92 - 0.00 0.25 13.01 14.54

Fidelity INTERNATIONAL

Fundsmith Equity Fund (UK)
PO Box 10848, Chesham, Essex, CM9 2BW 0330 123 1815
www.fundsmith.co.uk, enquiries@fundsmith.co.uk
FCA Recognised - Luxembourg UCITS
Foord Global Equity Fund (Lux) R \$ 17.38 - -0.13 0.00 10.03 -
Foord International Fund (I) R \$ 49.82 - -0.08 0.00 4.51 3.68
Foord Global Equity Fund (Sing) I B \$ 20.76 - -0.15 0.00 10.32 4.71
Foord International Trust (Gsy) \$ 48.56 - 0.07 0.00 4.52 3.71

ARTEMIS
The Profit Hunter

Brown ADVISORY
Thoughtful Investing.

Consistent Unit Tot Mgt Co Ltd (200)F (UK)
Stuart House, St John's Street, Peterborough, PE1 5DD
Dealing & Client Services 0345 850 8818
Authorised Inv Funds
Consistent UT Inc 59.35 59.35 0.46 1.04 -2.04 12.08
Consistent UT Acc 161.20 161.20 1.20 1.04 -2.07 12.08
Practical Investment Inc 243.00 243.00 -0.50 3.76 9.30 9.37
Practical Investment Acc 1547.00 1547.00 -3.00 3.76 9.33 8.71

Dragon Capital
www.dragoncapital.com
Fund information: info@dragoncapital.com
Other International Funds
Vietnam Equity (DTS) Fund A USD \$ 29.04 - -0.43 0.00 -6.05 14.24

Fidelity INTERNATIONAL

GUINNESS GLOBAL INVESTORS

Artemis Fund Managers Ltd (200)F (UK)
57 St. James's Street, London SW1A 1LD 0800 092 2051
Authorised Inv Funds
Artemis SmartGARP UK Eq I Acc 2413.30 - 2.38 4.13 12.35 17.91
Artemis Corporate Bond I Acc 97.50 - -0.38 4.27 -3.01 -3.18
Artemis SmartGARP Eur Eq I Acc 478.35 - 0.64 2.47 30.95 13.22
Artemis European Opps I Acc 133.74 - -0.26 0.11 14.80 13.30
Artemis SmartGARP Global Eq I Acc 169.50 - 0.93 - 8.49 8.16
Artemis SmartGARP Gls Eq I Acc 385.92 - 2.58 3.08 3.69 8.54
Artemis Global Income I Inc 109.32 - 0.57 4.47 4.37 11.90
Artemis Global Select I Acc 165.83 - -0.03 0.97 2.24 5.18
Artemis High Income I Q Inc 69.45 - -0.09 6.31 5.56 2.23
Artemis Income I Inc 250.62 - -0.51 4.11 7.10 10.70
Artemis Monthly Dist I Inc 68.49 - 0.15 - 1.43 5.10
Artemis Positive Future Fund 67.41 - -0.11 0.00 -1.16 -
Artemis Strategic Assets I Acc 99.99 - -0.43 0.00 13.46 10.46
Artemis Strategic Bond I Q Acc 101.61 - -0.33 4.25 -0.73 -1.94
Artemis Target Return Bond I Acc 107.25 - -0.56 4.04 2.17 1.35
Artemis UK Select Fund Class I Acc 826.30 - -3.79 2.80 16.99 16.87
Artemis UK Smaller Cos I Acc 2007.27 - -12.07 2.30 -0.97 12.02
Artemis UK Special Sits I Acc 807.48 - -2.07 1.83 11.80 11.88
Artemis US Abs Return I Hdg Acc 113.41 - -0.22 0.24 1.35 0.27
Artemis US Extended Alpha I Acc 352.55 - -0.39 0.00 9.20 10.55
Artemis US Select I Acc 314.30 - -0.81 0.16 7.08 6.77
Artemis US Smllr Cos I Acc 302.67 - 0.70 0.00 0.00 4.42

Brown Advisory Funds plc (IRL)
http://www.brownadvisory.com Tel: 020 3301 8130
FCA Recognised
US Small Cap Blend Fund USD B \$ 23.06 - -0.07 0.00 11.03 11.53
US Flexible Equity Fund USD B \$ 26.91 - -0.27 0.00 19.18 12.01
Global Leaders Fund USD C \$ 23.31 - -0.26 0.00 18.26 10.20
US Sustainable Growth Fund USD C \$ 27.30 - -0.51 0.00 16.99 9.88
Global Leaders Sustainable Fund USD C \$ 14.10 - -0.16 0.00 16.62 10.01
Global Sustainable Total Return Bond USD B \$ 9.69 - -0.04 0.00 -0.21 -
US Equity Growth Fund USD B \$ 34.21 - -1.

MANAGED FUNDS SERVICE

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Janus Henderson Global Technology Leaders Fund A Acc	3299.00	-	-57.00	0.00	13.84	7.51
Janus Henderson Inst UK Index Opportunities A Acc	£ 1.16	-	0.00	2.97	7.87	9.42
Janus Henderson Multi-Asset Absolute Return Fund A Acc	162.30	-	-0.50	-	0.25	4.02
Janus Henderson Multi-Manager Active Fund A Acc	259.70	-	-0.60	0.24	1.01	3.79
Janus Henderson Multi-Manager Distribution Fund A Acc	124.90	-	-0.10	-	0.49	1.21
Janus Henderson Multi-Manager Diversified Fund A Acc	86.99	-	-0.25	2.79	0.07	-1.13
Janus Henderson Multi-Manager Global Select Fund A Acc	322.90	-	-0.40	0.00	4.57	7.49
Janus Henderson Multi-Manager Income & Growth Fund A Acc	189.30	-	-0.20	2.93	1.01	1.58
Janus Henderson Multi-Manager Income & Growth Fund A Acc	146.00	-	-0.20	3.04	1.01	1.58
Janus Henderson Multi-Manager Managed Fund A Acc	317.50	-	-0.60	0.30	1.44	3.45
Janus Henderson Multi-Manager Managed Fund A Acc	306.30	-	-0.60	0.31	1.43	3.43
Janus Henderson Sterling Bond Unit Trust Acc	199.90	-	-0.90	1.94	-7.20	-7.07
Janus Henderson Sterling Bond Unit Trust Acc	53.90	-	-0.24	1.96	-7.19	-7.08
Janus Henderson Strategic Bond Fund A Acc	99.34	-	-0.86	3.40	-7.07	-5.93
Janus Henderson Absolute Return Fund A Acc	170.80	-	0.10	0.66	4.98	1.72
Janus Henderson UK Alpha Fund A Acc	137.80	-	-1.30	1.17	-2.13	2.92
Janus Henderson UK Equity Income & Growth Fund A Acc	491.00	-	-1.30	5.28	1.49	9.71
Janus Henderson US Growth Fund A Acc	1872.00	-	-18.00	0.00	12.23	6.72



Milltrust International Managed Investments ICAV (Ireland)
www.milltrust.com, +44(0)20 8123 8316 www.milltrust.com

Regulated

British Innovation Fund	£ 121.92	-	2.89	0.00	-	-
MAI - Buy & Lease (Australia) AS	103.45	-	0.50	0.00	-16.53	1.41
MAI - Buy & Lease (New Zealand) NZ	91.20	-	-6.06	0.00	-7.20	-2.67

Milltrust Global Emerging Markets Fund - Class A \$ 95.03 - -0.06 0.00 -9.05 6.71

Kleinwort Hambros Bank Limited (UK)
5TH Floor, 8 St James's Square, London, SW1Y 4JZ
Dealing and enquiries: 033 0024 0785

Authorised Inv Funds

Unit Trust Manager/ACD - Host Capital

HC Kleinwort Hambros Growth A Acc	244.94	-	2.13	1.36	5.13	3.58
HC Kleinwort Hambros Growth A Inc	222.23	-	1.93	1.38	5.13	3.58
HC Kleinwort Hambros Equity Income A Acc	95.31	-	0.92	3.06	1.83	6.66
HC Kleinwort Hambros Equity Income A Acc	190.44	-	4.69	4.50	1.84	6.67
HC Kleinwort Hambros Multi-Asset Balanced A Acc	173.24	-	1.06	0.81	2.40	0.93
HC Kleinwort Hambros Multi-Asset Balanced A Acc	163.74	-	1.00	0.81	2.40	0.93
HC Kleinwort Hambros Fixed Income A Acc	123.89	-	-0.03	3.44	-10.06	-2.73
HC Kleinwort Hambros Fixed Income A Acc	93.86	-	-0.02	3.44	-10.06	-2.73

Milltrust International Managed Investments SPC
em@milltrust.com, +44(0)20 8123 8315, www.milltrust.com

Regulated

Milltrust Alaska Brazil Fund SP A	\$ 102.15	-	0.14	0.00	50.90	10.62
Milltrust Laurium Africa Fund SP A	\$ 102.12	-	-0.40	0.00	8.03	6.94
Milltrust Marcellus India Fund SP	\$ 136.12	-	0.48	0.00	11.10	-
Milltrust Singlar ASEAN Fund SP Founders	\$ 130.73	-	-0.93	0.00	1.96	3.94
Milltrust SPARK Korea Equity Fund SP A	\$ 136.81	-	-0.20	0.00	33.12	5.59
Milltrust Xingtao China Fund SP A	\$ 96.35	-	-0.05	0.00	-11.91	-10.76
The Climate Impact Asia Fund SP A	\$ 81.19	-	-0.36	0.00	-0.93	-
The Climate Impact Asia Fund (Class B)	\$ 80.30	-	-0.35	0.00	-1.42	-



Lazard Fund Managers Ltd (1200)F (UK)
P.O. Box 3594, Charleston, DC 1 29405
Dealing: 0870 6066408, Info: 0870 6066459

Authorised Inv Funds

Lazard Investment Funds (OIEIC) B Share Class

Developing Markets Acc	118.04	-	0.08	0.52	-2.87	-2.36
Developing Markets Inc	113.56	-	-0.92	-	-3.63	3.25
Emerging Markets Acc	370.47	-	0.09	4.70	9.42	6.40
Emg Mkts Inc	277.35	-	0.07	4.93	9.42	6.40
European Alpha Acc	1113.03	-	-2.46	1.14	16.79	6.47
European Alpha Inc	950.98	-	-2.10	1.15	16.79	6.47
European Smaller Cos Acc	672.97	-	4.09	1.16	2.41	3.98
Global Equity Income Acc	230.11	-	1.08	3.37	4.10	10.11
Global Equity Income Inc	113.36	-	0.53	3.45	4.10	10.10
Managed Bal Inc	183.03	-	0.56	2.22	0.91	3.76
UK Income Acc	1634.15	-	17.86	4.04	5.81	9.79
UK Income Inc	576.37	-	6.30	4.15	5.81	9.79
UK Omega Acc	293.29	-	2.07	1.96	11.62	11.18
UK Omega Inc	240.38	-	1.70	1.99	11.63	11.18
UK Smaller Cos Inc	2001.70	-	8.44	0.40	-24.24	1.74



Mirabaud Asset Management (LUX)
www.mirabaud.com, marketing@mirabaud-am.com

Please find more details on our website: www.mirabaud-am.com

Regulated

Mir. - Glob Strat. Bd I USD	\$ 117.38	-	-0.49	0.00	2.54	0.05
Mir. - DiscEur D Cap GBP	£ 163.30	-	-1.41	0.00	-3.44	3.31
Mir. - UKEq HA Cap I GBP	£ 138.13	-	-0.70	0.00	5.36	4.26

Polar Capital Funds Plc (IRE)
www.polarcapital.com

Regulated

Artificial Intelligence I USD ACC	\$ 17.65	17.65	-0.37	0.00	22.06	6.46
Asian Starts I USD Acc \$	\$ 15.01	-	-0.02	0.00	6.38	1.09
Biotechnology I USD	\$ 38.98	38.98	-0.07	0.00	4.50	4.38
China Stars I USD Acc \$	\$ 10.55	10.55	0.00	0.00	-12.08	-8.74
Emerging Market Stars I USD Acc	\$ 12.01	-	-0.02	0.00	7.62	-0.60
European Ex UK Inc EUR Acc	€ 15.16	15.16	0.16	0.00	12.46	10.75
Financial Opps I USD	\$ 14.75	-	0.04	2.09	16.00	12.74
Global Convertible I USD	\$ 13.89	13.89	-0.09	0.00	5.47	-2.14
Global Insurance I GBP	£ 10.06	-	0.14	0.00	11.72	14.33
Global Technology I USD	\$ 81.81	-	-2.73	0.00	20.56	4.40
Healthcare Blue Chip Fund I USD Acc	\$ 19.76	19.76	0.24	0.00	9.35	8.38
Healthcare Dis I USD Acc	\$ 13.05	-	-0.13	0.00	0.46	4.15
Healthcare Opps I USD	\$ 70.13	-	0.15	0.00	17.25	6.37
Income Opportunities B2 I GBP Acc	£ 2.97	2.97	0.00	0.00	7.22	12.49
Japan Value I JPY	¥ 168.44	168.44	0.04	0.00	21.66	18.74
North American I USD	\$ 36.06	36.06	-0.20	0.00	12.13	11.92
Smart Energy I USD Acc	\$ 10.54	10.54	-0.21	0.00	26.84	-
Smart Mobility I USD Acc \$	\$ 9.92	9.92	-0.15	0.00	18.94	-
UK Val Opp I GBP Acc	£ 12.61	12.61	-0.15	0.00	-1.18	7.12



Rubrics Global UCITS Funds Plc (IRE)
www.rubrics.com

Regulated

Rubrics Emerging Markets First Income UCITS Fund	\$ 141.42	-	-0.65	0.00	6.96	1.27
Rubrics Global Credit UCITS Fund	\$ 16.93	-	-0.06	0.00	1.44	-0.57
Rubrics Global Fixed Income UCITS Fund	\$ 171.60	-	-0.79	0.00	0.14	-2.09



Superfund Asset Management GmbH (UK)
www.superfund.com, +43(0)1 247 00

Other International Funds

Superfund Green Gold	\$ 972.12	-	-9.13	0.00	-30.86	-12.67
Superfund Green Silver	\$ 876.53	-	-18.98	0.00	-18.95	-8.81

Regulated

Superfund Green US\$	\$ 717.32	-	-3.04	0.00	-38.10	-12.68
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Scottish Friendly Asset Managers Ltd (UK)
Scottish Friendly Hse, 16 Blythwood Sq, Glasgow G2 4JU 0141 275 5000

Authorised Inv Funds

Managed Growth	354.20	-	-0.20	0.00	8.65	8.13
UK Growth	409.50	-	-0.70	0.00	8.02	10.12



Prusik Investment Management LLP (IRE)
Enquiries - 0207 493 1331

Regulated

Prusik Asian Equity Income B Dist	\$ 180.56	-	0.16	4.79	9.75	9.52
Prusik Asia Emerging Opportunities Fund A Acc	\$ 182.88	-	1.15	0.00	0.96	10.00
Prusik Asia Fund U Dist	£ 199.12	-	-0.03	0.00	-13.77	-1.97
Prusik Asia Sustainable Growth Fund A Acc	\$ 88.97	-	-0.31	0.00	0.95	-



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

Authorised Funds

Aptus Global Financials B Acc	£ 5.36	-	0.02	3.43	29.07	20.09
TM New Court Fund A 2011 Inc	£ 19.45	-	0.06	0.00	7.16	6.33
TM New Court Fund - A 2014 Acc	£ 19.62	-	0.06	0.00	7.21	6.30
TM New Court Equity Growth Fund - Inc	£ 21.38	-	0.08	0.00	6.58	7.63

SICO BSC (c) (BHR)
+973 17515031
www.sicobank.com

Khalifa Equity Fund	\$ 597.93	-	-0.12	0.00	2.29	18.63
SICO Kingdom Equity Fund	\$ 36.66	-	-0.08	0.00	9.51	22.48
SICO Gulf Equity Fund	\$ 154.93	-	-0.52	0.00	-3.68	12.71



Slater Investments Ltd (UK)
www.slaterinvestments.com, Tel: 0207 220 9460

FCIA Regulated

Slater Growth A Acc	596.04	596.04	-0.01	0.00	-14.61	2.74
Slater Income A Inc	138.24	138.24	-0.16	5.22	1.30	11.24
Slater Recovery A Acc	311.03	311.03	-2.10	0.00	-12.23	6.11
Slater Antarius	259.77	259.77	3.98	0.57	-15.98	5.66



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

Trojan Ethical O Acc	127.45	-	-0.07	0.07	1.17	2.97
Trojan Ethical Global Inc O Acc	102.72	-	0.79	2.75	1.75	-
Trojan Ethical Global Inc O Inc	98.77	-	0.76	2.80	1.77	-
Trojan Ethical O Inc	127.33	-	-0.06	0.08	1.36	3.04
Trojan Ethical Income O Acc	140.00	-	0.20	2.61	2.21	2.17
Trojan Ethical Income O Inc	115.54	-	0.16	2.67	2.21	2.17
Trojan Fund O Acc	384.00	-	0.06	0.26	0.54	3.27
Trojan Fund O Inc	310.03	-	0.05	0.26	0.54	3.27
Trojan Global Equity O Acc	523.31	-	-0.67	0.00	10.80	7.42
Trojan Global Equity O Inc	431.78	-	-0.55	0.00	10.80	7.42
Trojan Global Income O Acc	154.69	-	1.06	3.23	0.41	5.49
Trojan Global Income O Inc	127.14	-	0.87	3.30	0.40	5.48
Trojan Income O Acc	344.80	-	0.68	2.85	0.44	2.04
Trojan Income O Inc	167.61	-	0.33	2.92	0.45	2.04

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Lothbury Property Trust (UK)
155 Bishopsgate, London EC2M 3TU +44(0) 20 3561 4900

Property & Other UK Unit Trusts

Lothbury Property Trust GBP	£ 1693.45	1693.68	-25.99	3.45	-26.23	-
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Ram Active Investments SA
www.ram-am.com

Other International Funds

RAM Systematic Emerg Markets Eq	\$ 230.91	230.91	-1.20	-	12.62	8.70
RAM Systematic European Eq	\$ 532.98	532.98	1.48	-	2.23	7.38
RAM Systematic Funds Global Sustainable Income Eq	\$ 157.19	157.19	0.12	0.00	8.63	10.64
RAM Systematic Long/Short European Eq	\$ 145.19	145.19	0.97	-	-7.11	2.09
RAM Systematic US Sustainable Eq	\$ 362.88	362.88	-2.35	-	6.86	4.07
RAM Tactical Global Bond Total Return	\$ 139.56	139.56	-0.51	-	-1.01	-3.18
RAM Tactical AI Asia Bond Total Return	\$ 146.78	146.78	-0.17	-	1.63	-1.24

Stewart Investors

Stewart Investors (UK)
23 St Andrew Square, Edinburgh, EH2 1BB
enquiries@stewartinvestors.com
Client Services: 0800 587 4141
Dealing Line: 0800 587 3388

Authorised Funds

SI Asia Pacific A Acc	£ 197.50
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WORK & CAREERS

It's getting to a point where a business can't launder its brand image



Rutherford Hall
Critical Comms

Messages from the archive of Rutherford Hall, critical communications strategist

From: rutherford@monkwellstrategy.com
To: JohnJ@bigenergy.co.uk
John, I'm sorry to hear this, though we knew pressure on bodies to refuse fossil fuel money would grow. It is getting to a point where an honest business can't launder its brand image. Once universities start turning down cash then you know things are difficult. I miss the 1990s. The Gaddafi Institute of Global Governance, the China Institute for Human Rights, the Kagame Centre for Open Borders. Those were the days when you knew where you stood with academia.

I'm happy to speak to Camford's vice-chancellor but we probably need to start thinking about new vehicles for reputation augmentation, as we call it at Monkwell. Let's start with anywhere that took money from the Sackler Trust or Russian oligarchs and is suddenly having to sever ties.

Best, Rutherford
Find me on Strava, KoM Sydenham Hill, PR London to Brighton 3h 17m

To: ProfHawkwind@VC.camford.ac.uk
Dear Prof Hawkwind,
John at Big Energy asked me to reach

out to see if I can help with comms on the philanthropy issue. As you know Big Energy wants to be part of the solution by funding research into the fuels of tomorrow, and by supporting our great universities, hence the desire to endow a new Clean Energy Institute. We realise you are facing heat from those with less sensitivity to the energy security challenge and with no appreciation of the funding challenges affecting our greatest institutions. Shall we speak later this week?

Best, Rutherford Hall
Find me on Strava . . .

To: ProfHawkwind@VC.camford.ac.uk
Dear Prof Hawkwind,
Thanks for the call and the insight into the issue. I can talk to John about some of the research projects Big Energy wants to prioritise at Camford. They are very excited by the potential of black hydrogen but you may be right to view it as the wrong launch project. Obviously they'd prefer the institute to carry their name but may be open to more subtle branding.

I can't deny there will be protests. On the other hand we are talking about students so it's probably just a question of what they protest. It may even be a welcome distraction from efforts to shut down the Union, tear down

statues or decolonise the refectory.

I recognise your dilemma but at some point universities are going to have to take a stand against those attacking their funding streams. Only those with perfect images don't need to worry about finding other ways to do good. Today's activists have no appreciation of the upside of tainted cash. And between us, I don't want to see UK universities falling behind because people like Big Energy put their money in institutions overseas. As you said, both choices are uncomfortable for you, but only one of them offers discomfort and penalty.

Best Rutherford
Find me on Strava . . .

WhatsApp to JohnJ: Sorry John, I did my best.

To: JohnJ@bigenergy.co.uk
John, it's great if museums are keen. They want the cash but they are full of do-goody arts types and an easy target for activists who can get a tonne of coverage by defacing something priceless, so curators get nervous. You might need institutions with a bit more crowd control and high ticket prices.

Opera and sport are good bets. The former really needs the money and has high-value patrons. Sport has fabulous

Once universities start turning down cash then you know things are difficult

reach and we can slipstream behind more high-profile targets like Big Gambling and Big Autocracy. But if you did want to buy or sponsor a football club, or major sporting event it does seem to be a sphere where fewer questions are asked. Mind you, you would be competing with a lot of Saudi cash – funnily enough no one seems to mind national oil revenue if it buys you a good striker.

If the takers really dry up, there's good mileage in establishing our own clean energy think-tank, which also counts towards our ESG spending. We can also change our narrative by funding research into other green causes like meat-free food or work on just transition, whatever that means. We just base you in an overseas university in a country with a more forward-looking approach to dissent.

Food banks and medical causes are good but steer clear of fuel poverty charities. They might spark associations with oil profits.

It's up to you if you want to make a donation to the Conservative party, though I'm not entirely sure which one of you would be doing the brand-building at the moment. Is bluewashing a thing?

Best, R
Find me on Strava . . .

Leadership

Women in football fail to score top jobs off the pitch

Female tournaments are generating record interest but the sport is still overwhelmingly run by men, writes *Simon Kuper*

Andrea Koenig, a director of French football club Racing Club de Lens, says often in her job she walks into rooms full of hundreds of men. Her 25 years as an investment banker prepared her for this. "It means I have no discomfort whatsoever in a room with 200 men. Like zero. And I have an inbuilt filter for insensitive language. Ninety-nine per cent of the asset managers I used to do business with were men."

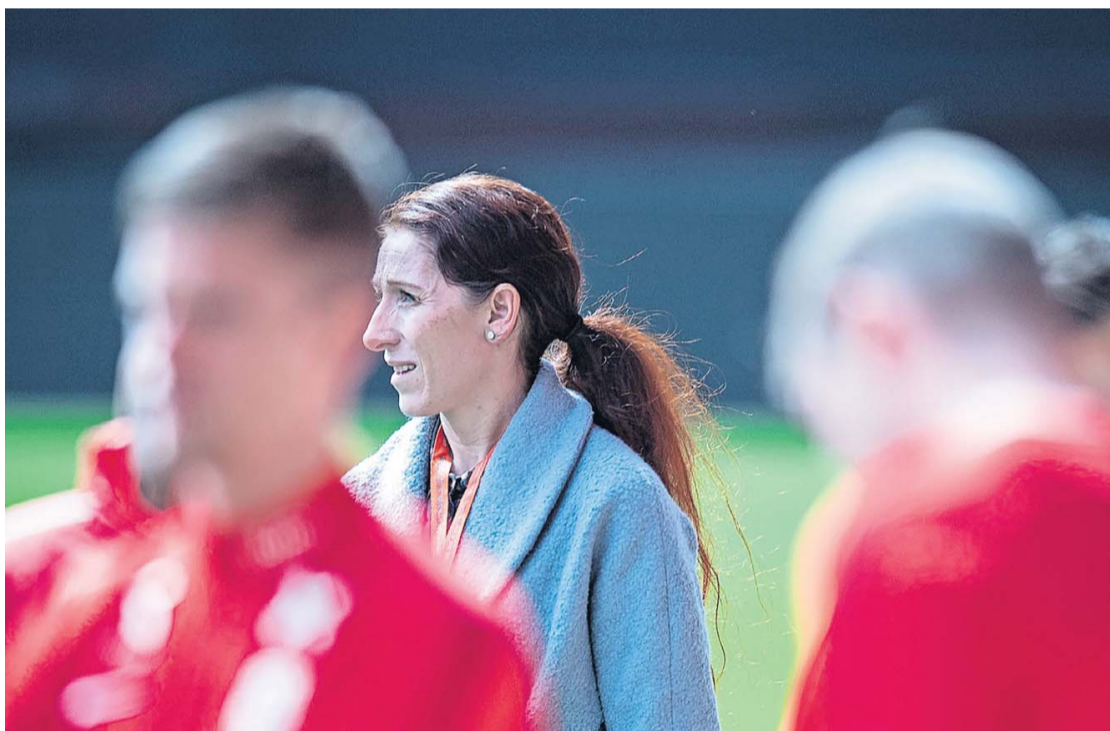
Now ought to be a crescendo moment for women working in football. The women's World Cup, which kicked off in Australia and New Zealand on July 20, is expected to be the highest-profile female football tournament yet. Hannah Dingley became the first woman to manage an English professional men's first team as she took on the caretaker role at fourth-tier club Forest Green Rovers this month – although she has now been replaced by a male head coach. And more than 50 English clubs have signed up to the Football Association's Leadership Diversity Code, which among other things sets targets for hiring female coaches, executives and other off-field staff.

But, even as women make more of an impact on the pitch, the people running the men's and the women's games from the sidelines and back offices remain overwhelmingly male. "Everyone says we need more women in the sport, but I haven't seen it yet, not at a senior level anyway," says Koenig.

The game's exact gender imbalance is unclear, says Ebru Köksal, chair of the Women in Football network, because "we don't know how many women work in football. We have no data on senior management, middle management, no workforce data, period." Still, she offers some statistics: "Nine per cent of board members at English Premier League clubs are female. At national federations, only 2 per cent of presidents and CEOs are women."

Football's best-known female leader is probably still Hannah Waddingham, who plays the fictional owner of AFC Richmond Rebecca Welton in television series *Ted Lasso*. For 2021-22, one target for signatories of the FA's diversity code was that 50 per cent of new hires in senior leadership should be women; in the event, the "collective football average" was 17.9 per cent. And that's in English football, whose gender balance, Köksal notes, is "far" ahead of continental Europe's. Women tend to be siloed in club departments such as human resources, marketing or logistics. They are rarely hired for revenue-generating roles such as chief financial officer or as coaches, performance analysts and scouts. Few become decision makers. While "around 27 per cent of workers in men's professional club football are women", that falls to 14 per cent in the highest pay quartile, wrote Amée Gill of Durham University in 2019.

Lise Klaveness, president of Norway's football federation, thinks women tend not to seek out low-paid, insecure starter



Lise Klaveness, president of Norway's football federation, thinks women tend not to seek out starter roles in football because they see little prospect of advancement

Trond Tandberg/Getty Images

roles in the football industry because they see little prospect of advancement. When she played professionally, some of her male coaches rose to well-paid jobs; the female ones did not. Why would women sacrifice weekends and evenings to this all-consuming industry if they didn't expect future rewards?

So how to raise female employment in men's football – where the vast majority of the money and jobs are – as well as in the women's game?

Step one to making football more welcoming to women is to change its culture. "Cultures in these organisations were created long before women were around," says Yvonne Harrison, Women in Football's chief executive. In that sense, football resembles the construction industry, or parts of engineering.

Sexist remarks and sexual harassment remain common. Only recently have employers begun punishing offenders. Ajax Amsterdam's director of football Marc Overmars left last year after sending what the club called a "series of inappropriate messages to several female colleagues". In February this year the French federation's president, Noël Le Graët, stepped down after a state inspectorate accused him of mis-steps including "inappropriate behaviour towards women". And Harrison notes the abuse of Dingley on social media and in radio phone-ins after her appointment: "I felt we'd stepped a little bit back into the 1970s."

Francesca Whitfield, head of group planning at Manchester United, worries about the public response if she took a high-profile job: "They might think I don't know as much about football as a male counterpart."

Exclusion of women also happens in unintentional ways. "No women will go to a place where it says in the work ad, 'Are you hungry for . . .'. The whole industry has been a bit aggressive in tone," says Klaveness. Nor has it made much allowance for employees with caring responsibilities. Klaveness, who has three children but travelled 200 days

last year, raises awareness by sometimes bringing her kids to work events.

Even some of the well-meaning younger male executives taking charge of clubs fail to see these forms of exclusion, partly because they are not being told. Two-thirds of Women in Football's members said in a survey that they had experienced gender discrimination in football, but only 12 per cent of incidents were reported and then often dismissed as "banter". That might change with more women in senior roles.

Another exclusion mechanism is football's tradition of hiring without advertising jobs. Harrison says: "Women don't get the same opportunities at finding out about new jobs. They aren't in these closed networks." English football's new online career platform,

'People are curious. Maybe they admire you more because you have done it while being a woman'

launched in 2021, with more than 2,600 vacancies posted in the first 18 months, could help change that. The bigger question, given that organic change has been so slow, is whether football needs hard quotas for hiring women. Most women in the game express wariness of this. "I don't think quotas are the answer to anything. I'm a competitive person – everyone in football is," Klaveness says. "Of course you don't want to work with people who want to be political about gender all the time. It's exhausting."

Yet both she and Whitfield can see the case for quotas albeit only as one of a range of pro-women policies. Klaveness notes that in 2003, Norway became the first country to set a quota of 40 per cent for women on boards of listed companies. That started an international trend. Once more women enter an industry, their presence becomes unremarkable, she adds. And if one woman

fails in football – as male coaches do every day – that won't be seen to tarnish all women. But to hire for top jobs, there needs to be a pipeline of women who have gained experience in lesser roles.

Dingley, for example, led a youth academy before she became a manager. "I haven't just rocked up today and chosen to coach a men's team," she remarks.

Football needs to create programmes to fill that pipeline, says Klaveness. "I was the federation's technical director for four years and I tried to hire female coaches on the men's youth national sides. Almost nobody applied."

Klaveness urges football to cultivate women who in three or five years could become, say, manager of Manchester United's men's team or a big club's sporting director. "If you don't think that's possible, why don't you? This is what we can do in football: we develop people, we develop skills."

One hopeful aspect is that football traditionally hires ex-players, so today's high-profile female teams should fill more coaching and backroom roles in future. Another positive sign is that women who do work in the industry, at least in England, often report good experiences. Seventy-eight per cent of Women in Football's members say they "feel supported" by their colleagues, and 66 per cent by their employers.

At Manchester United, says Whitfield, "I'm surrounded by men who don't really see gender. I've been pushed forward by men that I've worked for. It's a very level playing field for me."

Mariela Nisotaki, head of emerging talent at Norwich City, reckons she's just one of three female scouts working for European men's clubs. Yet her experiences, she says, have been "more positive than negative". "People are curious: 'How are you working in football?' Maybe they admire you more, because you have done it while being a woman."

When other women ask for advice about working in football, Nisotaki tells them their timing is good: "There's a lot of promotion of women at the moment."

Dear Jonathan

YOUR QUESTION FOR OUR EXPERT – AND READERS' ADVICE

Is it worth doing a PhD when a job in academia is not the goal?



This week's problem

I work in analytics at a Big Four firm but I am deciding whether to go back to university to do a PhD in economics, which for me would be incredibly interesting and fulfilling. However, once I have completed the four-year programme I have no intention of following a career in academia, so is it worth it? **Anonymous, 20s**

Jonathan's answer

People can have different reasons for embarking on postgraduate research, from furthering career prospects and gaining expertise to satisfying intellectual curiosity, and wanting to add to the body of knowledge. It sounds as though your primary motive is to explore economics in depth and develop ideas.

Four years of self-directed study will test your reserves of internal motivation. Aside from the intellectual benefits, you will gain important skills in research, time management and drive. Common advice to people considering further study is that they must truly want to do it for its own sake.

In your case, and encouragingly, you would find it "incredibly interesting and fulfilling". Academia needs people with this motivation and curiosity, and an enthusiasm to transmit such interest to colleagues, the public and students in teaching and seminars. You might discover interests and skills hitherto untapped.

In your twenties, it is brave to rule out possible career paths in four years' time; it might be better to keep your options open until you know more. However, you ask if a PhD would be "worth it" if you did not pursue academia. How might you define worth?

Measuring worth in purely financial and employment terms, PhDs have better outcomes than masters or first-degree graduates. Across the UK, 95 per cent of PhDs 15 months after leaving university in 2020-21, had a "positive outcome" – defined as highly skilled employment or further study – and a median salary of £38,000, according to the annual Graduate Outcomes survey. Encouragingly, 86 per cent of PhDs said their studies fitted their future plans, and 76 per cent reported

they were using what they had learnt.

This compares with 85 per cent of masters students and 80 per cent of first-degree graduates who said they had a positive outcome and reported median salaries of £29,500 and £26,000 respectively.

Outside academia, a PhD would open up more career options, for example in NGOs, think-tanks and analytical consultancies. You may come to love the freedom of academic pursuit, the chance to inspire others and to consult externally. And while financially a PhD is "worth it", it sounds as though the PhD is attractive to you, in and of itself, and you might come to regret not spending four years pursuing deep research into an area of great personal interest.

Readers' advice

PhDs take ferocious levels of commitment. On the other hand you learn things about yourself, and your discipline, you can learn no other way. **Anthony Staines**

I have a humanities PhD and now work in management consulting. I have zero regrets. I pursued research questions I remain passionate about, was able to publish research and contribute to books, win awards, speak at international conferences and spend my twenties travelling the world. **GW**

You absolutely must have stable funding in place before you begin. Do not consider doing it unless you have that. It is essential. **investor123**

The next problem

I have just been appointed manager of a team of 15. Two of the them, including my official number two, present immediate challenges in that they have displayed misogynistic behaviour towards me and a younger female team member. How do I manage so many direct reports to create a cohesive team while also eradicating this toxic behaviour? **Anonymous**

Jonathan Black is director of the Careers Service at the University of Oxford. Every fortnight he answers your questions on personal and career development and working life. Do you have a question for him? Email: dear.jonathan@ft.com

FEATURES

The
Henry Mance
Interview‘I hope the
era of aviation
exceptionalism
is over’

CAIT HEWITT

The campaigner challenges the economic case for airport expansion in the UK and the industry’s sustainability ‘hype’



Charlie Bibby/FT

This year, the British government proudly unveiled an “ambitious” plan to make airports in England net zero by 2040. Only one problem: the target does not include the actual flights, which account for 95 per cent of airports’ emissions.

For Cait Hewitt, such announcements are “a deliberate strategy to comfort the flying public” into wrongly believing aviation is on the path to sustainability. Hewitt has spent 16 years at the UK campaign group, the Aviation Environment Federation, opposing airport expansions. She was part of efforts to block Heathrow’s third runway. But perhaps her most notable role has been “to have challenged some of the bullshit from the aviation industry”.

For many climate problems, we now have solutions. We can build wind and solar farms cheaply, drive electric cars and reforest the countryside. But air travel – which accounts for 7 per cent of UK emissions, not far beyond the entire electricity network’s 11 per cent – defies such simple fixes. Electric batteries are too heavy for even mid-distance flights. Hydrogen fuels and biofuels would require vast amounts of renewable energy and agricultural land respectively.

Undeterred, the industry wants growth. This month Gatwick set out plans for a second runway. Heathrow plans to resubmit its application for a third runway by the end of the year. Smaller airports are expanding too. In all, this would increase the UK’s aviation capacity by a quarter, or 97.4mn passengers a year, something climate analysts say is “incompatible” with the country hitting net zero by 2050. “It sometimes

‘People who fly think of it as normal, [but] about half the UK doesn’t take a flight at all in a year’

feels as though they’re all having a go [to expand] now, just in case climate policy catches up with them soon,” says Hewitt.

Yet she does not just argue that the environmental costs of airport expansion outweigh the economic benefits; she wants to challenge whether the economic benefits for the UK exist at all.

Airports and airlines like to suggest they are essential to growth. A new report, commissioned by the AEF and reviewed by the economist John Siraut, concluded there was little evidence for this in an economy such as the UK, which is already well connected and which has net tourist outflows. Instead, the economic case for aviation “appears to rely almost entirely on the presence of business air passengers”, the report said. But business travel was falling even before the pandemic: with the rise of video calls, it now accounts for just 6 per cent of UK flights.

“Even if your sole objective was to grow the UK economy and you didn’t care at all about the climate impacts of aviation, you might still want to look carefully about whether a new runway was the right infrastructure development for the UK right now,” says Hewitt.

Meanwhile, British politicians wonder how to reverse the decline of coastal towns such as Blackpool,

without asking whether limiting cheap flights to Europe and beyond might be part of the solution.

Hewitt does see signs that “the era of aviation exceptionalism” – a sense that in the sector “the usual principles of climate policy don’t apply” – is over. The Dutch government has won a legal battle to cut the number of flights at Schiphol, the EU’s third largest airport, because of noise and air pollution. Schiphol is consulting on banning private jets and reversing plans for a new runway. The Climate Change Committee, the UK’s independent advisers on net zero, called last month for all airport expansion to be paused until there was a national strategy in place.

But Rishi Sunak’s government champions “guilt-free flying”: its so-called Jet Zero strategy is built on “ambitious” assumptions of future technology. Here Hewitt, mild-mannered, stretches to exasperation. “If you went to the doctor as a smoker, and said, ‘What shall I do?’ And the doctor said, ‘I think you should carry on with your 40-a-day habit, because I’m a very optimistic person, I believe in future there’s going to be some technology that will allow us to replace your lungs.’ Would you describe that person as ambitious or just completely reckless?”

The last time Hewitt travelled by plane was in 2010, shortly before the birth of her daughter. “People who fly regularly think of it as a very normal, common activity [but] about half of the population of the UK doesn’t take a flight at all in a year.”

While millions of British people take off to the Mediterranean this summer, Hewitt and her family will be going to the North Yorkshire coast. “It’s taken a while to say, ‘I’m going to Whitby’, without feeling I have to make an apology about it.”

Despite the rise of budget airlines, about 15 per cent of adults in the UK take 70 per cent of flights, according to 2014 data. Globally, “about half of all aviation emissions are generated by 1 per cent of the population”.

Hewitt sighs at the overhyping of new technologies. Dale Vince, the green energy entrepreneur, has announced that he is launching an electric airline, which will fly a 19-seater plane between Edinburgh and Southampton. But the technology is not yet available, so the planes will initially run on kerosene.

“People like the idea of electric planes. In the climate relevant timeframe, from now until 2050, you might be able to [use them for small distances], but probably not for anything longer.”

Hydrogen planes, backed by Airbus, have more potential. “I’m told that maybe I’ll be able to take my family to the south of France in a hydrogen-powered aircraft sometime in the 2030s. But one, let’s see, and two, it’s going to be difficult to get hold of enough hydrogen using renewable electricity.”

In February, a review by the Royal Society concluded that “there is no single, clear, sustainable alternative to jet fuel able to support flying on a scale equivalent to present day use.” To meet the UK’s current aviation demand with green hydrogen would require about three times the country’s 2020 wind and solar electricity generation. To meet it with crops,

like oilseed rape, would require more than half of the country’s agricultural land.

Other sources of sustainable aviation fuels, including waste, are scarce or flawed. “The government at the moment is trying to pass legislation to allow unrecyclable plastics to be reclassified as a sustainable energy source so they can be put in aviation fuel. You get this lump of plastic, that is made of oil, you do some kind of conversion on it, which is really energy intensive, to convert it into a liquid fuel, you then put it into an aircraft and re-release that CO₂ together with all the non-CO₂ warming effects that aviation has. I don’t think that you can call that even a carbon reduction, let alone a long-term sustainable solution.”

The “gold standard” is power-to-liquid fuel – made by combining CO₂ captured from the air with hydrogen produced using renewable electricity. That is “extremely energy intensive to produce, and very, very expensive. And there just isn’t any!”

Akbar Al Baker, chief executive of Qatar Airways, said in May that the industry would not meet its target of net zero emissions by 2050, adding: “Let us be realistic – there is not enough

‘I never knew I had so many values until [my daughter] started challenging them’

production of sustainable aviation fuel.”

Some countries have started to take action. France has banned domestic flights where a train journey would take less than two and a half hours. But while Hewitt calls this “interesting as a conversation starter”, she notes it does not deliver much in terms of emissions reductions, “because it’s the long-haul flights that are really the problem”.

She argues the best policies would be to cap airport expansion, while increasing the cost of flying. A frequent flyer levy is popular with the public, although would be harder to administer than the UK’s existing air passenger duty.

Hewitt says one problem is that the planning system is set up to essentially preclude climate considerations. The policy is that no airport expansion should be turned down on climate grounds unless it would have a material impact on the government’s ability to meet its carbon reduction targets. “For any individual application, that’s almost impossible to prove.”

Gatwick’s expansion plan states it is the government’s responsibility to ensure climate targets are met. Hewitt argues that, by the time the government’s Jet Zero strategy is shown as ineffective, Heathrow, Gatwick and other airports may have been given permission to expand and “it becomes very, very difficult to revoke that”.

Is opposing airport expansion just a variant of Nimbysism, which also stops new houses and renewable projects from being built? “I don’t think we’re Nimbies, because I’m not pushing airport expansion elsewhere.”

Hewitt, 44, acknowledges that people want to fly. But she wishes that holidays were less about “an impressive sounding destination, and more about

experience and adventure, and having time with your family. For children, you can do lots of fun stuff without having to travel that far.”

Nonetheless, she admits she would like to be able to take her children to see more of the world. Her daughter, 12, already chafes at the sacrifice: “I never knew I had so many values until she started challenging every one of them! Not flying is just one on the list.”

In her time at the AEF, Hewitt has seen some limited progress. The Department of Transport’s team for aviation climate policy “didn’t exist when I started my job, and it does now”. From 2033, the UK will count international aviation emissions in its carbon budget.

But what Hewitt really longs for is a sense of emergency. “If I think back to those broadcasts that Boris Johnson

used to make during the pandemic: ‘I need to level with you, we’re going to have to make some big sacrifices here, because we’ve got this big problem out there.’ There is just nothing like that coming across in the political language about climate change. It’s all very jolly stuff. You get one little hydrogen aircraft test trial, and it’s ‘Hooray, this shows that great British engineering will save the day, and we can all carry on flying.’”

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ARTS

Baffled boy to global gallerist

Thaddaeus Ropac has spent 40 years working with the world's great artists, from Beuys to Basquiat. He talks to Melanie Gerlis

"I'm the only person in the art world who works hard in August," semi-jokes the gallerist Thaddaeus Ropac as he gears up for his 40th anniversary celebrations and exhibitions this week in Salzburg.

The Austrian city, where Ropac first opened in a modest first-floor space in 1983, does indeed come alive each summer as culture vultures descend on the hilly idyll for its annual classical music festival. It has proved the perfect base for the unflashy Ropac to build a business across Europe and Asia that puts him in the top rank of global gallerists.

Salzburg's summer rush is largely why he opened there in the first place. Ropac was born in the Alpine region of Carinthia in 1960, and when he started his career all Austrian cultural roads pointed to Vienna, the capital.

"I went there to find a space but felt I didn't connect. Then I checked out Salzburg and it felt right, so creative. Everyone was carrying a musical instrument. I didn't realise that after the summer it becomes a quiet, middle-European town," he says.

Ropac credits his passion for art, and some big-name introductions, to the groundbreaking German modernist Joseph Beuys. In 1979, he was taken on a school trip to Vienna's contemporary art museum, then in the grand Palais Liechtenstein, which had a room dedicated to a Beuys installation.

"There were metal gutters, a broken table, a lightbulb without a shade, a piece of soap and a bundle of clothes. I found it very irritating," he says. I went back the next day, and still found it irritating. But I picked up a leaflet, read about it and became fascinated."

Ropac then found out that Beuys was teaching in Vienna, went to hear him

and was hooked. "He was so charismatic. At that point, I wanted to be an artist, but I felt that what I wanted to say wasn't enough."

So in 1982 he went to Beuys's studio in Düsseldorf, knocked on the door, and found himself some unpaid work as the artist prepared for the landmark *Zeitgeist* exhibition in Berlin and his Documenta project in Kassel, which involved the planting of 7,000 oak trees. "I wasn't Beuys's assistant. At best I was the assistant to his assistant. But there was plenty to do," Ropac recalls.

He describes himself at the time as "a dreamer who didn't know much about art. I couldn't really offer much." He must have impressed more than he makes out. When his time with Beuys ended, his hero artist asked him what

Basquiat thought Ropac's gallery was in Australia, not Austria – he wanted to incorporate kangaroos in his work'

next, and Ropac answered that he wanted to open a gallery in Austria to introduce the new crop of artists he had seen in Germany. Beuys wrote an introductory letter to Andy Warhol, from whom Ropac got some works to show back home while on a US trip, and who also gave the budding gallerist an introduction to Jean-Michel Basquiat during his trip.

Ropac's first meeting with Basquiat is perhaps not the stuff of legend that an international gallerist would like to relate. "He was in a basement, with loud



music playing, and my English was patchy. I didn't really understand anything he was saying to me," Ropac says. The misunderstanding went both ways. Basquiat thought Ropac's gallery was in



Clockwise, from above: Thaddaeus Ropac photographed for the FT by Romain Duquesne; Georg Baselitz's 'Blick aus dem Fenster' ('View out of the Window'), (1982); Andy Warhol's 'Joseph Beuys (Red background)' (1980)

Australia, not Austria – "he wanted to incorporate kangaroos in his work for his first show with me," Ropac recalls gleefully – but when the artist caught on, he was even more enthused. "He realised it was the birthplace of Mozart. He liked the idea of music," Ropac says.

Ropac's Salzburg gallery gradually became the de facto discovery spot for the German-speaking art world, combining contemporary US artists with those closer to home, including Georg Baselitz, Anselm Kiefer and Austria's Valie Export. Unlike today, Ropac says, "artists didn't expect you to sell their work. Every sale made in the first few years was a feast." A turning point for the business was when he opened in Paris in 1990, with a show including two American names, Jeff Koons and the conceptual artist Elaine Sturtevant. "There was a new audience that came of its own accord. Paris changed everything," he says.

Since then, Ropac has opened a vast second space there as well as a gallery in London – the elegant Ely House in Mayfair – and was an early mover into South Korea, where he has a two-floor space in Seoul. Unlike most other big-brand galleries, Ropac is conspicuously not in New York. "The US is incredibly important to our business. But when you are in Paris and London, then you have the US market, really. I am thinking of growing further, but at the moment the focus is on Asia," he says.

His Paris experience, opening one year before a deep global recession, keeps him level-headed today, when the market for contemporary and modern art has lost some of its froth. "It's all part of the temporary ups and downs. We might do less turnover for one or two years, but small corrections help us to keep our feet on the ground, catch our breath and rethink," he says.

In a fragile industry, it is a luxury that not all galleries can afford. Very few boast a staff of 130 worldwide, a roster of 72 artists and estates, and a programme of up to 40 shows per year. Ropac wears his success modestly and stands out as one of the more authentic dealers at this level. "He is one of those gallerists who gives huge consideration to where works are placed and really cares about

the long-term support of the artists he represents," says Melanie Clore, co-founder of the London art advisory firm Clore Wyndham.

Ropac's dedication to his Salzburg roots means he has pulled out all the stops for his 40-year anniversary exhibition: it comprises nearly 70 artists across his two galleries in town. The show pairs works made around 1983 with those made more recently; highlights include a 1980 Warhol portrait of Beuys and a 2022 portrait of the Ukrainian president Volodymyr Zelenskyy by Elizabeth Peyton. Ropac's long ties with the Salzburg festival are evident this year and include a display of five large sculptures from the "Tankers" series by Antony Gormley in the baroque Kollegienkirche concert venue (July 29-August 13).

The gallerist still seems to welcome the hard work and punishing schedule that today's art market dictates, even during the summer months. He describes it as "a privilege" to be in the art world and says his "biggest kick" still comes from "sharing the risk of what an artist does in their studio" – including, he notes, when it doesn't work out as they would hope. His perspective isn't so different from that of the boy baffled by Beuys and Basquiat. Today, he says "you have to test the waters of what you don't understand. It is always about curiosity and looking ahead."

1983 / 2023 is at Thaddaeus Ropac's Villa Kast and Salzburg Halle, July 29 to September 30, ropac.net



Jean-Michel Basquiat, Francesco Clemente and Andy Warhol's 'Ex-Ringey' (1984) is among the works on show in Salzburg

In the footsteps of a legendary creature

PODCASTS

Fiona Sturges



The mystery of the yeti, a bipedal beast said to roam the Himalayas, has been a source of fascination for explorers, naturalists and folklorists for decades. Tall, hairy, ape-like, with giant feet, it has several names: the yeti (a Sherpa word for "wild man"), the abominable snowman or, in Bhutan, migo. That this creature has loomed large in horror movies and episodes of *Scooby-Doo* means it surely can't be real – can it?

In the 10-part BBC podcast *Yeti*, Andrew Benfield and Richard Horsey gather stories of yeti sightings in a journey that takes them to the mountains of India, Myanmar, Nepal and Bhutan. They play their trump card early: a recording of an interview with David Attenborough suggesting there might be some truth to the legend. The veteran naturalist can be heard discussing the photographs submitted by the mountaineer Eric Shipton after he climbed Everest in the early 1950s showing large footprints in the snow. He

also mentions the fossilised molar teeth and jaw of a large ape-like creature unearthed at a Chinese apothecary by the Dutch-German paleontologist Gustav von Koenigswald. "So... there certainly was a giant ape there, and I think it's not impossible that one could survive," Attenborough says.

The series does its best to balance scientific enquiry with often flimsy anecdotal evidence – there is not a yak herder or farmer in the Himalayas who doesn't know someone who knows someone who has seen the yeti. Benfield and Horsey take the roles of believer and sceptic respectively, with tension fitfully rising from their differing viewpoints – though they both lose heart after meeting a man in Myanmar who claims he was kidnapped and had his hands bound by two yeti.

They also investigate the death of a construction worker 15 years ago whose body was found in north-east India, his neck clearly broken. Some locals say the culprit was clearly the yeti: not only was there a large footprint, but traces of non-human hair were found at the scene. Yet further investigation reveals that the hair was in fact a small piece of leaf.

Tall tales and investigative cul-de-sacs abound in this series which, at times, veers into the hammy. Benfield and Horsey make a show of having their hopes raised at finding evidence of the

yeti's existence, only to have them dashed roughly 15 minutes later.

Most compelling are the later episodes which delve into yeti mythology and its importance to Himalayan communities. "The world is huge and it has so many things we still don't know about," a Bhutan historian says. "[The] yeti falls, in my mind, into the same category as the spirits. They live here, they appear when they feel like it and they have the ability to disappear. And that's why the yeti chasers will never find them."



Eric Shipton's 1951 photograph shows a mysterious footprint in the Himalayan snow

FT FINANCIAL TIMES

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FT BIG READ. ARTIFICIAL INTELLIGENCE

In 2017, eight Google research scientists published a short paper that paved the way for the rise of large language models. But all have since left the Silicon Valley giant.

By Madhumita Murgia

Like many breakthroughs in science, the one that spurred an artificial intelligence revolution came from a moment of serendipity.

In early 2017, two Google scientists, Ashish Vaswani and Jakob Uszkoreit, were in a hallway of the search giant's Mountain View campus, discussing how to improve machine translation.

The AI researchers had been working with another colleague, Illia Polosukhin, on a concept they called "self-attention" that could radically speed up and augment how computers understand language. Polosukhin, a science fiction fan from Kharkiv in Ukraine, believed self-attention was a bit like the alien language in the film *Arrival*. The extraterrestrials' language did not contain linear sequences of words but generated entire sentences using a single symbol that represented an idea or a concept, which human linguists had to decode as a whole. AI translation methods at the time involved scanning each word in a sentence and translating it in turn, in a sequential process. The idea of self-attention was to read an entire sentence at once, analysing all its parts and not just individual words. The trio started playing around with some early prototypes on English-German translations, and found it worked.

During their chat in the hallway, Uszkoreit and Vaswani were overheard by Noam Shazeer, a Google veteran who had joined the company back in 2000. Shazeer, who had helped build the "Did You Mean?" spellcheck function for Google Search, was frustrated by existing language-generating methods, and looking for fresh ideas.

So when he heard his colleagues talking about this idea of "self-attention", he decided to jump in and help. "I said, I'm with you... let's do it, this is going to make life much, much better for all AI researchers," Shazeer says. The chance conversation formalised a months-long collaboration that eventually produced an architecture for processing language known simply as the "transformer". The eight research scientists who played a part in its creation described it in a short paper with a snappy title: "Attention Is All You Need."

The paper was published in June 2017, and it kick-started a new era of artificial intelligence: the rise of generative AI. Today, the transformer underpins most applications of AI in development. It is embedded in Google Search and Translate, for which it was originally invented, and powers all large language models, including those behind ChatGPT and Bard. It drives autocomplete on our mobile keyboards, and speech recognition by smart speakers.

But its real power comes from the fact that it works in areas beyond language. It can generate anything with repeating motifs or patterns, from images with tools such as Dall-E, Midjourney and Stable Diffusion, to computer code with generators like GitHub Copilot, or even DNA. Vaswani, who grew up in Oman in an Indian family, has a particular interest in music and was amazed to discover that the transformer could generate classical piano music as well as the state-of-the-art AI models of the time.

"The transformer is a way to capture interaction very quickly all at once between different parts of any input, and once it does that, it can... learn features from it," he says. "It's a general method that captures interactions between pieces in a sentence, or the notes in music, or pixels in an image, or parts of a protein."

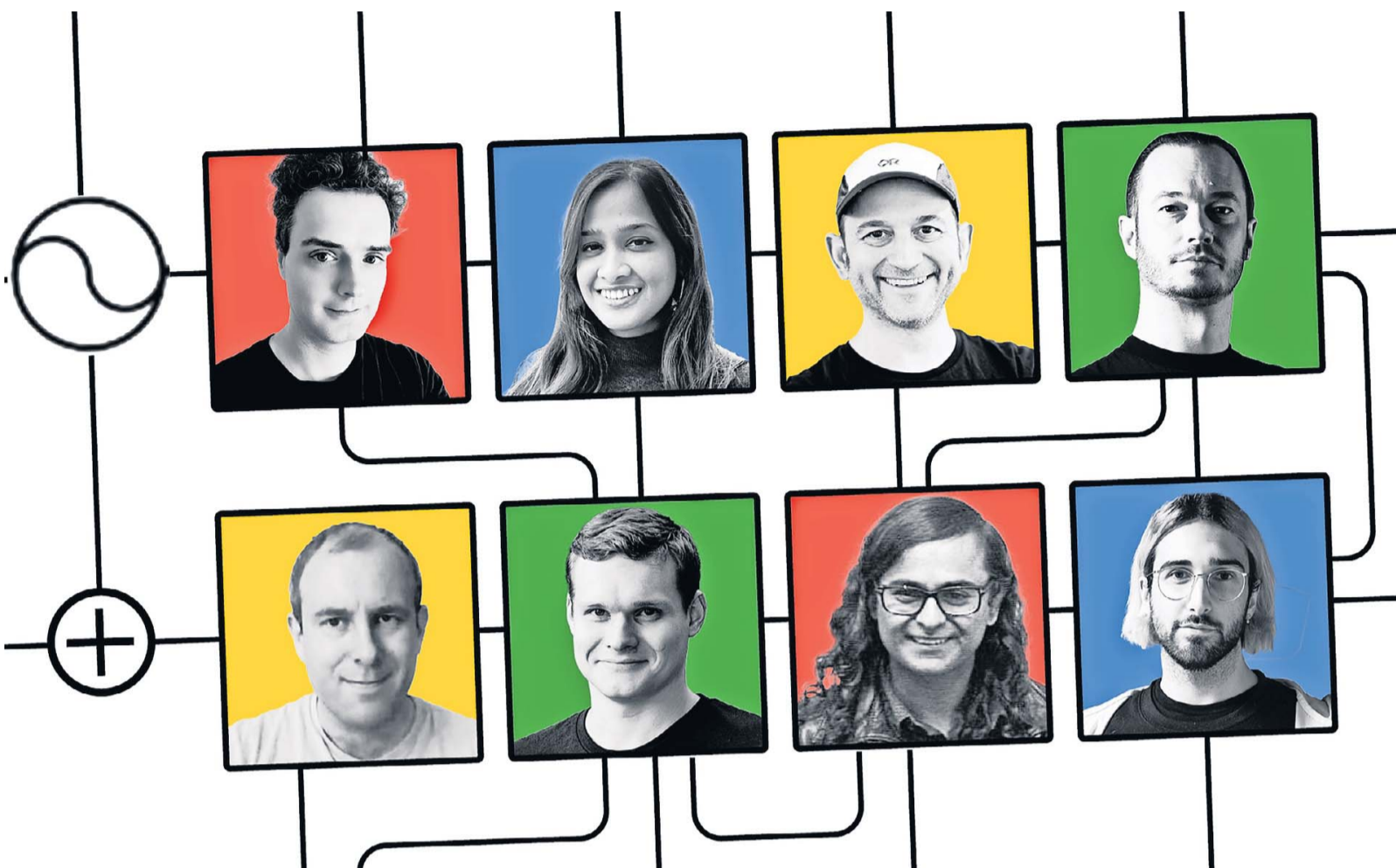
The genesis of the transformer and the story of its creators help explain how we got to an inflection point in artificial intelligence, comparable to our transition on to the web or to smartphones, that has seeded a new generation of entrepreneurs building AI-powered consumer products for the masses.

But it also highlights how Google's evolution into a vast corporation has stifled its ability to let entrepreneurialism flourish, and to launch new consumer products quickly. All eight authors, seven of whom spoke to the Financial Times, have now left the company.

It is a stark illustration of the "innovator's dilemma", a term coined by Harvard Business School professor Clayton Christensen that explores why industry leaders get overtaken by small, emerging players. Despite gathering the world's leading talent in deep learning and AI and creating a research environment for them, Google was unable to retain the scientists it helped to train.

In a statement, Google said it was "proud of our industry-defining, breakthrough work on transformers and [was] energised by the AI ecosystem it's created". It acknowledged the "bittersweet" reality that, in such a dynamic environment, talented staff might choose to move on.

The intellectual capital created by the co-authors has resulted in an explosion of innovation, experts say. "What came



The story of the AI transformers

What came out of "Attention Is All You Need" is the basis for effectively every generative AI company using a large language model

out of 'Attention Is All You Need' is the basis for effectively every generative AI company using a large language model. I mean it's in everything. That's the most insane thing about it," says Jill Chase, a partner at CapitalG, Alphabet's growth fund.

Birth of an innovation

Like all scientific advances, the transformer was built on the decades of work that came before it, from Google itself, its subsidiary DeepMind, Facebook owner Meta and university researchers in Canada and the US. But the pieces clicked together through the assembly of a group of scientists spread across Google's research divisions.

The final team included Vaswani, Shazeer, Uszkoreit, Polosukhin and Llion Jones, who grew up in a tiny Welsh village. They were joined by Aidan Gomez, an intern then studying at the University of Toronto, and Niki Parmar, a recent masters graduate on Uszkoreit's team, from Pune in western India. The eighth author was Lukasz Kaiser, a part-time academic at France's National Centre for Scientific Research.

The group's educational, professional and geographic diversity made it unique. "To have that diverse set of people was absolutely essential for this work to happen," says Uszkoreit, who grew up in the US and Germany and was adamant he would not work in language understanding, because his father was a professor of computational linguistics.

But at Google he found the most interesting problems in AI were in language translation. Grudgingly, he too ended up focusing on machine translation.

As they all remember it, they were originally working as three separate groups but then decided to combine forces. While some worked on writing the initial code, cleaning data and testing it, others were responsible for creating an architecture around the models, integrating it into Google's infrastructure to make it work efficiently.

"The idea for the transformer formed organically as we worked and collaborated," says Jones. The Google office

environment, complete with campus bicycles, proved fruitful. "I recall Jakob cycling up to my desk and scribbling a picture of a model on a whiteboard behind me and gathering the thoughts of whoever was in earshot."

Group members were united by a fascination with language and a motivation for using AI to better understand it. As Shazeer says: "Text is really our most concentrated form of abstract thought. I always felt that if you wanted to build something really intelligent, you should do it on text."

The model published in the paper was a pared-back version of the original idea of self-attention. Shazeer found it worked even better this way, stripped of any bells and whistles they had tried to add on. Extensive fine-tuning was required to make it run on graphics processing units, the hardware best suited to deep learning technology like the transformer. "In deep learning, nothing is ever just about the equations. It is how you... put them on the hardware, it's a giant bag of black magic tricks that only very few people have truly mastered," Uszkoreit says.

Once these were applied, primarily by Shazeer, the transformer began to improve every task it was thrown at. Its benefit was that it allowed computations to be made in parallel, using far fewer mathematical operations. "It is just very simple and overall, the model is very compact," says Polosukhin.

A peer-reviewed version of the Attention paper was published in December 2017, just in time for NeurIPS, one of the most prestigious machine learning conferences. Many of the transformers authors remember being mobbed by researchers at the event when displaying a poster of their work. Soon, scientists from organisations outside Google began to use transformers in applications from translation to AI-generated answers, image labelling and recognition. At present, it has been cited more than 82,000 times in research papers.

"There was a Cambrian explosion in both research and practical applications of the transformer," Vaswani says, referring to the moment 530m years ago when animal life rapidly flourished. "We saw it advancing neural machine translation, [language model] BERT appeared, which made its way to Search—that was a very important moment for practical AI."

After the paper was published, Parmar found the transformer could generate long Wikipedia-like pages of text, which previous models had struggled with. "And we already knew [then] that you could never have done anything like that before," she says.

Parmar also recognised one of the key properties of transformers: that when you scaled them up, by giving them more and more data, "they were able to learn much better". That led to the

advent of large models such as GPT-4, which have far better reasoning and language capabilities than predecessors.

"The general theme was that transformers just seemed to work much better than [previous models] right out of the box on whatever people threw them at," says Jones. "This is what I think caused the snowball effect."

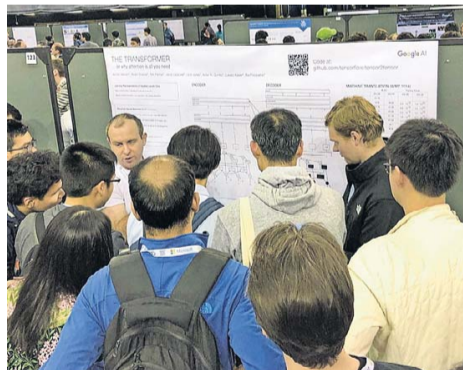
Life beyond Google

After the transformer model was published widely, the researchers began to feel impatient about pushing their ideas out into the market. The pace of AI research was picking up, particularly in areas such as generating text and images using transformers, but many of the contributions were coming from start-ups like OpenAI, not from Google.

Each of the co-authors who spoke to the FT said they wanted to discover

The eight research scientists who came up with the model, clockwise from top left: Llion Jones, Niki Parmar, Noam Shazeer, Jakob Uszkoreit, Aidan Gomez, Ashish Vaswani, Illia Polosukhin and Lukasz Kaiser. Below, Kaiser and Polosukhin at the NeurIPS conference

FT montage



what the toolbox they had created was capable of. "The years after the transformer were some of the most fertile years in research. It became apparent... the models would get smarter with more feedback," Vaswani says. "It was too compelling not to pursue this."

But they also found that Google was not structured in a way that allowed for risk-taking entrepreneurialism, or launching new products quickly. It would require building a "new kind of software... computers you can talk to," Vaswani adds. "It seemed easier to bring that vision to light outside of Google." He eventually left in 2021.

Polosukhin left early on, in 2017, to found a start-up called Near whose original idea was to use AI to teach computers to code but has since pivoted to blockchain payments.

Gomez, the youngest, was the next to get restless. The Canadian interned for Kaiser (who has since left to join OpenAI), and found himself at the forefront of exciting new research on language understanding. "The reason why I left Google was that I actually didn't see enough adoption in the products that I was using," he says. "I just wasn't seeing this large language model tech actually reach the places that it needed to reach."

'I just wasn't seeing this large language model tech actually reach the places that it needed to reach'

In 2019, he quit Google to found Cohere, a generative AI start-up now valued at more than \$2bn, with investment from Nvidia, Oracle, Salesforce and others. Gomez is interested in applying large language models to business problems. "For us, it's about lowering the barrier to access," he says. "Every developer should be able to build with this stuff."

Uszkoreit decided to use the transformer in an entirely different field. His start-up Inceptivo is a biotech company that is designing "biological software" using deep learning techniques. "If you think of computer software, it's programming something executable... there's a program that's then converted into software that runs on your computer," he says. "We want to do that but with cells in your body."

The company has already delivered AI-designed molecules for infectious disease vaccines to a large pharmaceutical company. "I am convinced it is by far the best way to build on what I had been working on over the last decade to improve and maybe even save people's lives," Uszkoreit says.

Shazeer moved on from Google in 2021 after two decades to co-found Character.ai, a company that allows users to build chatbots of their own characters, from the Buddha to Julius Caesar or Japanese anime. "It seems that it's kind of difficult to launch products at a large company... start-ups can move faster," he says. The company, where he is chief executive, was recently valued at \$1bn.

Vaswani and Parmar left at the same time in 2021, and have partnered to found Essential.ai, which works on AI applications in business. The start-up is still in stealth, although it has raised \$8m from Thrive Capital, an early investor in Instagram, Slack and Stripe.

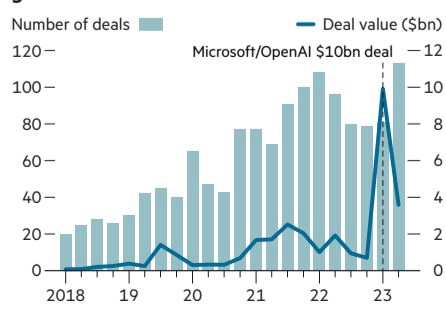
"Google was an amazing place, but they wanted to optimise for the existing products... so things were moving very slowly," says Parmar. "I wanted to now take this very capable technology, and build new novel products out of it. And that was a big motivation to leave."

Many of the co-authors still communicate frequently, celebrating each other's successes and supporting one another through the unique challenges of being start-up entrepreneurs.

If the transformer was the big bang, now a universe is expanding around it, from DeepMind's AlphaFold, which predicted the structure of almost every known protein, to ChatGPT, which Vaswani calls a "black swan event".

This has led to what Silicon Valley insiders call a technology overhang — time that industries will spend integrating the latest AI into products, even if research does not progress at all. "In some sense that is why we all dispersed and tried to put this technology directly in people's hands," Vaswani says.

Soaring venture capital investment in generative AI



Source: PitchBook

The FT View



FINANCIAL TIMES

"Without fear and without favour"

ft.com/opinion

An 'immaculate disinflation' in the US is not guaranteed

Investors betting on a soft landing should exercise caution

The US Federal Reserve may feel a little smug this week as its interest rate setting committee meets for the last time before the summer break. Annual inflation in America slowed to just 3 per cent in June, the lowest since March 2021. It has dropped below even the traditionally inflation-challenged Japan, where price growth has hit 3.3 per cent. Perhaps more impressive is that joblessness has barely increased and the odds of a recession are falling, despite the Fed's aggressive 500 basis points of rate rises over the past 18 months.

Can chair Jay Powell really pull off an "immaculate disinflation" of the US economy? If he did, it would make him one of the more successful Fed chiefs. Even the lauded Paul Volcker — who famously pushed interest rates up to

19 per cent in the early 1980s — ended up propelling US unemployment to its then highest since the Great Depression.

Goldman Sachs now only sees a 20 per cent chance of a US recession over the coming year. Economic activity is resilient. This month consumer sentiment reached a near two-year high. Markets are expectant too. A swath of US stocks, not just tech firms, have rallied. But a "soft landing" — when inflation is brought down without triggering a significant downturn — is far from guaranteed.

For starters, interest rates may still need to go higher. Investors expect a 25bp rise this week. The Fed's "dot plot" of committee members' rate projections also implies a further one this year. Last month's drop in inflation to a two-year low was largely attributed to a fall in energy prices, and core inflation is still over double the 2 per cent target.

Crushing demand further to pull price pressures down would entail more job losses. Vacancies have fallen, but the

labour market still looks strong with sturdy growth in wages. The Fed could face a difficult trade-off between its dual mandate for maximum employment and price stability as the target nears. Indeed, the Bank for International Settlements says the "last mile" of the disinflation process could prove the hardest.

It is also not precisely clear how fast the Fed's prior rate rises have passed through to the real economy, and will continue to do so. A recent Kansas City Fed paper said the peak deceleration in inflation could occur a year after tightening, but added that high uncertainty existed around that estimate. Either way, most economists agree a significant portion of the rate rises is still yet to be felt. That may well drag down growth further than currently anticipated.

Post-pandemic idiosyncrasies in part also help to explain the peculiar trifecta of high rates, falling inflation and limited unemployment. The rundown of savings and fiscal support have propped

The Fed could face a difficult trade-off between its dual mandate for maximum employment and price stability as its 2 per cent target nears

up demand, while a shift in spending from durable goods to services has eased some price stresses. An immaculate disinflation scenario will depend on how these factors also pan out.

Soft-landing optimism is not solely a US phenomenon. Some emerging markets that raised interest rates before advanced economies have already managed to bring down inflation without overly damaging output. European markets are increasingly hopeful now too. Inflation in both the eurozone and the UK took a notable step down last month, and their economies are showing some resilience. But it is worth remembering that in this uncertain climate, the pendulum between soft and hard landing scenarios has been swinging frequently.

Indeed, while it is undoubtedly positive that inflation in the US and around the world is falling, this post-pandemic interest rate cycle is odd enough to give investors banking on a soft landing plenty of pause for thought.

Opinion Technology

AI forces us to reinterpret our human intelligence

María Hergueta



Anne-Marie Slaughter

In the age of AI, all the world's a classroom/ And teachers are the guides to lead the way/ With knowledge at the students' fingertips/ Teachers help them find and use it every day.

ChatGPT wrote that adaptation of one of Shakespeare's most famous speeches. The generative artificial intelligence language model needed a prompt, of course, and a critical reaction to its bland initial version. I was able to supply the necessary guidance; it took only two rounds to come up with a Shakespearean version of the point I wanted to make.

Which was, as the verse indicates, that in a world of ubiquitous AI, we will need more guides, coaches, navigators, mentors, tutors and advisers than ever. All are a form of individualised teaching. And teaching, in turn, is simply human performance enhancement. In its ideal form, it is the cultivation of positive capacities

We will need more guides, coaches, navigators, mentors, tutors and advisers than ever

to enable individuals and groups to achieve their full potential.

When I was growing up it was simple. There was "intelligence" and human beings had a high, medium or low quotient: hence the IQ test. Human brains were containers and the job of a teacher was to fill them with knowledge. They were also "computers" in the pre-electronic sense of the word. At least from a layman's perspective, people with high IQs could learn, remember, regurgitate and calculate more quickly than others.

Today, we have multiple kinds of human intelligence. Harvard psychologist Howard Gardner described eight types in 1983: linguistic, logical-mathematical, musical, spatial, body-kinaesthetic, interpersonal, intrapersonal and naturalistic. By the 1990s, psychologists such as Peter Salovey, now president of Yale, had developed EQ tests to assess levels of "emotional intelligence", defined as the ability "to perceive, use, understand, and regulate emotions".

Generative AI focuses us on those dimensions of human intelligence that generate new patterns of symbols — words, numbers, notes, images — from the recognition and distillation of existing patterns amid the billions of things we "know". The line between what can be generated and true

creativity — the production of ideas that are genuinely "new" — is already being called into question. The scope and speed of processing power, another capacity of the human brain that can be duplicated by machine, is also under increased scrutiny.

So the significance of generative AI is less that it is artificial than it has replicated — and thereby drawn attention to — specific strands of intelligence that we must now integrate into our understanding of our abilities, just as we have done with previous technologies. After all, Google is just artificial memory; those of us afflicted with "senior moments", in which a name or fact suddenly disappears from our internal memory, use it as an instantly searchable external organ.

Instant encyclopedias in our pockets, like the advent of calculators, have already decreased the importance of rote learning and increased the necessity of learning how to use these new tools. But generative AI also forces us to question what we are teaching humans, and why, how and when.

Critical thinking has never been more important. Generative intelligence, both natural and artificial, can organise, synthesise and distil vast amounts of knowledge, but with continual and ineradicable errors. Nobel laureate Daniel Kahneman's book *Thinking, Fast and Slow* is a manual of the mistakes that result from the workings of different parts of our brains. The internet is even now awash with books, articles, blog posts, tweets and videos riddled with unintentional (as well as intentional) errors. Generative AI will inevitably compound these errors in ever more authoritative-sounding ways.

Teachers of all kinds must ensure their students continually question what they think they know — and they are able to use both natural and artificial sources of intelligence. Armed with the tools of curiosity and healthy scepticism, they must master nuance. And, as the emerging career category of "prompt engineers" demonstrates, they must become ever more skilled at asking questions. If the goal of education is to enable our full potential, then we must rethink how we are developing all human capacities, taking advantage of the technological tools that augment our natural abilities. This education needs to be life-long.

Top performers in sports, music and, increasingly, business have coaches of many different kinds. These teams increasingly use technology to enhance the feedback they are able to provide their clients in order to constantly improve their performance. As technological advances enhance human capabilities, our need for human guides will only grow.

The writer is chief executive of the New America think-tank and an FT contributing editor

Letters

University degrees are devalued in minimum-wage job market

The image of a student protester holding a banner saying "£9K for what?" ("The looming crisis at UK universities", *The Big Read*, July 19) really says it all.

The article dwells heavily on the systemic funding issues faced by UK universities, but the fact is they simply do not offer the average student value for money. Prior to Covid they appeared to be awash with cash, now they are all too ready to cry foul, yet students continue to be badly let down by the system. Witness the paucity of weekly lectures, the non-existence of tutorials, poor tuition when it is

available and, to cap it all, a marking strike.

More money alone is not going to solve the problem. The system needs a thorough overhaul. Pruning the number of courses on offer, however unpalatable to university staff, would be a start. Despite the current smorgasbord of courses available, it seems fair to say that vocational degrees still have their merits. All too often, employers appear to have little understanding of many non-mainstream degree competencies and no amount of candidates fine-tuning their CVs is likely to fix the problem.

Office for National Statistics population projections may point to the need for 45,000 university places by 2030, but who is going to employ them all? Yes, the UK retains the ability to educate the population to a high standard, but it lacks the ability to offer expectant graduates commensurate employment. My daughter has spent two years looking for suitable employment since graduating and she is not alone in her cohort, nor is this for want of trying. And this at a time of full employment.

One cannot put too high a price on education, but when one considers

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Reagan-era beneficiaries put to the test on taxation

Robert Shrimley's analysis of the national finances of the UK is prescient — for America ("A low-tax option at the next election is hot air", *Opinion*, July 20).

America has followed the lead of the UK in many things. The industrial revolution originated in the UK but America copied and improved on it. The politics of Thatcherism crossed the pond to inspire Reaganism and both of these systems promised a developed society with developing world taxes. Finally, the idea that the lives of everyone will be improved by increasing the national debt to cut taxes has been tested to destruction. The UK and US are on track to enter an era in which there just isn't enough government revenue to go around.

How this is resolved will decide each nation's future. Maintaining developing world taxes will ultimately produce a society in which there will be only the rich, the poor and the politics that go with that. Progressive taxation can avoid this. The fundamental question is whether 40 years of Thatcherism-Reaganism has created a class that is so wealthy that they can prevent this from happening by using their vast riches to stymie change.

Guy Wroble
Denver, CO, UK

Recent defence spending increases are not enough

Mark Sedwill's article ("Nato must support Ukraine with clearer road map to membership", *Opinion*, July 19) is a tour de force of the geopolitical challenges facing Nato and the UK.

An underlying theme is the need for "resilience", something that has been neglected for too long. Yes we must "invest in our defence industries" so they can surge in a crisis. What he fails to drive home is the need for a significant increase in defence expenditure more broadly, and this was an issue far too often avoided by the National Security Council.

The just-published defence command paper captures the need for changes to combat new threats but singularly fails to address the fact that since the coalition cut our military by a third in 2010, and years of subsequent cuts, the recent increases to our defence budget are insufficient.

Defence secretary Ben Wallace's assertion that our nation will be involved in a conflict by 2030 (I think it could be earlier) is surely a wake-up call.

The reluctance of the government and Treasury to increase defence spending and heed the warnings that have been all too clear can surely go on no longer.

Admiral Lord West of Spithead
House of Lords, London SW1A, UK



A united Ireland would face a dilemma over Nato membership

Macro stewardship holds key to climate action

Investor stewardship on climate change needs to go macro. Pilita Clark is absolutely right that "The fossil fuel industry will not lead us out of the climate crisis" (*Opinion*, July 19) and that only governments can.

With a market failure on the scale of the climate crisis, no amount of investor engagement with companies will ever be enough to overcome short-term profit motives — regardless of the economically and financially catastrophic long-term consequences of ignoring runaway climate change. This is the key limitation of corporate ESG engagement and all shareholder resolutions targeting a corporate transition.

It is therefore vitally important that investor engagement is much more focused on macro stewardship. In other words, investors must challenge governments to deliver on their pledge to the Paris agreement. Ultimately, price stability, financial stability and market integrity demand it. Financial institutions have a vested interest — and arguably a fiduciary and market integrity duty — to do so.

But how can macro stewardship be scaled up fast enough? Banks, insurers, asset owners, investment consultants, regulators and civil society all have a key role to play. The only way investors can meaningfully deliver on net zero commitments is by working together to advocate for government policy change of sufficient scale and speed. There are a few enlightened oil and gas companies that understand this, but the four global heat domes demonstrate that the speed, scale and significance of that process must be substantially increased — and fast.

Steve Waygood
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London EC3P, UK

CEO bonuses don't help with succession planning

William Cohan rightly questions generous retention bonuses for chief executives (*On Wall Street*, July 15). These incentive bosses to make themselves indispensable rather than focusing on succession planning. Why pay someone a fortune to stay if they have lined up a great team with a sound strategy to take over?

This is a key area where many leaders have fallen short, even some of our most iconic. Jack Welch at GE and Terry Leahy at Tesco both failed the test based on share price post-exit; likewise Alex Ferguson based on the performance of Manchester United on the pitch after he left. If payouts were made to CEOs not to stay but linked to the share price in the two years after they go, shareholders might feel such incentives were in their interests too and stop voting against them.

Michael Doherty
Banbury, Oxfordshire, UK

Irish neutrality move creates UK conundrum

The Irish government recently conducted a public consultation on its traditional policy of military neutrality, held tenaciously since independence in 1922, in the context of the Ukraine-Russia conflict and, in particular, the accession both of Sweden and of Finland into the ranks of Nato.

However, an equally Gordian knot that has tied the UK and Ireland together for centuries past has been the troubled yet fundamental relationship between the two jurisdictions on the island of Ireland. So, can you riddle me this: one island, two jurisdictions and a border which is not a land border between them?

One jurisdiction is an EU member; the other is not. One jurisdiction is part of Nato, protected to its border by Article V; the other jurisdiction with which it shares a non-border, is not. It is militarily neutral. One jurisdiction is a constitutional republic; the other has a constitutional monarch. The answer can only be found in Ireland.

Yet, if we, the republic, pursue our primary goal of unification of the two jurisdictions, there must be compromise. Do we give up on military neutrality and join Nato? Do they, the two communities of Northern Ireland, give up the union with Britain, Nato and (re)join the EU? It is difficult to envisage a united Ireland that is either neutral or a Nato-protected zone.

These questions may seem simplistic and extreme but they reflect the scale of the conundrum facing all of us living on the island of Ireland as we consider our neutrality, our union, our European vocation and our solidarity pact with other like-minded states, including both Sweden and Finland,

Nato's latest recruits but by no means, the last. I dare to say that this Irish conundrum remains an important foreign policy challenge for both governments — yet another reflection of the depth and complexity of the Irish question in British politics.

Dónal Denham
Former Irish Ambassador to Lithuania,
Belarus and Finland
Blackrock, Co Dublin, Ireland

Nanny state claims ignore hypocrisy over corporates

Once again, we encounter fear of the "nannying state" accusation, with Sarah O'Connor worrying that her sensible recommendation for people to build up savings for emergencies will be shot down as paternalistic and interventionist (*Opinion*, July 18).

If government polices to help people run their lives better are to be condemned, how much greater should be the condemnation of those products and commercial advertising designed to "nudge" people into harmful consumption — from gambling to unhealthy foods to yet more trinkets — to secure increased corporate profit?

Apparently, state intervention for people's welfare: bad. Corporate intervention for corporate profit, regardless of consumer welfare: good.

Peter Cave
London W1E, UK

Race to zero must be fair for other countries too

Martin Wolf's analysis ("Western leaders are making a sensible bet on India", *Opinion*, July 19) is pertinent given the Clean Energy Ministerial forum in Goa last week.

However, the plus-one approach he advocates is insufficient in navigating the broader geopolitics and messier socio-politics associated with energy transitions. The western-centric narrative of a plus-one addition of technology overlooks uncomfortable questions about the vital roles of social transformation and institutional innovation in making change happen.

Instead, the power of three is a better rule of thumb in navigating that complexity, and reflects the requisite variety involved in redesigning the world energy system for people, planet and progress.

To productively engage with great powers like India, the race to zero needs to facilitate not only faster, but fairer and more far-reaching energy transitions, which acknowledge the complexity of balancing numerous demands simultaneously. This involves not just providing a seat at the table but understanding and accepting that their specific energy demands and solutions may be different.

Angela Wilkinson
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Opinion

The government needs to be far bolder on pension reform

BRITAIN

Martin Wolf



In his Mansion House speech early this month, Jeremy Hunt, chancellor of the exchequer, recognised some of the defects of the UK's pensions mess. He acknowledged, for example, the low prospective returns on pension assets and the failure of institutional investors to back high-growth home companies. But he failed to deliver hope for radical reforms.

The shortcoming starts with Hunt's three objectives, which were "to secure the best possible outcomes for pension savers", prioritising "a strong and diversified gilt market" and strengthening "the UK's competitive position as a leading financial centre". The first is fine. But the second is a plea for retaining captive investors in UK debt. This is "financial repression" aimed at

benefiting an over-indebted government at the expense of savers. The third reflects the enduring confusion between the role of the financial sector as a direct source of incomes and its more important role in creating economic prosperity. Hunt should have had just two goals: sound pensions and wide prosperity.

As was argued in *Investing in the Future: Boosting Savings and Prosperity for the UK*, from the Tony Blair Institute for Global Change, the best way to achieve these aims is via higher contributions to a limited number of large professionally managed funds invested in a diversified set of assets.

In the UK, however, there are more than 5,000 defined benefit pension funds. Worse, these have been forced by foolish regulations into being captive investors in government debt at near-zero real rates of return. But this has not even made them safe, given their exposure to interest-rate risk. The fragmentation of defined contribution plans is even worse, with nearly 27,000 funds. With private sector DB plans mostly closed, workers will depend on inadequate DC plans. Future generations of

retirees will be impoverished, as will the country as a whole.

Unfortunately, given all these defects, Hunt's ideas just do not go far enough.

First, he offers no serious plans for consolidation of the multitude of private sector DB funds into bigger and more aggressively managed ones. In the case of DB schemes, Hunt seems, instead, to accept the insurance sector

A good system should be built on a national contract designed to support prosperity into the future

in its lucrative role as undertaker of dying pension schemes. What will happen to the assets transferred into the hands of insurance companies? As the pension regulator itself states, "the insurance company will choose to invest in the least risky assets, which makes it the most expensive option". The alternative would be consolidation into the Pension Protection Fund, an already

highly successful public alternative. While Hunt mentions this possibility, it is not his preferred alternative. There is talk of consolidation of local authority pension plans, too, but this plan is also not very radical.

Second, Hunt offers no radical plan for consolidating the universe of DC schemes, or promoting the development of multigenerational collective DC schemes, or raising today's normal contribution rates of 8 per cent closer to the 15 per cent necessary for most pensioners, particularly those for whom the state pension will be far too low.

Third, Hunt claims that the "Mansion House compact" commits funds that account for "around two-thirds of the UK's entire DC workplace market, to the objective of allocating at least 5 per cent of their default funds to unlisted equities by 2030". If the rest of the DC market follows this, he claims this could "unlock up to £50bn of investment into high-growth companies by that time". But, if the current DB system continues to migrate into the insurance buyout market, rather than be consolidated and invested in equities, a liquidation of

productive assets dwarfing the sums in the compact is likely instead.

True, Hunt recognises the failings of our current non-system. He notes, for example, that "UK institutional investors are not investing as much in UK high-growth companies as their international counterparts" and at the same time "some defined contribution schemes may not provide the returns their pension fund holders expect or need". But this makes the lack of radicalism even sadder. He is too concerned about protecting existing interests.

We need, instead, to decide now where we want to end up and how to get there. A good pensions system should be built on a multigenerational, national contract designed to deliver decent pensions and support prosperity into the future. It needs to generate adequate savings, invest them in productive assets and insure pensioners against volatile returns and uncertain longevity. What we have now fails on all counts. We have to do better. If this government does not dare, the next must.

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EU and UK find some regulatory harmony post-divorce

Joël Reland

The UK government has long been on the hunt for Brexit opportunities: demonstrations of how the country can remake and improve its regulations outside the EU.

This was indicative of a political culture, embedded by Boris Johnson's government, that treated Brexit as a zero-sum game. Leaving the bloc was synonymous with becoming the "best-regulated economy in the world". The fundamental (but now abandoned) premise of the flagship retained EU law bill, designed to sweep away a broad swath of EU-era regulation, was that inherited EU regulation is intrinsically unsuited to the UK — unwanted barnacles on the British ship of state.

But where the Johnson government saw bountiful opportunities, businesses saw mostly costs. Regulatory alignment is generally seen as preferable to divergence because it simplifies cross-border trade: a coalition of businesses and political figures is now calling on the UK to systematically align with the EU to minimise such costs.

Yet it appears that, under Prime Minister Rishi Sunak, a different mindset is emerging. A third way is starting to open between alignment and divergence — one that treats the UK and EU as constructive competitors rather than direct adversaries. This seeks common ways to manage the negative impacts — and amplify the positive. In our latest tracker of regulatory changes since Brexit, we call it managed divergence.

One way this is happening is through new structures for co-operation. Last

Now a third way is opening up — one of constructive competitors rather than direct adversaries

month, the UK and EU signed a memorandum of understanding on financial services. Even though the UK is still seeking to diverge in some areas, such as insurance, they are now working together to avoid unintended consequences and address other challenges. For example, similar but separate agendas on sustainable finance could damp trade if they result in technical differences. Ironing out those wrinkles could allow the UK and EU to co-ordinate and exert joint international leadership.

Plans are under way for similar co-operation on competition policy. Again, there are key differences of approach: the UK objected to Microsoft's acquisition of Activision, to the frustration of the EU, which approved it. A dialogue could help avoid future ruptures.

Yet managed divergence can also find mutual gains. For example, the UK and EU have similar ambitions to rein in Big Tech's dominance of digital markets and clamp down on greenwashing. Dialogue could help both sides hone their respective regimes, even implementing co-ordinated investigations or remedies.

What this points to is a maturing UK-EU relationship. The first two years of life after divorce were defined by petulant squabbles. For the UK, divergence was a means of displaying how much better single life could be (look at the shiny new crown on my pint glass!). Yet, increasingly, both sides appear to accept divergence as a simple fact of life. Each has their own priorities and, while technical differences will inevitably emerge, two mature partners can work through them, as the meeting of the UK-EU Partnership Council in March showed.

In this sense, the UK-EU relationship is becoming more like the EU-US one. To the EU, the US is both a key partner and a competitor, like-minded yet philosophically different. Though formal obligations are few, they co-operate closely on common causes. Just this month, a new EU-US data partnership was finalised.

To be clear, this model does little to nothing to address the trade barriers created by the post-Brexit trade deal — that requires active, ongoing alignment with EU regulation. But there is a separate and growing relationship focused on challenges from security and energy policy to artificial intelligence and youth mobility. For those matters, managed divergence could prove an effective and enduring model for co-operation.

The writer is a research associate at the UK in a Changing Europe think-tank

A Barbie win in corporate culture wars

BUSINESS

Rana Foroohar



We don't want Disneyland to train our military." Those were US House of Representatives Speaker Kevin McCarthy's words last week at a press conference in which he and other Republicans defended inserting "anti-woke" provisions in a military spending bill that were designed to curb abortion rights, diversity training and transgender healthcare. The fact that he name-checked Disney, which has suffered mightily in Florida after its executives stood up to governor Ron DeSantis's "don't say gay" bill, is telling. Unlike the defence department, corporate America has been in the cross hairs of the country's culture wars for years.

Think not only about Disney, which has to deal with conservative lawsuits, a special corporate oversight board in Florida loaded with political operatives picked by state Republicans, and even the chance that the state will build a giant prison near its theme parks — all of which has forced the company to pull major investments in a top market. Think about Bud Light, which lost its market-leading position after sales plummeted this past spring following a

row over a transgender influencer (paid by the company) who posted support for a brand-sponsored contest. Or the online backlash faced by the outdoor gear maker North Face after releasing a drag queen video for Pride month. Indeed, there are dozens of examples of companies struggling unsuccessfully to win the culture wars.

In some ways, the linking of activism and commerce is as American as apple pie. Boycotts of British goods in Boston, New York and Philadelphia were a precursor to the Revolutionary War. Consumer boycotts were also part of the labour struggles of the late 19th century (unions saw them as a cheap but effective protest method), as well as the civil rights struggles of the 1950s and 1960s, and the women's movement of the 1970s and 1980s. Campaigns against corporations that use child labour or have poor environmental standards have been around for decades.

But today's "woke capitalism" is different in several ways. First, it requires companies to navigate multiple politically divisive issues at once. There are the identity issues, driven in large part by the Black Lives Matter movement, which began in 2013 and gained steam following the murder of George Floyd in police custody. That event led big corporations such as Apple, Google, Hasbro, Estée Lauder, Walmart, Adidas, Reebok and many others to announce big diversity initiatives and spend hundreds of millions on racial justice.

But there are also the pressures around ESG and "stakeholder" capital-



ism, which have grown following BlackRock founder Larry Fink's 2018 call for companies to make "a positive contribution to society" as well as profits. This rallying cry wasn't accompanied by any particular metric. But it's come to include everything from gender and racial diversity on boards, to supply chain sustainability, to more industry-specific concerns such as sugar consumption, gun sales, immigration policy and surveillance capitalism, particularly as it relates to children online.

That's a lot for companies to navigate, and very few are managing it well. A few years back, the airline Delta tried to quell consumer concerns about gun control by pulling corporate discounts for the National Rifle Association. It ended up losing a \$38m tax break from

Today's 'woke capitalism' requires companies to navigate multiple divisive issues at once

its headquarter state of Georgia. Sports brand Under Armour got pushback from progressives for its chief executive's positive comments about President Donald Trump. Then it was lambasted by Republicans for pulling out of Trump's American Manufacturing Council after racial tensions and violence in Charlottesville in 2017.

These pressures are amplified by social media at a speed that's impossible to keep up with. I suspect the landscape will only get more complicated as multinational organisations deal with the national sensitivities inherent in global "de-risking" (or decoupling, depending on who you talk to).

Remember Beijing's refusal to broadcast National Basketball Association games in China after the Houston Rockets' manager expressed support for pro-democracy protests in Hong Kong? Or Chinese consumer boycotts of H&M, Nike and Adidas for refusing cotton grown in Xinjiang, given concerns over forced labour? As capital flows between the countries become an area of regulatory focus, I wouldn't be surprised

to see BlackRock and other financial institutions come under pressure.

Can a company win the culture wars? Maybe. Mattel seems on its way to making Barbie, a 64-year-old brand that turns women into dolls, into something representing postmodern feminist cool. The trick was hiring art-house director Greta Gerwig to produce a film that sends up the whole idea of woman-as-object, while allowing us to enjoy Barbie lookalike Margot Robbie on the big screen. Satirising your product to sell more of it? That's brilliant marketing.

Of course, Barbie has a lot going for her in today's world. She comes in 35 skin tones and nine body types. There are hijab-wearing dolls, Barbies with Down syndrome, vitiligo, prosthetic legs and wheelchairs. And of course, there are no glass ceilings in the Dreamhouse. Barbie may have a strange propensity for pink, but she can still be an astronaut and a doctor. Luckily for Mattel, she generally can't talk or share any contentious political beliefs.

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Israeli democracy is fighting for its life

Yuval Noah Harari

To understand events in Israel, there is just one question to ask: what limits the power of the government? Robust democracies rely on a whole system of checks and balances. But Israel lacks a constitution, an upper house in the parliament, a federal structure or any other check on government except one — the Supreme Court. Today, the Netanyahu government plans to pass the first in a series of laws that will neutralise the Supreme Court. If it succeeds, it will gain unlimited power.

Coalition members have already disclosed their intention to pass laws and pursue policies that will discriminate against Arabs, women, LGBTQ people and secular people. Once the Supreme Court is out of the way, nothing will remain to stop them. In such a situation,

the government could also rig future elections, for example by banning Arab parties from participating — a step previously proposed by coalition members. Israel will still hold elections but these will become an authoritarian ritual rather than a free democratic contest.

Government members openly brag about their intentions. They explain that since they won Israel's last elections, it means they can now do anything they want. Like other authoritarian forces, the Israeli government doesn't understand what democracy means. It thinks it is a dictatorship of the majority, and that those who win democratic elections are thereby granted unlimited power. In fact, democracy means freedom and equality for all. Democracy is a system that guarantees all people certain liberties, which even the majority cannot take away.

The establishment of a dictatorship in Israel would have grave consequences not only for Israeli citizens. The ruling coalition is led by messianic zealots who believe in an ideology of Jewish supremacy. This calls to annex the occupied Palestinian territories to Israel without

granting citizenship to the Palestinians, and ultimately dreams of building a new Jewish temple instead of the al-Aqsa mosque. These individuals now command one of the most formidable military machines in the world, armed with nuclear bombs and advanced cyberweapons.

For decades the prime minister, Benjamin Netanyahu, warned the world about the dangers posed by a funda-

This could set fire to the Middle East, with consequences that extend far beyond the region

mentalist regime with nuclear capabilities. Now Netanyahu is establishing exactly such a regime in Israel. This could set fire to the entire Middle East, with consequences that will reverberate far beyond the region. It would be incredibly stupid of Israel to do something like that, but as we learnt from Russia's invasion of Ukraine, we should

never underestimate human stupidity.

The good news is that a powerful resistance movement has emerged to save Israeli democracy. Rejecting the ideology of Jewish supremacy, and connecting to ancient traditions of Jewish tolerance, hundreds of thousands of Israelis have been resisting the Netanyahu government in every nonviolent way we know. Since Friday, more than 10,000 army reservists — including hundreds of air force pilots, cyber warfare experts, and commanders of elite units — have publicly declared that they will not serve a dictatorship, and will suspend their service if the judiciary overhaul continues.

In a country that emerged from the ashes of the Holocaust, and that has faced existential threats for decades, the army has always been off-limits in political controversies. This is no longer the case. Former chiefs of the Israeli army, air force and security services have publicly called on soldiers to stop serving. The Netanyahu government tries to depict this as a military coup, but it is the exact opposite. Israeli soldiers aren't taking up arms to oppose the gov-

ernment — they are laying them down. They explain that their contract is with the Israeli democracy, and once democracy expires — so does their contract.

The feeling that the social contract has been broken has led universities, labour unions, high-tech companies and other private businesses to threaten strikes if the government continues with its antidemocratic power-grab. It has also caused investors around the world to pull money out of Israel. Worse may lay ahead. Government members call the demonstrators and army reservists "traitors", and demand that force be used to crush the opposition. Israelis worry that we might be days away from civil war.

But the hundreds of thousands of us protesting in the streets feel we have no choice. It is our duty to ourselves, to Jewish tradition and to humanity as a whole to prevent the rise of a Jewish supremacist dictatorship. We are standing in the streets, because we cannot do otherwise if we are to save Israeli democracy.

The writer is a historian, philosopher and author



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