FT Weekend

Asia edition

INTERNATIONAL NEWSPAPER OF THE YEAR

SATURDAY 18 FEBRUARY / SUNDAY 19 FEBRUARY 2023

The future of fashion?
Jo Ellison on Pharrell Williams
LIFE & ARTS

Big balloons and deep data
The US-China espionage battle
BIG READ

Katie Martin
A hard time for bulls and bears
THE LONG VIEW

Lael Brainard
Joe Biden's new economic guru
PERSON IN THE NEWS

European gas price hits 18-month low

- Benchmark falls below €50 level
- Mild weather boosts storage
- Setback for Moscow

DAVID SHEPPARD — LONDON

The price of European natural gas fell yesterday to its lowest level since the build-up began to Russia's all-out invasion of Ukraine, boosting the EU and UK economies and delivering a blow to President Vladimir Putin's war effort.

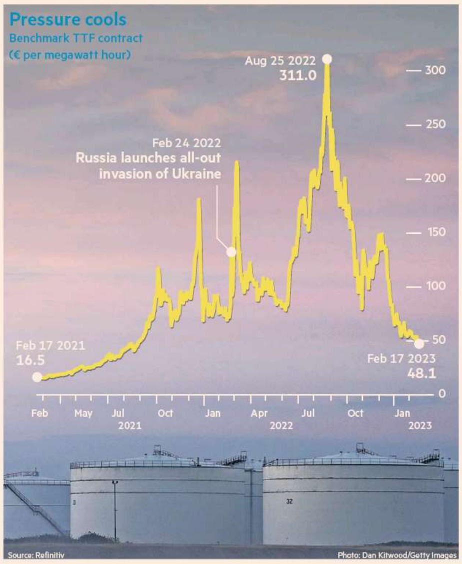
The benchmark gas price yesterday fell below €50 per megawatt hour for the first time in almost 18 months, as traders report growing confidence that European countries will avoid shortages this winter and next.

Helped by mild weather, ample storage and efforts to source alternative supplies, European gas prices have tumbled by as much as 85 per cent since August 2022, when big cuts in Russian supplies led to alarm about possible blackouts. The benchmark, which peaked at more than €300/MWh in August, hit €48.10/MWh yesterday.

"Europe looks like it has successfully weaned itself off Russian gas," said Henning Gloystein, at consultancy Eurasia Group. He added that gas was "still expensive, but no longer needs to price in the risk of outright shortages".

The return of prices to 2021 levels marks a setback for Putin before the first anniversary of the Ukraine war on February 24. Moscow's energy income, which initially soared after the invasion and helped fund its military offensive, has slumped. Russia's oil now sells at a deep discount and gas prices are no longer high enough to compensate for the country's drop in export volumes.

The fall in prices has also stoked expectations that EU countries and the UK may experience only a mild recession this year, or could entirely avoid a contraction. The European Commission says the price slide, combined with government and household spending, has boosted the EU's short-term prospects.



Source: Refinitiv
Photo: Dan Kitwood/Getty Images

Household bills are unlikely to fall as fast, as suppliers will have hedged gas and electricity for consumers when prices were at much higher levels. But the decline in the wholesale price should eventually feed through to lower bills.

Soaring gas prices had stoked a cost of living crisis and fed into high inflation since Russia initially squeezed supplies in 2021. Moscow then slashed exports in retaliation for western support for Ukraine following the invasion.

Prices remain elevated compared with historical levels of about €10 to €30 per megawatt hour but analysts said that they no longer threatened to trigger a deep recession across Europe.

Gas prices, which last summer were so expensive that they were equivalent to almost $500 a barrel of oil, have now fallen to the equivalent of about $85 a barrel. The Brent oil benchmark was trading at about $82.50 yesterday.

With only six weeks of winter remaining, gas-storage levels in Europe, one of the key metrics for avoiding shortages, stood at about 65 per cent full as of Wednesday, according to trade group Gas Infrastructure Europe. That is well above normal levels for the time of year.

Gloystein said industrial gas demand in Europe has fallen about 20 per cent in the past year without a significant drop in manufacturing output because of greater efficiencies and fuel switching.

Tom Marzec-Manser, at ICIS consultancy, cautioned that the drop in prices may start to stoke demand for gas in Asia, particularly as China's economy reopens. "This means that, while the TTF [benchmark price] is creeping lower, any fallback to pre-Covid wholesale gas prices is unlikely to happen yet."

What happens once the quake spotlight fades?

Cameras pull out ▸ PAGE 3

Australia	A$10.00(inc GST)
Brunei	B$8.00
China	RMB30
Hong Kong	HK$45
India	Rup260
Indonesia	Rp48,000
Japan	¥650(inc JCT)
Korea	W5,000
Malaysia	RM12.50
Pakistan	Rupee 450
Philippines	Peso 150
Singapore	S$7(inc GST)
Taiwan	NT$150
Thailand	Bht160
Vietnam	US$5

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One up for humanity as man beats machine at complex board game Go

RICHARD WATERS — SAN FRANCISCO

A human player has defeated an AI system at the board game Go, in a reversal of the 2016 victory seen as a milestone in the rise of artificial intelligence.

Kellin Pelrine, an American player ranked one level below top amateur status, beat the machine by taking advantage of a flaw identified by another computer. But the confrontation in which he won 14 of 15 games was undertaken without direct computer support.

The triumph highlighted a weakness shared by most of today's AI systems, including the ChatGPT chatbot created by San Francisco-based OpenAI. The tactics were suggested by a program that had probed the AI systems looking for weaknesses. The suggested plan was then ruthlessly delivered by Pelrine.

"It was surprisingly easy for us to exploit this system," said Adam Gleave, chief executive of FAR AI, the Californian research company that designed the program. The software played more than 1mn games against KataGo, one of the top Go-playing systems, to find a "blind spot", he added.

The strategy revealed by the software could be used by an intermediate-level player to beat the machines, said Pelrine. He also used it to win against another top Go system, Leela Zero.

The decisive victory came seven years after AI appeared to have taken an unassailable lead over humans at what is often regarded as the most complex of all board games. AlphaGo, a system devised by Google-owned research company DeepMind, defeated world Go champion Lee Sedol by four games to one in 2016.

In Go, two players alternately place black and white stones on a board with a 19x19 grid, seeking to encircle their opponent's stones and enclose the largest amount of space. The huge number of combinations make it impossible for a computer to assess all future moves.

Pelrine's tactics involved stringing together a "loop" of stones to encircle one of his opponent's own groups, while distracting the AI with moves in other corners of the board. The bot did not notice its vulnerability, Pelrine said.

The discovery points to a key flaw in today's most advanced AI, said Stuart Russell, a computer science professor at the University of California, Berkeley.

The systems can "understand" only specific situations they have been exposed to in the past. "It shows once again we've been far too hasty to ascribe superhuman levels of intelligence to machines," Russell said.

World Markets

STOCK MARKETS

	Feb 17	Prev	%chg
S&P 500	4054.67	4090.41	-0.87
Nasdaq Composite	11701.65	11855.83	-1.30
Dow Jones Ind	33623.29	33696.85	-0.22
FTSEurofirst 300	1833.43	1836.50	-0.17
Euro Stoxx 50	4273.61	4297.24	-0.55
FTSE 100	8004.36	8012.53	-0.10
FTSE All-Share	4370.32	4377.36	-0.16
CAC 40	7347.72	7366.16	-0.25
Xetra Dax	15482.00	15533.64	-0.33
Nikkei	27513.13	27696.44	-0.66
Hang Seng	20719.81	20987.67	-1.28
MSCI World $	2790.63	2815.45	-0.88
MSCI EM $	1011.14	1004.87	0.62
MSCI ACWI $	648.08	652.76	-0.72
FT Wilshire 2500	5346.62	5418.70	-1.33
FT Wilshire 5000	41767.79	42326.36	-1.32

CURRENCIES

Pair	Feb 17	Prev	Pair	Feb 17	Prev
$/€	1.066	1.067	€/$	0.938	0.937
$/£	1.200	1.201	£/$	0.833	0.833
£/€	0.889	0.889	€/£	1.125	1.125
¥/$	134.335	134.205	¥/€	143.248	143.238
¥/£	161.181	161.200	£ index	77.483	77.403
SFr/€	0.989	0.988	SFr/£	1.113	1.112

CRYPTO

	Feb 17	Prev	%chg
Bitcoin ($)	24036.89	23522.00	2.19
Ethereum	1667.77	1639.99	1.69

COMMODITIES

	Feb 17	Prev	%chg
Oil WTI $	76.20	78.74	-3.23
Oil Brent $	82.69	85.14	-2.88
Gold $	1828.95	1831.20	-0.12

GOVERNMENT BONDS

Yield (%)	Feb 17	Prev	Chg
US 2 yr	4.63	4.64	-0.01
US 10 yr	3.85	3.83	0.02
US 30 yr	3.90	3.89	0.01
UK 2 yr	3.79	3.80	0.00
UK 10 yr	3.51	3.50	0.02
UK 30 yr	3.93	3.90	0.03
JPN 2 yr	-0.05	-0.05	0.00
JPN 10 yr	0.50	0.50	0.00
JPN 30 yr	1.48	1.47	0.02
GER 2 yr	2.87	2.87	-0.01
GER 10 yr	2.44	2.48	-0.04
GER 30 yr	2.39	2.43	-0.04

Prices are latest for edition
Data provided by Morningstar

WORLD
WEEK IN REVIEW

US shoots down fourth object as China balloon claim heats up row

The US military shot down a high-altitude object over Lake Huron on Sunday, in the fourth such operation in eight days over North America. An F-16 fighter downed the object off the shore of Michigan as it flew close to the border with Canada at 20,000 feet. The incident came after the US shot down unidentified objects over Canada's Yukon on Saturday and over Alaska on Friday.

China subsequently accused the US of serial balloon incursions into its airspace, allegations Washington immediately denied, as tensions between the two nations reached a new high.

Amid pressure from Congress for a tougher line on Beijing, President Joe Biden said he would talk to Chinese counterpart Xi Jinping about the issue.

Germany fears tipping point after refugee influx passes peak of 2016

Germany is facing a refugee crisis on an even greater scale than in 2015-16 when almost 1mn asylum-seekers surged into the country, officials said, as Ukrainians pour into Europe's largest economy.

"The problem is now bigger than it was at the peak of 2016," said Reinhard Sager, head of the Association of German Counties, saying the Ukrainian influx had come on top of the many immigrants from other countries as well as those who arrived in 2015-16.

"The mood in the country threatens to tip over," said Peter Beuth, interior minister of the western region of Hesse. He called on Berlin to do more to reduce the numbers of migrants by speeding up the deportation of failed asylum-seekers to their countries of origin.

Biden poaches Brainard from Fed to head White House economic team

President Joe Biden named Lael Brainard, above, as his top economic adviser, bringing the Federal Reserve's second-in-command to the White House to serve as one of Washington's leading financial policymakers.

Israelis protest against judicial curbs after president urges compromise

Tens of thousands of Israelis rallied outside parliament to protest against the hardline new government's plan to curb the powers of the judiciary.

The demonstration at the Knesset in Jerusalem, which police said drew about 70,000, is the latest in a string of protests triggered by the plan, and came as lawmakers from Benjamin Netanyahu's new government voted to put the first batch of reforms to the parliament.

The protest followed a plea for compromise from President Isaac Herzog, who warned during an unusually blunt address that the polarisation sparked by the proposed judicial overhaul had brought Israel to "the brink of constitutional and social collapse".

Munich Security Conference

Scholz urges allies to meet tank pledges

Zelenskyy calls for greater urgency as Macron seeks support of global south

GUY CHAZAN AND JOHN PAUL RATHBONE — MUNICH

Olaf Scholz has admonished Germany's allies for failing to deliver tanks to Ukraine after having spent months urging Berlin to do so.

Speaking at the Munich Security Conference, the German leader who was long criticised for his hesitancy in arming Ukraine, was asked if he was now pushing other nations to provide the heavy weaponry they had promised.

Scholz replied: "That's a question I have to ask to others, especially those who were so much urging [me] to act."

The three-day gathering was opened by Ukrainian president Volodymyr Zelenskyy, who compared his country to the biblical David in a fight to the death with Russia's Goliath.

"It's not just about Ukraine," Zelenskyy said in his speech via video link. "The point is that Goliath must lose and there is no alternative to this."

He said the west must pick up the pace of its support for Ukraine. "Delayed decisions are a resource that Putin's dictatorship lives on."

Scholz's comments highlighted growing German frustration with its allies. The chancellor faced months of pressure to set up and lead a consortium of countries capable of supplying German-made Leopard main battle tanks to Ukraine. But in the weeks after Berlin finally agreed to send 14 Leopard 2s, few other countries have committed any of their own stockpiles of the tank.

In his conference address, Scholz urged "all those who can supply main battle tanks to really do so". Germany would "do what it can to make this decision easier for our partners — say, by training Ukrainian soldiers here in Germany, or by providing support in terms of supplies and logistics".

In a further indication of international differences on Ukraine, French president Emmanuel Macron acknowledged that the west had failed to win backing from countries ranging from Africa to Latin America and Asia.

"I am struck by how we have lost the trust of the global south," Macron said, adding that the world's response to the war showed the need to rebalance the global order and make it more inclusive.

Macron called Russia's invasion of Ukraine a "neocolonialist and imperialist" attack that "broke all taboos" and called on leaders of the global south to join the west in condemning the war.

'It's not just about Ukraine. The point is that Goliath must lose, and there is no alternative to this'
Volodymyr Zelenskyy

While western countries have rallied to help Ukraine, many Asian, Latin American and African countries have been at best lukewarm in their support for Kyiv in what they see as a European war that is far from their daily concerns.

The French president insisted that was not the case. "To close your eyes [to the invasion] is to legitimise neocolonialism and imperialism around the world," Macron said.

He said the south would be needed to seal an end to the conflict. First, however, the west needed "to intensify our support and our efforts to the resistance of the Ukrainian people and its army and help them to launch a counter-offensive which alone can allow credible negotiations, determined by Ukraine".

See The FT View, Notebook, Opinion

Ukraine conflict. Censorship

Russia stamps on free speech about war

The year since its full-scale invasion has been one of country's most repressive

POLINA IVANOVA
MOSCOW AND ST PETERSBURG

"To prove my innocence, all you have to do is open the constitution and read it."

Standing in the metal cage of a Siberian courtroom, Russian journalist Maria Ponomarenko this week closed her trial, triggered by a social media post about the war in Ukraine, by dismissing the entire process as a sham.

"What is happening to our country? If there's a war, call it a war," she said. The next day, Ponomarenko, a mother of two, was sentenced to six years, becoming the first journalist imprisoned under Russia's new censorship laws, which include a ban on the word "war".

Across Russia, hundreds of other cases related to antiwar speech and protests are going through the courts, making the past 12 months the worst period for political repression in the country's modern history.

About 20,000 people were detained for political and antiwar protests last year, according to human rights group OVD-Info. Most were held only for short stints and issued with notification of a minor offence, but receiving a second leaves them open to as much as a five-year jail term. At least 440 people — artists, priests, teachers, students and doctors — have had criminal cases opened against them, according to OVD-Info. Many are awaiting trial in jail, and some face sentences of up to 15 years. Others have fled the country.

In interviews in Moscow and St Petersburg, those caught up in the crackdown described how their lives, and the country, had been transformed.

While repression weighed heavily on many before the war, Russia still had independent media, regular mass protests and an active civil society. Authorities tended to target specific individuals, focusing, for example, on pulverising the main opposition movement.

But since February 24, when Russia's invasion began, the crackdown has been all-embracing, leaving virtually no corner of society untouched.

Carried away: police detain a demonstrator during a protest against the war last year in St Petersburg
Dmitri Lovetsky/AP

Authorities have shut down the press, criminalised speech around the war, ordered a string of arbitrary arrests and egregious jail sentences, and fostered a bitter culture of denunciations. Protests have virtually disappeared. Most journalists and activists have been forced out or jailed.

Like many across Russia, Ponomarenko was accused of violating provisions, introduced in March, that prohibit sharing information about the war that is "knowingly false" or "discredits the armed forces". What constitutes such information, only the state gets to decide.

"With all due respect to the participants of the process, I feel like I'm in a psych ward, not a courtroom," Yana Nepovinnova, a lawyer defending artist Sasha Skochilenko, said in an interview. "We're in a ward, and Sasha and I are the only people who are sane."

Skochilenko was arrested in April for an act of protest in St Petersburg, replacing price tags in a supermarket with ones that bore antiwar messages.

One read: "Russian conscripts are being sent to Ukraine." This, the state's linguistic experts said, was false information, since it could not be found on the website of Russia's defence ministry. At this point only professional troops were sent to the front, according to an official position that quickly unravelled.

"It's nonsense," Nepovinnova said. "How can it be false information, if even the Russian president himself has since confirmed that it happened?"

Skochilenko has already spent almost a year in jail. If she is found guilty, she faces up to 10 years in total.

Ponomarenko's crime was posting about the shelling of a theatre in Mariupol, a port city in southern Ukraine.

Speaking in his makeshift church in a former St Petersburg brewery, Father Gregory Mikhnov-Voitenko described his role as a witness in support of protesters. The Archbishop of the Apostolic Orthodox Church, which is separate from the Moscow Patriarchate, testified in the case of a Moscow university student who faces up to 10 years for "false" posts about the destruction of Mariupol.

The activist priest simply told the court what he had heard from refugees from Mariupol: that their city suffered destruction. "So you didn't actually see it with your own eyes, did you?" the prosecution replied, according to a transcript of the exchange published by news outlet Mediazona. "There is an absurdity to it," Father Gregory said.

In private, many liberal and antiwar Russians in the country speak of the fear and paranoia the past year has instilled. For some, the space for free expression has returned to the confines of one's kitchen, an echo of the Soviet past.

At least half a million people have fled the country. In Russia, those caught up in the spiral of repression have no choice but to plough on. "Of course, we expect it to be brutal, but we're not giving up," said Nepovinnova.

"You think I'm going to start crying? You think I'll fall into a hysteria?" Ponomarenko told the court shortly before her sentencing. "No, I won't. This is just a new chapter in my life."

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British assessment

Putin's forces 'advancing, if at all, in metres not kilometres'

ROULA KHALAF AND JOHN PAUL RATHBONE — MUNICH

The Russian army is suffering huge losses in Ukraine, shows no sign it has improved its "meat grinder" tactics and is struggling to sustain a faltering offensive that is "advancing, if at all, in metres not kilometres", UK defence minister Ben Wallace has said.

Despite fears that Russia is poised to launch a major attack around the first anniversary of its invasion of Ukraine, Wallace said there was "no evidence of a big massing of Russian forces".

Speaking on the sidelines of the Munich Security Conference, Wallace said the best Moscow had managed so far was a series of probing attacks along the front line that had led to high Russian casualties.

Further, Kyiv's western allies were "more resolved than ever" to help Ukraine repel Russian forces and a sign of that was a strengthening of support of the US, which was now "committed to seeing the conflict through to the end".

"There is no evidence to date of a great, big Russian offensive," Wallace said yesterday. "What we have seen is an advance on all fronts, but at the expense of thousands of lives . . . We should actually question the assertion that they [the Russians] can go on."

There has also been a shift in attitude about military aid among Kyiv's western allies. This time last year, he said, they were debating whether to send anti-tank missiles to Kyiv. Now they are sending western main battle tanks.

"What has changed is that the US has decided to be more assertive," Wallace said, citing the near-$8bn of military aid Washington has committed this year.

"Just think about it: we [western allies] have convened twice in the past three weeks [to discuss military aid], at the Ramstein [US air base in Germany] and at the Nato defence ministers meeting this week. That is a big change."

One bridge that Kyiv's allies have not yet crossed, however, is the provision of fighter jets to Ukraine. President Volodymyr Zelenskyy made an eloquent plea for "wings for freedom" during a visit to London this month.

But Wallace cautioned that was still a long way off and that the modern fighter jet training the UK had offered to Ukrainian pilots was a "long-term resilience measure for after the war, when Ukraine needs to defend itself".

Wallace's assessment comes as Moscow's invasion approaches its first anniversary next week. Since the start of the war more than 180,000 Russian troops have been killed or wounded and, according to US estimates, two-thirds of its tanks have been lost, he said.

Despite the losses, Wallace said there was no sign the Russian army had altered its "meat grinder" approach, citing reports that 3,000 Russian soldiers had died during a three-day attack last week on Vuhledar in southern Ukraine.

UK defence minister Ben Wallace attends the forum in Germany

"Recruits are still being shoved into the meat grinder," Wallace said. "And I am not sure that is sustainable, even for Russia, as 180,000 people have wives, mothers, sisters and friends and it becomes impossible for the scale of loss to be hidden from the Russian people."

Western officials also believe that Russia is struggling to source weapons and other materiel for its war effort. They cite the long gaps between its missile and drone attacks on Ukrainian infrastructure, and "active rationing" of shells for Russian artillery at the front.

Kyiv's western allies are similarly struggling to maintain supplies of artillery shells and other munitions and weaponry to Ukraine. However, Wallace said that while Ukraine might be suffering some shortages, this was a timing issue and Kyiv's western backers had no strategic problem in continuing to supply Ukraine's war effort.

"There's always been a sense of shortages on [Ukraine's] front line, but I don't see any sign of strategic shortages . . . although there is a bit of a time lag" in getting supplies, Wallace said, adding the challenge was for Ukrainian forces to be precise in using their weaponry.

INTERNATIONAL

Disaster zones struggle to cope after world's cameras pull out

Economic, social and political troubles remain long after media gaze moves on

DAVID PILLING — LONDON

The earthquake that killed more than 40,000 people and brought destruction and misery to Turkey and Syria lasted about 75 seconds. The economic, social and political reverberations will last years.

As the experiences of countries as diverse as Haiti, Japan and Turkey reveal, it is only once the cameras leave and the world's attention wanders that the real business of reconstruction begins and the long-term costs of natural disasters emerge.

Jacky Lumarque, rector of Quisqueya university in the Haitian capital Port-au-Prince, said the Caribbean nation had not recovered from the 2010 earthquake that killed more than 300,000 people, according to official US figures, and left even more homeless. "We were on a good path and the earthquake broke everything," he said. Today, security has all but collapsed and much of Port-au-Prince is controlled by armed gangs.

It was hard to draw a clear line between brief but violent tremors, cyclones and tsunamis and their political and economic consequences,

> 'There is this illusion that billions of dollars fell to Haitians from the sky. But little of it had real impact'

experts said. Natural disasters affected regions in unpredictable ways, but their impact can strain public finances, change development priorities and even bring down governments.

A botched response by Nicaraguan dictator Anastasio Somoza to the devastating 1972 earthquake near the capital Managua — including allegations that his government stole relief money — precipitated the collapse of his regime in 1979 and the rise of Sandinista leader Daniel Ortega, still president nearly half a century later.

Turkey's poor response to the 1999 earthquake centred on Izmit may have helped clear a path to victory for Recep Tayyip Erdoğan's Justice and Development party in 2002. With elections due this year, anger over his government's seeming lack of preparedness and lax enforcement of building regulations could now contribute to Erdoğan's political demise.

Ajay Chhibber was the World Bank's country head when the 1999 quake struck, killing more than 17,000 people. "I'd never seen anything like it. You saw these buildings flattened like pancakes, large submarines from the naval base flung up on the mountains," he said.

An early problem in the aftermath was trying to process international aid, Chhibber added. "There were coats and shoes and food items but a lot of it was wasted. It required a lot of effort to receive these things and organise them."

Aid workers noticed a proliferation of pawn shops as people sold possessions to raise funds. Men were leaving their families to find work in Istanbul. The World Bank started a system of cash transfers after concluding that people needed money rather than physical goods to preserve the local economy and communities.

After the immediate crisis had subsided, the relief effort had several phases. The bank raised $3bn-$4bn for reconstruction. It helped implement a system of earthquake insurance, something Chhibber said contributed to better enforcement of building standards in Izmit than in the poorer southern region where this month's earthquake hit. Within two years of the 1999 quake most infrastructure and housing had been rebuilt, he said.

In Haiti, by contrast, Lumarque said much of the money raised for reconstruction was squandered, stolen or spent in ways that failed to benefit ordinary Haitians, who suffered another notable quake in 2021.

"There is this illusion that billions of dollars fell to Haitians from the sky. But little of it had real impact," he said. "Haiti was flooded with NGOs who know how to get money and spend money, but not necessarily for Haitian people."

Aid agencies imported products, including food, clothing and construction materials, that could have been sourced locally, he said, damaging local businesses.

The World Bank highlighted the aftermath of the Gujarat earthquake of 2001, where money was transferred to residents in the western Indian state to rebuild housing with local materials. "When homeowners were put in charge of the process, houses were better adapted to each family's needs," it said.

A state's ability to direct reconstruction determined its effectiveness, Lumarque said. "In Turkey you have a strong government that has a better capacity for negotiation with international agencies," he said. But he doubted whether Syria, still racked by civil war, could co-ordinate an international reconstruction effort, particularly since much of the earthquake-affected north-western region was under rebel control.

In Japan, buildings in the northern Tohoku region that was most affected by the 2011 earthquake had been constructed to high specifications and were largely untouched by the magnitude 9.0 subsea tremor. But many coastal towns were destroyed by the tsunami that overwhelmed sea defences and contributed to the Fukushima nuclear disaster.

The government allocated an estimated $300bn over the next decade to repair damage and shore up defences.

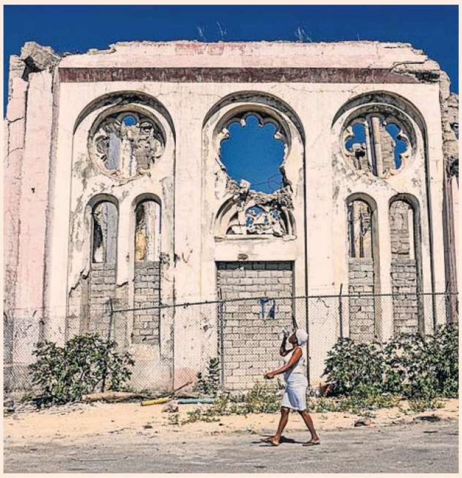
But despite the huge spending on "shiny new roads and buildings", said Jeff Kingston, a professor at Temple University in Tokyo, communities had failed to recover and many younger people had left. "Recovery has been uneven in a region already in decline," said Kingston. "There is a Potemkin village aspect of gleaming beacons of progress surrounded by crumbling communities."

Perhaps the hardest challenge of reconstruction, according to experts, is preparing for the next disaster by breaking the cycle of short-term emergency response followed by long-term neglect.

Turkey raised billions of dollars through a recovery tax after the 1999 tremor, some of which was meant to be spent on earthquake preparedness. "One of the big issues is what has happened to that money," said Chhibber. "Where did it go?"

Long gaps between disasters meant priorities often drifted, a World Bank report after the Haiti quake concluded. "It becomes harder to get politicians to focus on a disaster once the memory of the emergency fades," it said.

Additional reporting by Andrew Jack in New York



Clockwise, from left: ruins in Port-au-Prince a decade after the earthquake hit Haiti; reconstruction starts after the 2001 quake in the Indian state of Gujarat; a sea wall is built following the 2011 quake and tsunami in Japan
Chandan Khanna/AFP/Getty Images; Amit Dave/ Reuters; Carl Court/Getty Images

Reconstruction
Turkey bill to rebuild put at up to $100bn

Rebuilding the vast area in Turkey hit by last week's earthquake will mean restoring more than 1mn buildings and cost tens of billions of dollars, according to early estimates of the "massive" reconstruction challenge.

While the full toll of the quake is still being calculated, experts have begun to appraise Turkey's biggest rebuilding effort since the republic was founded in 1923.

Half of the 3.4mn buildings in the affected region of southern Turkey might need to be demolished, said Eyüp Muhçu, head of the architects' chamber at the Union of Chambers of Turkish Engineers and Architects.

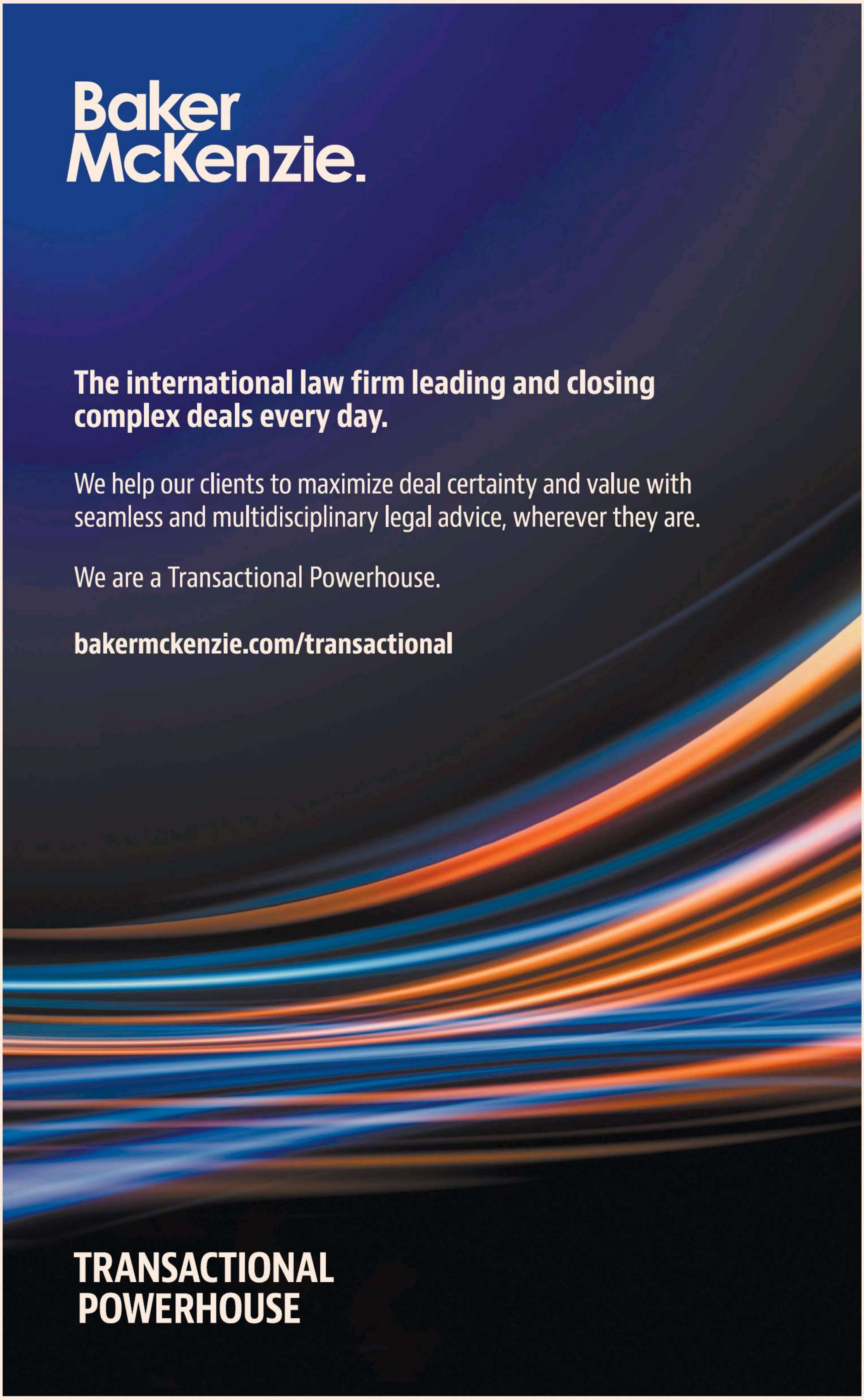
"In order to rebuild these homes, you also have to build infrastructure and public facilities, so we can speak of a preliminary estimated cost of $100bn for reconstruction," he said.

Lütfü Savaş, mayor of the historic city of Antakya that was hit with full force by the February 6 quake, agreed with the figure. But one disaster modelling specialist, who asked not to be named, put the reconstruction cost in the $10bn-$50bn range.

Civil engineers, urban planners and aid groups are racing to survey the destruction wrought in the affected regions of southern Turkey and northern Syria. Some 13mn people are thought to be affected in the hardest hit areas of Turkey, and the death toll in the two countries has climbed above 42,000 people.

"It's massive, absolutely massive," said Tiziana Rossetto, professor of earthquake engineering at University College London. "The cost is going to be really enormous."

Adam Samson in Ankara and Ayla Jean Yackley in Antakya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Germany's bold policy shift remains a work in progress

Berlin must strengthen its long-term contribution to European security

Olaf Scholz struck the right note yesterday when he reaffirmed his government's unwavering support for Ukraine's war of self-defence against Russia. The German chancellor has come in for considerable criticism, much of it unjustified, for the measured way in which he has shaped Berlin's response to the Kremlin's merciless assault on Ukrainian independence over the past 12 months. At the Munich security conference, Scholz used strong language in denouncing Russia's "imperialist war of aggression" and reminded his audience of the need for western democracies to co-ordinate their actions. Part of that effort will require Germany to make good on its promises to strengthen its long-term contribution to European security.

One criticism of Scholz and his three-party coalition is that it has dithered over military support for Ukraine. Another is that the government has failed to follow up words with actions after announcing an ambitious plan to raise defence expenditure and upgrade Germany's rundown armed forces. In reality, though, it remains a work in progress: Scholz deserves credit for inspiring a reassessment of Germany's security policies with few parallels since the Federal Republic's creation in 1949.

For one thing, Germany's military aid to Ukraine, which amounted to €2.34bn by last November, is in absolute terms the largest of any EU country — though below that of the UK and far less than the US effort. For another, Germany's decision to supply Ukraine with Leopard tanks was a difficult step for a country whose political leaders and society have been understandably reticent for decades about the application of German military might, even indirectly, beyond the national borders.

Germany has, however, been slow to implement the pledge of higher defence spending contained in the landmark *Zeitenwende* (historical turning point) speech that Scholz delivered just days after Vladimir Putin's invasion. As a proportion of output, defence expenditure remains well below Nato's 2 per cent target, as it has been since the end of the cold war. Tussles between the chancellery and government ministries have delayed the formal announcement of a new national security strategy. Nonetheless, Scholz remains committed to meeting Nato's spending target. The Bundestag last year approved his proposal for a €100bn special defence fund by an overwhelming majority — a sign of strong cross-party support for the *Zeitenwende*.

There have been big changes in German energy policy, too. So heavy was Germany's reliance on Russian gas that it might have seemed an impossible task to switch course. Yet Scholz's government not only ended the Nord Stream 2 gas project but, in a radical break with decades of German energy policy, has sharply reduced imports of Russian gas. The price has been high — energy costs for German consumers soared last year, and the European Commission forecasts its economy to grow only 0.2 per cent this year — but Scholz's government has been prepared to pay it.

Scholz deserves credit for inspiring a reassessment of defence with few parallels since the Federal Republic's creation in 1949

A more vigorous, properly funded German defence and security policy is necessary not just because of Russia's aggression. It is the best way to persuade politicians in Washington that Nato's European members are not simply free-riders on the US security guarantee of the continent. Republicans and Democrats alike have expressed frustration for many years with the unjustifiably low financial and military contribution of many European countries to the alliance's collective defence. Germany can and should take a leading role in setting matters straight, helping in this way to solidify the transatlantic security relationship for decades to come.

Opinion Investing

Sit back and let the bots and consultants slug it out

Carolina Vargas

Stuart Kirk

What a time to be a business columnist — and thank goodness I'm not one. Having to ponder what chatbots mean for companies the world over is some ask. Bill Gates calls "generative AI" as important as personal computers or the internet. A thousand words by Monday?

Then something on the latest MBA rankings, please. Also this week the management consulting industry took a pummelling in the new book *The Big Con*. What do both mean for employers and their staff? Argh!

Writing about investing means I don't worry about such things. Will Alphabet be dethroned by Microsoft? Let's see. Which business schools produce the most CEOs? Yawn. Are McKinsey, Boston Consulting Group and Bain worth the fees? Dunno.

These are key stories, obviously. But the understanding of companies isn't so important when it comes to investing. Likewise, how firms are run doesn't move aggregate returns much. There are plenty of good reasons to do an MBA or hire a management consultant. Ironically, however, performance ain't one of them.

Understanding companies isn't so important — how firms are run doesn't move aggregate returns much

While it is obvious ChatGPT has different implications for different businesses, knowing what these are *ex ante* is impossible. Hence why 63 per cent of active equity fund managers underperformed their benchmarks last year in Europe, according to Lipper.

And the winners are always few. In a 2018 paper in the Journal of Financial Economics, for example, Professor Hendrik Bessembinder analysed the returns of all companies listed on the NYSE, Amex and Nasdaq exchanges from 1926 to 2016. Total net wealth created was due to just 4 per cent of the 26,000 stocks.

That is why I recommend only investing in passive funds. Then it doesn't matter if everyone switches from Google to Bing to Baidu — or if they don't. Yes, my portfolio will own loads of dud companies along the way. But the handful that smash it out of the park should more than compensate for the swing-and-missers.

Which brings us to those MBAs and management gurus. Why are there so many poor-performing shares when 250,000 students are enrolled as masters of business administration each year? And what's been gained from the almost trillion dollars per annum spent on consultancies worldwide?

From an investment perspective, *nada*. The average real return for US equities over the previous 30 years is 6.7 per cent. As it was when calculated in 2000, 1950, 1909 and 1876 — to choose just a few dates from data compiled by Jeremy Siegel.

So many expensive lectures on leadership and cash flow. All those PowerPoint decks. For what? That equity returns are more or less stable is intuitive. When they are high, investors pile in and there is less to go round. Too low and capital exits, leaving more on the table.

That is not to say humanity isn't better off. The quality of products and services, from phones to eye surgery, improves each year. Companies have scaled-up volumes and shortened delivery times beyond imagination. But again, that's a business story, not an investment one.

Profit margins have risen in most developed markets since the early 1990s. But as with equity returns, profitability seems to fluctuate around a mean over the long run — albeit glacially. Excluding depreciation, US profits as a percentage of gross domestic product were in gentle decline for 50 years before 1992.

That earnings don't go up forever also makes sense — no matter what Deloitte or KPMG promise their clients. The Kalecki-Levy profit equation, first described in 1908, reminds us that income is produced by companies, households or governments. Simply put, firms can only grab more of the pie by taking it from the other two. Assuming constant government spending, household savings must contract. Given they're customers too, profitability is capped.

Great innovations do boost productivity though — especially on the mass market. Like steam engines or biotechnology, the hope is that chatbots become one of these so-called "general purpose technologies". Productivity helps boost economic growth and ultimately stock markets.

So fingers crossed for an AI revolution with MBAs and management consultants leading the charge. It will be noisy and bloody, with victims galore. Companies and perhaps entire sectors will lose their heads.

But it was ever thus. In the same 90-year study above, the average life of a stock was 7.5 years. Thankfully, however, we investors can view the action from afar, reading the odd dispatch from overworked business columnists, knowing we're richer whatever the outcome.

The writer is a former head of responsible investment at HSBC Asset Management and previous editor of Lex

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Unravelling Yorkshire wool's links to X-rays, insulin and DNA

Having grown up in Leeds, I greatly enjoyed John McTernan's review of Alex Niven's book *The North Will Rise Again* ("Phoenix rising", Books, Life & Arts, FT Weekend, February 4).

But I wanted to add that, thanks to being the "home of coal, steel, ships, chemicals and the industrial revolution" the industries and universities of the north of England have also played a crucial, but often little known, role in several key scientific landmarks of the 20th century.

In the case of Leeds, this was largely thanks to the wool industry that had been the city's economic lifeblood since the Middle Ages. After the groundbreaking discovery that X-rays could be used to reveal the arrangement of atoms in crystals for which he and his son Lawrence were awarded the 1915 Nobel Prize in Physics, the Leeds-based scientist William Bragg was keen to apply his new method to the study of wool for the local textile industries of West Yorkshire.

When Bragg gave this task to his protégé, the physicist William Astbury, it led him and his colleague Florence Bell from studies of wool to another white, stringy fibre — DNA, the genetic material. By showing that the Bragg X-ray method could be used to reveal the structure of the genetic material, Astbury and Bell laid important foundations for the later work of Rosalind Franklin, James Watson and Francis Crick.

Meanwhile, in a textiles laboratory in Headingley, just up the road, industrial chemists Archer Martin and Richard Synge developed a novel new method of chemical separation for the analysis of wool that earned them the 1952 Nobel Prize in Chemistry and later proved not only crucial in unravelling the chemical structure of insulin but also in offering the first hint at how DNA carries the genetic message.

That research into the humble wool fibre could have helped weave a path to DNA is, I think, a wonderful testament to the adventure that is science.

And in listing these achievements, please do forgive my bias towards Yorkshire — I am sure that similar strides were also made on the other side of the Pennines!

Kersten Hall
Visiting Fellow, School of Philosophy, Religion and History of Science University of Leeds, West Yorkshire, UK

Getting mad at oil majors will not solve climate crisis

The title of your Big Read on energy "Big Oil: still profits before planet" (February 11) was misleading. Regardless of what environmentalists and elites may think, it is not the job of oil companies to solve climate change.

Climate change requires more than world leaders agreeing to a set of lofty ideals in Paris and then having businesses do all of the work for them. It requires leaders to actually convince people that governments need to pass laws and adopt regulations to cut emissions. Climate change isn't going to be solved by getting mad at oil companies. It's going to be solved by adopting a carbon tax that will put the real cost of carbon emissions in the price of products. Or by establishing an emissions trading system, with a decreasing cap on total annual emissions, that guarantees emissions will be cut.

If we really want to cut emissions, we should spend less time blaming corporations for trying to make money and more time convincing people that they need to pay the costs of cutting carbon and that they need to get their governments to pass the laws to do it.

Patrick J Allen
River Forest, IL, US

Skiing garb was rather different back then

Tom Robbins' article on Europe's retreating ski slopes gives us a clear signal about climate change ("The heat is on", Life & Arts, February 11).

I have one small quibble about the winter visitors he mentions before the first world war. They were by no means all aristocrats. My father's family went to Switzerland for the winter sports in 1911 and 1912. My grandmother and her sisters would climb up the slopes, with sealskins attached under their skis, wearing long voluminous skirts over their trousers. They removed the skirts to enjoy the run down.

I skied in Austria in 1952 and 1953 and we also used skins for climbing.

Anne Barnitt
Marshfield, South Gloucestershire, UK

Countries that learn from mistakes are the real deal

Janan Ganesh (Opinion, Life & Arts, February 11) talks about the disappointment that Germany has fallen away as a beacon of civilisation, the paragon nation as he calls it. If he continues to apply the rule that any economic or social disappointment disqualifies the current holder of the title then, clearly, all future holders will falter at some point.

Maybe we should change the rules of the paragon nomination game. I suggest we look for countries that learn from their mistakes, where even the political class in power is willing to admit that only collective action across political factions, and between the corporate and the political world, will achieve real solutions. A country that steers clear of extremes but is able to issue ambitious plans to rectify the situation. You know what, Germany might actually regain the title based on its enormous collective push towards alternative energy, a stronger defence and a more forceful Europe.

By the way, I am not German and do not work for a German company.

Marnix van Stiphout
Bloemendaal, the Netherlands

A youthful curmudgeon's take on today's office ethos

Another insightful piece from Camilla Cavendish ("Ditch business as usual to tempt back older workers", Opinion, February 4). But perhaps we need to go further. From the perspective of a youthful curmudgeon, do we now need to treat the 50-year-old as the new 20-year-old? The 50-year-olds that I observe are indisputably more knowledgable and communicative, less likely to jump ship every two years and still respect the workplace dress code.

You won't catch me wearing beach shorts and sandals in the office. More pertinently they are unlikely to become distracted every two minutes by a ping on their phone and besides who will put the kettle on, without the curmudgeons in the office?

James Bamber
Axminster, Devon, UK

The keyboard warriors on Ukraine's digital front line

Notebook
by Gillian Tett

A few days ago, I received a message from a journalist friend. "In transit . . . just landing in Dublin," he wrote, explaining that he was flying from Austria to North America. I felt a wave of relief.

Under normal circumstances, Christo Grozev's latest transatlantic journey would have been unremarkable. Since the Bulgarian-born Grozev works for investigative website Bellingcat, he often criss-crosses the globe for research.

But these are not normal times. During the past year, Grozev and his colleagues have repeatedly exposed dark events in Ukraine and Russia using a digital-sleuthing technique called open-source intelligence analysis (Osint). That prompted Vladimir Putin's regime to put Grozev, a 53-year-old computer nerd with a keen sense of humour, on a "most-wanted" list. This month, Grozev learnt that Russian assassins were actively chasing him in his home base of Vienna with the help of local collaborators. "Austrian authorities are of the opinion that I am not safe [there]," he told me. "My personal data has been accessed by a now ex-officer of [the] Austrian security service at the behest of Russian intelligence," he went on. So, as his friends held their breath, Grozev fled to the safety of North America.

As stories go, this is just one tiny thread in the tapestry of horror, fear and sacrifice created by Russia's unprovoked invasion. But it is a potent reminder of the extraordinary courage that some journalists are displaying in their quest to expose the truth of Russia's brutal war, both in Ukraine (where many reporters have been killed), Russia itself and its wider orbit (where opposition media have been jailed, silenced or exiled).

The fact that a Russian network of spies and assassins is operating in Austria should also be a sobering reminder — if we needed one — of Putin's reach. European governments are trying to counter this: Austria expelled some Russian diplomats last week and spies were reportedly detained elsewhere in Europe. But it is still far too little, too late.

Grozev's story also shows something more optimistic: one overlooked feature of the war in Ukraine is that it has accelerated the cause of forensic digital journalism in an extraordinary way. The reason Grozev is on the Kremlin's blacklist is because Osint is creating once-unimaginable levels of transparency. Unsurprisingly, Putin's henchmen hate this. The technique, which has evolved dramatically during the past decade, essentially uses data scraped from open sources on the internet. The research methods are usually published in order to enable them to be verified externally.

Eliot Higgins, a British investigative journalist, created the Bellingcat group in 2014 and it first shot to prominence in relation to the Syrian war. Higgins's platform and others use this open-source scraping extensively in relation to events in Russia and Ukraine. Last October, Bellingcat revealed the identities of the remote Russian missile programming team that is killing Ukrainians from the safety of its offices in Moscow. In line with Osint ideals, Grozev explained that he had identified the unit by cross-checking databases on food deliveries, cell phones, Russian army records and geolocated photographs.

More startling still, in 2020 Grozev identified the assassins who tried to kill Alexei Navalny, the imprisoned Russian opposition figure. This detective work can be watched, as it unfolded, in the 2022 documentary *Navalny*, which features a startling scene where Navalny directly confronts one of his would-be assassins on their cell phone. These efforts have inspired hordes of other journalists and citizen activists to attempt similar sleuthing. Most notably, local Osint teams in Ukraine are mining data gathered from cell phones, drones and other sources. The result is a conflict that is arguably the most transparent in history.

Tragically, the scrutiny has not stopped Putin's abuses of power. And Grozev, like many Russian opposition activists and Ukrainians, frets there has long been "a reluctance in the west to be courageous" in standing up to Moscow. "That's slowly changing now, after the war started . . . but too late," he told me. Grozev is not giving up this cyber fight or his belief that digital investigation can "make a difference". "We cannot afford to be scared of Putin, or else he wins."

Opinion

Sturgeon's exit prompts fresh turmoil for Scotland

Chris Deerin

Scotland has never recovered from the independence referendum held in 2014. The angry divisions caused by that fiery debate pitted friend against friend, wives against husbands, parents against children, and have dominated the country's discourse and democracy ever since.

Nicola Sturgeon, who this week announced her surprise resignation after eight years as first minister and leader of the separatist Scottish National party, has been both source and beneficiary of these tensions. Despite early indications that she wanted to reach out to those who voted in favour of remaining in the UK — a preference which won out by 55-45 — the latter years of her leadership saw relentless attempts to force a rerun.

Scotland has been stuck in a loop, with the arguments for and against independence relitigated on a weekly basis, to the exclusion of almost everything else. For unionists, who would prefer to talk about deep-seated, mainstream problems, this has been both maddening and exhausting. They will not mourn Sturgeon's departure.

Since losing the independence referendum in 2014, the SNP has triumphed in every election at a national, devolved, European and local level. This has been in no small part due to the charismatic Sturgeon, whose popularity consistently dwarfed that of her opponents in Edinburgh and London. She has been the figurehead of an independence movement that saw its support climb from 45 per cent at the time of the referendum to hover around 50 per cent.

In recent months, however, the sheen started to come off. Sturgeon announced a plan to use the approaching UK general election as a "de facto" second referendum: if the SNP gained more than 50 per cent of the vote it would begin independence negotiations with Westminster. This presumption was disliked by Scotland's voters. Equally unpopular was an attempt to reform the rules around changing gender, removing the need for a medical diagnosis of gender dysphoria and reducing to 16 the age for allowing a change. Even around a third of SNP voters supported a decision by the UK government to block the measures from becoming law.

After these miscalculations, public support for independence, for the SNP and for Sturgeon finally began to fall. In recent weeks, a need for change at the top had been increasingly discussed, but at some future point.

After her shock departure, Unionists scent the opportunity they've been waiting for. The independence movement must find a new leader, but Sturgeon has been so singularly dominant that the contenders to succeed her have relatively low public profiles. The contest is likely to be less about personalities or governing competence and more about who can offer the most compelling strategy for securing independence. The risk, as the Conservatives found with the ill-fated Liz Truss, is that the candidates are dragged by their selectorate — the SNP members — into crowd-pleasing but undeliverable promises about how and when.

> Unionists are desperate for an end to the obsessive debate about breaking up the UK

Those candidates, if they have an eye to wider Scotland, should instead answer questions that ultimately proved beyond Sturgeon. How will a new leader reverse the party slide in the polls? How would they push support for independence up towards the 60 per cent mark that most observers believe is necessary to secure and win a second referendum? What, after 16 years in power, is the point of an SNP administration in Edinburgh that has avoided meaningful reform and modernisation of public services?

On the substance, there are also tricky challenges: how would an independent Scotland that rejoined the EU manage an economic border with England, its largest market by some distance? What would be a convincing plan for which currency a separate Scotland would use? What about the impact on pound-denominated savings and pensions?

Amid this upheaval and debate, the Labour party intends to seize its chance. It is the only credible alternative to the SNP as the devolved government, but struggled against the election-fighting genius of Sturgeon and, as a unionist party, lost traditional supporters to the independence cause. It currently holds only one Scottish seat in the Commons.

However, Labour has recently begun to claw its way back up in the polls in Scotland, and belief that Keir Starmer could take over as prime minister will provide a further boost. Labour strategists hope to win somewhere between 15 and 20 of the 59 Scottish seats at Westminster in the UK general election, likely to be held next year. The party would then campaign for the next Holyrood election in 2026 promising that Labour administrations north and south of the border would work in harmony to improve Scotland's lot — in contrast to more than a decade of provocation between rightwing Tory Westminster and leftwing SNP Holyrood.

Unionists are desperate for an end to the obsessive debate about breaking up the UK, which has kept Scotland divided and distracted since 2014 and which threatens the continued existence of the British state. For that to happen, they must persuade Scotland's voters to move on, at last, from putting their faith in the SNP. Sturgeon's departure might be their best — and, when it comes to the Union, last — chance.

The writer is director of the think-tank Reform Scotland

She will be tasked with delivering the president's agenda at a pivotal time for the administration, writes *James Politi*

Person in the News | Lael Brainard

A rigorous economist enters the White House

Lael Brainard likes to chart her journey to the top ranks of American economic policymaking by starting with her childhood observations.

As the daughter of a US diplomat stationed in Poland and West Germany, Brainard was making "mental checklists" of the contrasting fortunes of communities around her in cold war Europe. On one side of the Iron Curtain was the "grey bleakness of communist factories and poorly stocked shelves"; on the other were the "new cars and thriving small businesses" of the west.

"Once I started working, I found myself compiling these checklists in Maggie Thatcher's industrial towns, in auto assembly plants in Detroit, in financial crisis-stricken Mexico City, in agricultural towns in Senegal," she said during a commencement address at the School of Advanced International Studies in Washington last May.

For the past eight years, Brainard has been using those economic antennas in her job as a senior official at the Federal Reserve. But next week she will carry it over to the White House, after Joe Biden tapped her to be his top economic adviser and director of the National Economic Council.

Brainard enters the White House at a pivotal moment in Biden's presidency. Although much of his multitrillion-dollar economic agenda is now law, the focus will be on implementation. And some of the big challenges in managing the economy remain — from high inflation to the risk of a significant slowdown or even recession triggered by the Federal Reserve's rate rises down the road.

"[Biden] is looking for continuity, for someone who's fully aligned on the policy goals," a senior White House official says. "The president has a lot of faith in her".

Brainard was born 61 years ago in Hamburg. Her father Alfred was a US foreign service officer specialising in eastern Europe. As well as fostering an interest in economics, the cold war period generated a certain patriotism in Brainard. "Many children, I think, are told to mind their manners. In my house, it was always followed by the admonition, 'Don't forget, you're representing America'," she told Congress in 2009.

Brainard received an American education: first at a private high school in Pennsylvania, then at Wesleyan University where she received an undergraduate degree in social studies. Harvard was her next stop, for both a masters degree and a doctorate in economics.

It was there, waiting in line in the cafeteria, that she met her future husband Kurt Campbell, who was a faculty member. They married in 1998.

For a third consecutive time, both will be working in senior roles in a Democratic administration: Campbell is now co-ordinator for the Indo-Pacific in Biden's National Security Council. They have three daughters. In her spare time, Brainard likes to watch them play soccer and other sports, according to people who know her well. She is also a fan of the English Premier League.

Brainard's first big job in Washington followed a professorship at the Massachusetts Institute of Technology, and came in the late years of Bill Clinton's administration, when she was brought to the White House by Laura Tyson, the only other female NEC director.

She was quickly thrust into the negotiations over the emerging markets' debt crises and also became an international summit sherpa for Clinton. After the George W Bush presidency, which Brainard spent building the global development programme at the Brookings Institution think-tank, she returned to government as under-secretary of the Treasury for international affairs under Barack Obama.

Those were the years of the financial crisis, the start of heightened economic and strategic tensions with Beijing, and the eurozone debt meltdown, which meant she was frequently crossing the Atlantic with Treasury secretary Tim Geithner.

"She had a big seat at the table," says Daleep Singh, chief global economist at PGIM, who worked with Brainard at the Treasury and served on Biden's NSC.

At work, Brainard is known to be rigorous and demanding — and to many a role model. "She is extremely polished, extremely deep on the substance and the reality of the situation," says one former colleague. "She has a great way of explaining concepts in a way that is not wonky," adds Heidi Crebo-Rediker, a former chief economist at the state department during the Obama administration.

> 'She is extremely polished, extremely deep on the substance and the reality of the situation'

In 2014, Obama nominated her to the Fed. There, she emerged as one of the more thoughtful monetary policy doves, took a tough line on capital standards for banks, opened the Fed up to digital currencies and climate risk, and was key to launching the emergency credit facilities that helped the US avoid a financial meltdown at the start of the pandemic.

While at the Fed, she came close to being Treasury secretary twice: as the frontrunner in 2016 had Hillary Clinton won the White House. She was a contender again in 2020 but lost out to Janet Yellen after Biden won the presidency.

In 2021, Biden interviewed Brainard for the job of Fed chair: even though he ultimately renewed Jay Powell's term instead, he offered her the vice-chair position. Clearly, she has continued to impress the president since then. "She's not going to have a steep learning curve; she's been in the White House before," says Crebo-Rediker. "Her policy chops and intellect will tower over everybody there."

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There can be no impunity for aggression against Ukraine

Philippe Sands

Four days after Russia's invasion of Ukraine, I wrote in this paper on the crime of aggression, introduced into international law during the negotiations of the Nuremberg tribunal, by a Soviet jurist back in 1945. Since then, aggression has been one of the four established international crimes, alongside war crimes, crimes against humanity, and genocide. The International Criminal Court in The Hague is currently investigating alleged crimes in Ukraine but has not yet issued any indictments.

The ICC cannot, however, exercise jurisdiction over aggression, a gap that prompted me to propose the creation of a special criminal tribunal to investigate Vladimir Putin and his acolytes for their waging of a manifestly illegal war, which is a leadership crime. I and others were concerned that it could be difficult to pin the other crimes on the leadership, and recognised that the only crime which reached the top table with any certitude was that of aggression. There continues to be serious concern, in the face of the horrors occurring across Ukraine, that the ICC investigations would culminate in proceedings against low-grade military, but allow the leaders — political, military, intelligence, financial — off the hook.

Over the past year there has been a growing recognition of the need to avoid impunity for the crime of aggression. A few days after my article appeared, Dmytro Kuleba, Ukraine's foreign minister, said that Ukraine wanted a special tribunal. Within months, a coalition of core countries, led by the three Baltic States and Poland, joined forces, and the parliamentary assemblies of the Council of Europe and Nato and the European parliament added their support. Avaaz, a global activist organisation, organised a petition that soon gathered more than a million signatures, as academics debated the pros and cons of a first tribunal to address the crime of aggression since Nuremberg.

The momentum soon confronted the realpolitik: Britain, France, Germany and the US were — to put it mildly — initially trepidatious. It was perhaps not so much a matter of principle, more self-preservation: if a tribunal were to be created today in relation to Russia, then why not tomorrow in relation to us? There are, too, elephants in the room, not least Iraq and the many other conflicts to which the western powers turned a blind eye on matters of justice.

Yet here, on the territory of Ukraine, of all places, there can be no impunity for this most grave of crimes. Chile Eboe-Osuji, former ICC president, recently called for a Special Criminal Tribunal as "one of the building blocks in the never-ending construction project of international law".

France was the first to shift, a few weeks ago, and the UK and Germany have since followed. The European Commission has announced the creation of a Centre for the Prosecution of the Crime of Aggression, and the Dutch government has offered to host an interim mechanism. There is no reason why international and Ukrainian investigators cannot be appointed now, with an interim prosecutor, to gather evidence and identify potential indictees.

An international tribunal will need a legal agreement, most likely between Ukraine and the UN or a European organisation. That can easily be drafted and texts are already circulating. It would be fitting for the agreement to be signed in Lviv, the Ukrainian city whose bloody history was handmaid to the ideas that, in the 1940s, became the new legal categories of crimes against humanity and genocide.

The costs will be peanuts, compared with the ICC. To be sure, there will be points to hammer out, on the structure and nature of the tribunal. Ukraine rightly favours a full-fledged international body, a call supported yesterday by Christoph Heusgen, chair of the Munich Security Conference, which meets this weekend — but no doubt creative minds will be able to do what is necessary. There will be technical legal issues to address — not least the question of whether a head of state should be entitled to immunity — and relations to be established with investigations and prosecutions at the ICC and in Ukrainian and other national courts.

> There are concerns that the leaders — political, military, intelligence, financial — will be allowed off the hook

This is a crucial historical moment. We were not prepared for the invasion, for the crimes and other horrors that have followed, including the grotesque and wholly illegal targeting of civilian infrastructure across Ukraine. Such acts have no military purpose, and are intended to break the will of the population (though they have precisely the opposite effect).

After the west's failures on Georgia, Chechnya, Crimea and Syria, Putin believed it would blink. He was wrong. I am not starry-eyed about the power of the law but keenly aware of its limits and the need for military and diplomatic efforts. Yet if this aggression is not addressed, we may as well give up on the Nuremberg moment and the crime of aggression. Let the anniversary of this terrible moment in Europe be used to signal that crossing this line will not be tolerated and that there will be individual criminal liability, right to the very top.

The writer is professor of law at University College London, barrister at 11 KBW and author of 'East West Street: On the Origins of Genocide and Crimes against Humanity'

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China's Shein sets lofty target of $60bn in revenues by 2025

● Fashion group eyes IPO ● Gen Z popularity wanes ● Plans for diversification

Fickle followers: Shein's target market is younger shoppers, who have previously shown little brand loyalty — Cezaro De Luca/Europa Press/Getty Images

ELEANOR OLCOTT — HONG KONG
ARASH MASSOUDI — LONDON

Online fashion group Shein projects its revenue will more than double to nearly $60bn by 2025, as the Chinese company seeks to convince investors that it is on course for a blockbuster initial public offering this year.

In a "management presentation" shown to investors and seen by the Financial Times, Shein said it was targeting annual revenue of $58.5bn in 2025, up from $22.7bn last year.

That would exceed the existing combined annual sales of retail giants H&M and Zara. The company also projects that gross merchandise value — the total value of goods sold on its platform — will grow to $80.6bn in 2025, a 174 per cent increase from last year.

The lofty targets come as the company plans to launch one of the largest listings yet of Chinese companies in the US this year, after becoming the shopping destination of choice for Generation Z consumers in the west.

Two investors confirmed the content of the presentation, which reveals that Shein must significantly alter sales patterns to hit its revenue goals, in particular by gaining more repeat customers and beginning to sell more diverse and expensive clothing lines.

Analysts warn this will be a challenge for Shein, which now has its headquarters in Singapore, as its target audience is younger shoppers, who have previously shown little brand loyalty.

The targets are being suggested at a time when global investors are reassessing the high valuations of tech start-ups during a market downturn. Shein said that "as a private company, we do not comment on market speculation".

The FT reported last month that Shein, led by founder and chief executive Xu Yangtian, was in talks to raise $3bn at a vastly reduced valuation of $64bn. It was valued at just over $100bn in its latest funding round in April 2022, making it the world's third most valuable private company at the time.

The recent management presentation provides the latest snapshot of Shein's finances. According to the document, it achieved a profit for four consecutive years, reaching $700mn in 2022.

However, this represents a decline from $1.1bn in 2021, as high air freight costs and rising production costs ate into its bottom line.

The company also projects that its profit will grow to $7.5bn in 2025, by targeting higher-spending consumers with new premium product lines while seeking to reduce its warehouse and delivery costs.

To achieve its sales targets, Shein wants to convert new customers into repeat buyers.

> 'Gen Z is more open to new apparel brands than other generations but it's harder to retain their loyalty'

In 2022, about 60 per cent of its total 142mn customers shopped on the platform for the first time, according to the management presentation. By 2025, it is aiming to convert most of its shoppers into loyal customers, projecting that 60 per cent of an estimated 261mn shoppers will have shopped with them before.

Analysts warn that the enthusiasm of young women for Shein may be waning. The proportion of US Gen Z women — or those born between 1997 and 2013 — considering a purchase from Shein fell from a peak of 54 per cent in May 2022 to 39 per cent in September, according to research by Morning Consult Brand Intelligence.

"Shein's popularity with Gen Z is a double-edged sword," said Claire Tassin, retail and ecommerce analyst at Morning Consult. "Gen Z is more open to new apparel brands than any other generation, which means it's easier to win their attention but harder to retain their loyalty."

Shein has also told investors that it will launch a global marketplace where it sells third-party products on its website and app, putting it in competition with established online marketplaces Asos and Amazon.

Shein's explosive growth has spawned imitators, which could undermine its growth trajectory. In September, Chinese ecommerce group Pinduoduo launched Temu, a marketplace selling cheap clothes to Gen Z women in the US.

Uniper takes €4bn hit on Russian subsidiary

LAURA PITEL — BERLIN

German gas importer Uniper, one of the biggest corporate casualties of the war in Ukraine, has taken a €4bn hit on its Russian subsidiary after losing control over the company.

The nationalised energy giant, rescued by Berlin in a multibillion-euro bailout last year, said it was given no access to information about its power generation subsidiary Unipro since the final three months of last year.

Even though it is the majority shareholder with an 83.7 per cent stake, it was kept in the dark in a stark illustration of the fallout for western businesses from Russian president Vladimir Putin's invasion of Ukraine.

The group, once Europe's largest importer of Russian gas, announced a net loss of €19bn last year, but pledged to become profitable again.

Klaus-Dieter Maubach, outgoing chief executive, said in a statement that Uniper was "at its core a strong company that has successfully got through the most difficult year in its history".

But the company warned there was "no longer any enforceable control" over its Russian unit, which employs 4,300 people and has five gas and coal-fired power plants across the country.

Uniper, which was nationalised by Berlin amid fears of collapse after Moscow cut Europe's supplies of Russian gas, said it was forced to deconsolidate Unipro in 2022 and report it as a discontinued operation at a loss of €4.4bn.

Outgoing chief financial officer Tiina Tuomela told investors that, while Uniper had found a local buyer for Unipro, it had yet to receive "presidential approval", suggesting the sale was being personally blocked by Putin. The outlook for the sale was "still outstanding and highly uncertain", she added.

Tuomela said sweeping western sanctions on Russia had "further impaired Uniper's ability to exercise control as a major shareholder". She declined to say what price had been agreed.

Despite an 83.7% stake, Uniper says it has no 'enforceable control' over its subsidiary Unipro

Uniper was once one of Russian energy group Gazprom's most important customers but it began racking up huge losses after Moscow reduced supplies to Germany through the Nord Stream 1 pipeline.

The German government announced in July 2022 that it would step in, injecting €8bn into the company and offering a further €25bn in authorised capital, of which about €5.5bn had been used by the end of last year.

Retail & consumer

Hermès enjoys 'exceptional' year as China sales rebound

ADRIENNE KLASA — PARIS
FERGUS RYAN — LONDON

French luxury group Hermès shrugged off the rise in Covid-19 cases in China and increased sales by a quarter last year, with little disruption to demand for products despite rivals taking a hit.

Hermès had an "exceptional" year with a 23 per cent jump in annual sales to €11.6bn on a comparable basis and a similar increase in the fourth quarter, exceeding expectations, because of demand for the brand's leather goods, watches and jewellery.

"We were very strong in China with strong growth in our numbers regardless of the quarter and including the fourth quarter," said chief executive Axel Dumas. "The rebound in China for us took place as soon as Wuhan reopened in 2020," he added. "I think sometimes we use a little bit of catastrophising about the effects of the health crisis in China to explain other things."

Sales in the three months to December rose 22.9 per cent to almost €3bn after analysts forecast a 17 per cent gain.

Hermès does not break down numbers for mainland China, but sales in the Asia-Pacific region, excluding Japan, rose about 25 per cent. It was also supported by strong sales in the US, where the company reopened its new flagship store at Madison Avenue, New York. Full-year profit at the group rose 38 per cent to €3.4bn.

It comes after luxury rival Kering this week reported a fall in sales in its fourth quarter partly because of Beijing's zero-Covid restrictions. Even industry giant LVMH, which posted record profits for 2022, suffered a dent in sales in the last quarter of the year.

"Hermès has ploughed through the Covid-related issues in the fourth quarter," said Luca Solca at AllianceBernstein. "Hermès continues to shine in the US and performance in Asia . . . is remarkable, considering the situation in China." The company plans to continue investing in increasing capacity. Last year, it created 4,300 jobs, almost three-quarters of them in France, and invested €1.5bn in operations.

The company has proposed a dividend of €13 per share, topping up an interim payout of €3.50 that will be made at the end of this month.

See Lex

Technology. Incentives

Silicon Valley start-ups face dilemma over expiring staff share awards

> Fewer blockbuster IPOs mean 'restricted stock units' deals for employees are a problem

GEORGE HAMMOND AND TABBY KINDER
SAN FRANCISCO

Tech start-ups that have delayed plans to go public during an industry downturn are facing a new dilemma: how to deal with restive employees whose share awards are set to expire without a blockbuster initial public offering on the horizon.

Over recent years, some of Silicon Valley's leading groups, including grocery-delivery app Instacart and autonomous ride-sharing group Cruise, wooed staff by offering "restricted stock units" that are triggered when a company has a liquidity event, typically going public.

In the case of payments group Stripe RSUs worth millions of dollars will start expiring from 2024 and risk being forfeited unless the company buys them out, changes the terms of the awards or launches an IPO.

Employees face a personal tax liability when RSUs vest. But staff are unable to sell any of these shares without the company launching a flotation.

To get around the problem, Stripe wants to withhold a portion of the stock equivalent to the tax liability from employees' awards.

Separately, it plans to sell stock to investors, using the money raised to pay the employees' tax bills and buy up any stock they wish to sell.

Stripe's situation is typical of prominent late-stage private tech groups that benefited from a decade-long bull run to attract staff and investment but now face a funding crunch.

"There is pent-up pressure among employees who had been promised an IPO in 2021 or '22, but are now saying, 'RSUs don't pay my mortgage or my kids' college fund,'" said Cisco Palao-Ricketts, partner at law firm Goodwin Procter.

RSUs have been part of employees' total remuneration at Stripe since 2017, at Cruise since 2018 and at Instacart since 2019, according to company statements, job adverts from the time and others with knowledge of the situation.

But the awards carry risks. "Once you go for RSUs the fuse is lit," said Kelly Rodriques, chief executive of private securities marketplace Forge Global. "They have liquidity and tax implications."

Cruise said that it was "not going to make any predictions on what may or may not happen in the future". Stripe and Instacart declined to comment.

According to a survey of mid to late-stage private tech companies, about 15 per cent offered RSUs to staff in 2021 and 2022, according to remuneration data tracker Thelander Consulting.

These companies and others must act to prevent RSUs expiring, which typically happens after seven years.

To resolve its dilemma, Stripe is tapping existing investors, including Josh Kushner's venture fund Thrive Capital, for more than $2bn, according to people briefed on the fundraising effort.

"Stripe has the luxury to go to Thrive, a previous investor, because they have a strong business," said Robert Le, an analyst at PitchBook. "Not a lot of start-ups have that luxury."

Staff in strife: Stripe is tapping existing investors for more than $2bn to help with employee share awards — Sundry Photography/Alamy

The move is the latest problem for one of Silicon Valley's most prominent fintech start-ups. The company was valued at $95bn at its last public valuation in 2021, but cut its internal valuation to just over $60bn in January, according to people with knowledge of the process.

Stripe intends to raise enough to cover the tax bill associated with the RSUs handed out to many of its 8,000 employees since 2017, and will hold back some of the value of employees' shares as compensation, according to a person familiar with the matter.

"Stripe has realised they have to help the employees out," said Glen Kernick, Silicon Valley leader at valuations provider Kroll. "When they [RSUs] vest, that's a taxable event. As an employee, you now own the shares and owe tax but you don't have the ability to pay your tax bill by selling shares. That's obviously viewed as a hardship."

Facebook was among the first private companies to issue RSUs ahead of its 2012 IPO.

As money poured into tech start-ups and the war for talent grew fiercer in the following years, RSUs were increasingly used to tie employees to companies that had a clear runway on to public markets.

"We try to guide only late-stage companies to do RSUs," said Goodwin Procter's Palao-Ricketts.

"For companies that adopted RSUs too early or haven't been successful enough to have that liquidity event yet, this is something that is coming down the pipeline in two or three years."

More desperate companies could choose to accept "punitive terms" — ceding more control or larger stakes to investors — when raising new funds, or pass the problem on to their employees, said PitchBook's Le.

According to Palao-Ricketts, RSUs are a perilous bargain for employees: taxes do not need to be paid until there is a liquidity event but, if there is not one, then stock can be forfeit.

"We as tax practitioners have known this is out there as a problem," he added.

"Everyone could have predicted the market we would be in now: you can't have 10 years of uninterrupted growth and not expect a downturn."

Bosses forced to ditch decades of forecasting habits

The Top Line
Anne-Sylvaine Chassany

Ikea executive Jesper Brodin says he is not usually one to indulge in nostalgia.

But at a pre-Christmas gathering of managers who used to work there, he could not help but join the chorus of those who said they missed the old times, when the world seemed relatively stable and trends were predictable and this could be translated into a more or less credible multiyear business plan.

He says: "We always debate whether it was better before. I used to always argue it is better now. This time we tended to agree it was better before.

"The risks, the uncertainty, everything that used to be in a 'risk matrix file' is more or less happening . . . We laugh about the time when we were doing one-year budgets, and how we would be right or wrong by 0.3 per cent."

Brodin's reflections resonate. chief executives are struggling to make sense of confusing macroeconomic signals.

In Europe and the US, an economic downturn is combined with record low unemployment and labour shortages. Consumer behaviour is a mystery: until recently, people have kept spending even though the price of almost everything has gone up.

The worst projections of economic crisis and energy shortages from last year have not materialised. But it feels uniquely hard to predict the path ahead.

On both sides of the Atlantic, little consensus is heard about where the economy is going and, for listed businesses, delivering guidance to the market is more difficult than ever.

In the UK, auditing firms worry that the forecasts their clients submit to them for sign-off are impossible to assess.

In the game of adjusting to these new forms of chaos, some are better placed than others. Generally, pressure is less on privately owned companies that do not have to publish profit targets.

Ikea has changed tack. Instead of setting out specific goals for the year, it has a set of "scenarios" to give the business wriggle room as the outlook changes. It means acknowledging that widely different outcomes are possible.

"It's teaching us agility in how we operate," says Brodin.

A year ago, the 54-year-old expected customers to cut spending because of high energy bills and mortgage rates. That did not happen.

Meanwhile, supply chain disruptions improved more quickly than expected, leaving the group with more inventory and, in turn, the need to lower the prices of some of its products.

"We are celebrating that things are going in the right direction," says Brodin. "But we have no concept of predicting with precision what's going to happen in six to 12 months."

> Instead of setting out specific goals for the year, Ikea has a set of 'scenarios' to give the business wriggle room

For Ikea, input costs are the trickiest to forecast. Transport prices have fallen. But Brodin does not expect that greater demand for wood to burn as fuel will make some of the company's materials more expensive.

It is not just the traditional variables of modelling such as inflation and consumer spending that have become harder to predict. The past few years have also provided unexpected lessons on how business and society cope with shocks and uncertainty.

"Look at what people have gone through: the pandemic, the economic damage, the tragedy of war, energy prices," Brodin says. "What people might have underestimated is human resilience."

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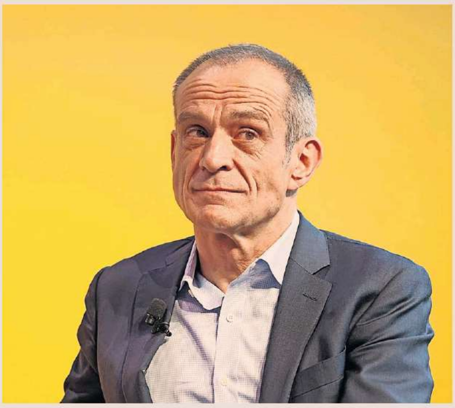
Asia-focused chief built Schneider into a global force

Spotlight

Jean-Pascal Tricoire
Chief executive, Schneider Electric



Jean-Pascal Tricoire, who is stepping aside as chief after nearly 20 years of spearheading rapid growth at the industrial group, has built on its Chinese links — Hollie Adams/Bloomberg

> Some three-quarters of sales are derived from outside western Europe and most board members are not French

Some board members objected when Jean-Pascal Tricoire was promoted to chief executive of French industrial group Schneider Electric.

In the cosy world of French business, the engineer, who grew up in the village of Beaupréau in western France and had spent most of his Schneider career in foreign postings from China to South Africa, was something of a misfit.

Without the trappings of elite Parisian schools, political connections or ministerial adviser jobs to his name, his promotion as boss of the automations and software group in 2006 met with disapproval.

This week, after nearly 20 years at the helm, the 59-year-old, sometimes referred to as the "Napoleon running Schneider" among investors over his reputation for wanting to control every decision, announced he was stepping aside after a tenure that outlasted that of many rival chief executives.

Schneider has become one of France's most valuable listed groups, its worth increasing sevenfold to nearly €90bn over the past two decades, one of the top 10 market caps on the French stock exchange behind Airbus and big luxury goods names such as LVMH.

His appointment was mainly thanks to Henri Lachmann, Schneider's former boss who plucked Tricoire from semi-obscurity, after crossing paths with him on a tour of the company in Beijing.

"One board member said: 'We don't know him. He's not one of us,'" said Lachmann.

"But someone else, with an even more brilliant qualification, said: 'That's his strength.'"

Tricoire will partly relinquish his operational responsibilities to Schneider's former head of industrial automation Peter Herweck, who becomes chief executive in May, while he remains as chair.

Since his appointment in 2006, after three years as deputy chief executive, the business has expanded exponentially overseas, adding to its array of intricate industrial systems through acquisitions in the US, China and India, and deriving three-quarters of its sales from outside western Europe.

Founded close to 190 years ago by two brothers who brought a French iron foundry, it has also quietly built up a specialisation in technologies equipping it to make the most of a sudden megatrend: energy efficiency.

Systems used by companies to automate lighting use and make power savings have never been as sought-after, particularly after an energy supply crisis in Europe following Russia's full-scale invasion of Ukraine.

Along the way, Tricoire has maintained his status as something of an "alien" among French chief executives, in the words of one banker. For some, though complimentary about the group's performance, he has pushed the shift away from France too far.

A fluent Mandarin speaker following his spell with the company in China, Tricoire moved to Hong Kong in 2011 and has stayed since, an unusual move that ruffled feathers in the Paris establishment. The company's board has a majority of non-French members, and executives are scattered.

Over the years his Asian expertise helped Schneider build its Chinese presence and adjust it rapidly, switching away from the construction sector when the residential market began to overheat, said Jefferies analyst Simon Toennessen.

"[Tricoire] took risks in Asia which many more conventional people would not have taken," said Henri de Castries, the former head of French insurer Axa, who has known Tricoire since he became boss.

"Relations may be more complicated and tense with China now, but that kind of deep knowledge of an essential market is very important."

But that is one aspect of Tricoire's legacy, with China accounting for about 13 per cent of Schneider's revenue, behind the US, that may become more debatable.

Some western companies are reassessing their China links, with the Ukraine invasion raising fears of more geopolitical ructions, while trade rows brew between Washington and Beijing.

Tricoire defended an exposure now being balanced out by investments elsewhere in Asia, and a model based on having a Chinese-run business geared towards the market's very specific tech needs.

"We need to realise that the world is still very interconnected and particularly interconnected to China," Tricoire said.

Under Tricoire's tenure, Schneider became known for management practices that are now more widely followed, with a focus on "the planet and society", which it has tried to measure in its performance, including by linking bonuses to emissions goals.

Tricoire said growing up on farms in the Vendée region had given him an appreciation for nature and the fragility of ecosystems, as had his hobby, kayaking through rapids.

After he left France for the first time at 23, Tricoire's spells in emerging markets crystallised his focus on the role the world of energy had to play, he said. "I realised energy was the passport to a decent life . . . When you had rolling power cuts in China, there were days you couldn't do much. I also realised, living in these megalopolises, that our model of energy consumption was not sustainable, as the pollution was palpable."

Tricoire rid Schneider of businesses that did not fit its energy focus, and invested in areas such as software, including with the recently sealed £10.6bn acquisition of the UK's Aveva, which is used to run data centres or factories more efficiently.

"He's pragmatic. He's not into being an evangelist or bashing people [over the environment]," said Cécile Cabanis, deputy chief executive at French alternative asset manager Tikehau Capital and a Schneider board member.

The business "has advanced without making noise, which is quite rare".

However, one challenge will be allowing his successor room to lead as he stays on as chair until 2025 at the latest — a formula that is not unusual in France but is less frequent by governance standards in the rest of Europe.

While he is calm and affable, colleagues and analysts said Tricoire was also known for being on top of every decision at the company, and making sure his teams knew the drill.

"When he became the boss, he was very much the boss. He has authority and doesn't necessarily like confrontation," Lachmann said.

One person in Paris business circles who knows Tricoire said: "The value he has created is just extraordinary. I just hope he is really stepping aside. His time as chair has already been a very long one." *Sarah White*

Technology

YouTube head Wojcicki to step down after overseeing transformation

DAVE LEE — SAN FRANCISCO

YouTube chief executive Susan Wojcicki is stepping down, after overseeing the video hosting site's growth into an entertainment colossus over nearly a decade.

Wojcicki, who joined Google in 1999 as its 16th employee, said in a memo she had "decided to step back from my role as the head of YouTube and start a new chapter focused on my family, health and personal projects I'm passionate about".

She will be replaced with YouTube's current head of product, Neal Mohan.

Google bought YouTube for $1.65bn in 2006. In 2022, the video site's advertising platform generated $29.2bn, representing about 10 per cent of Google parent Alphabet's revenue.

Wojcicki, 54, has been a long-term fixture at the company, having rented out her garage to Google's two founders, Larry Page and Sergey Brin, in 1998.

Her exit marks another significant departure for a prominent female executive in Silicon Valley, following the resignation of Meta's chief operating officer Sheryl Sandberg last year.

"Susan has a unique place in Google history and has made the most incredible contribution to products used by people everywhere," Page and Brin said. "We're so grateful for all she's done over the last 25 years."

Wojcicki said she would assist with the leadership transition before taking an advisory role in which she can "offer counsel and guidance across Google and the portfolio of Alphabet companies".

Google faces a threat to its search dominance from Microsoft, whose integration of generative AI technology into its rival search engine has been regarded as the biggest competitive disruption in the sector in well over a decade.

During Wojcicki's time at the helm of YouTube she ushered in a targeted video advertising model, while nurturing the "creator economy" from its inception to its huge influence today.

At times, these achievements brought controversy. In 2017, YouTube encountered a significant boycott from advertisers when ads were routinely appearing alongside content posted by religious extremists.

Wojcicki also navigated the unpredictable nature of YouTube's biggest stars, such as user PewDiePie, who was temporarily dropped by the platform over anti-Semitic remarks in the Swedish creator's videos.

Unlike Facebook and Twitter, which have reinstated former US president Donald Trump's accounts after suspending him following the January 6 2021 attack on the Capitol, YouTube has not yet clearly indicated its policy regarding his return to the platform ahead of the 2024 presidential election.

Susan Wojcicki ushered in a targeted video advertising model while nurturing the 'creator economy' — Ludovic Marin/AFP/Getty

There has also been scrutiny on the platform's recommendation engine, which suggests new clips for users to watch based on their habits and the collective behaviour of similar accounts.

While being responsible for big rises in engagement, and therefore advertising exposure, the mechanism has also been blamed for playing a radicalising role, particularly in teenagers, because of the so-called "rabbit hole" effect.

As the streaming wars stepped up, Wojcicki looked to build a subscription model with exclusive content and perks such as no ads. In December, YouTube entered a $14bn deal with the US National Football League to broadcast some games over the next seven years.

Responding to the growth of TikTok, YouTube launched Shorts, a short-form, portrait-orientated mode with similar functionality to its Chinese-owned rival.

BUSINESS
WEEK IN REVIEW

Spurs in play

- Iranian-American billionaire Jahm Najafi, chair of MSP Sports Capital, is preparing a $3.75bn takeover bid for **Tottenham Hotspur**, the north London Premier League football club, with help from Gulf backers, mainly from Abu Dhabi.

- Louis Vuitton, the main brand of Bernard Arnault's **LVMH** luxury group, appointed musician Pharrell Williams, pictured, to take over menswear design following the death of Virgil Abloh in November 2021.

- Emails exchanged by former Barclays chief executive Jes Staley and the late sex offender Jeffrey Epstein — including pictures of young women — were revealed in a lawsuit filed by the US Virgin Islands against **JPMorgan Chase**.

- **KPMG** is to cut close to 2 per cent of its staff in the US, about 700 people, after a sharp slowdown in its consulting business, becoming the first of Big Four accountancy firm to respond to the weaker economy with job reductions.

- **Air India** announced an order for 470 planes from Airbus and Boeing in one of the biggest aviation orders, as the country's air passenger market rebounds from the coronavirus pandemic.

- Warren Buffett's **Berkshire Hathaway** trimmed its bet on Activision Blizzard in late 2022, selling 7.4mn shares, or 12 per cent of its position, as the *Call of Duty* video game maker's $75bn agreed takeover by Microsoft came under regulatory scrutiny.

> London law firm Allen & Overy has introduced an artificial intelligence chatbot to help its lawyers draft contracts

- **Allen & Overy** has introduced an artificial intelligence chatbot to help its lawyers draft contracts, as the London-based magic circle legal firm seeks to adopt the technology to find efficiencies.

- Singapore's sovereign wealth fund **GIC** has put the brakes on private investments in China as it scrutinises risks in the world's second-biggest economy.

- **Deutsche Bank** has cut ties with Austrian real estate billionaire René Benko, who co-owns Selfridges in London, the Chrysler Building in New York and German department store KaDeWe, over concerns about a sprawling corruption investigation.

- **Barclays** shares fell after the bank reported a 4 per cent decline in fourth-quarter earnings to £1.04bn, from £1.08bn in the same period a year earlier, partly driven by a plunge in fee income at its investment bank.

470	£1.2bn
Number of jets Air India ordered from rivals Boeing and Airbus	Value of Liberty Global's near 5% stake in UK rival Vodafone

- **Amazon** chief executive Andy Jassy vowed to double down on the company's struggling grocery store business, despite recently announcing that its growth plans were on hold.

- **Liberty Global**, the US telecoms group chaired by "cable cowboy" John Malone, bought a stake of nearly 5 per cent in Vodafone worth £1.2bn, as it bets on the revival of its UK rival.

- The LockBit hacking group that encrypted **Royal Mail** data sought a £65.7mn ransom, a demand that the UK postal group's board appears to have rebuffed.

Riddle of how activist Hindenburg's team structured the Adani big short

Observers point to possible use of single stock futures and help of western banks in Singapore

ORTENCA ALIAJ AND ANTOINE GARA
NEW YORK

When Nathan Anderson decided to take on Indian conglomerate Adani Group, he faced the ultimate challenge for someone in his line of business: India's rules on short selling.

The founder of New York-based Hindenburg Research has not detailed how he structured his bet against the infrastructure group — which he has accused of fraud and stock price manipulation in a 100-page report published last month — saying only that the firm took a short position in Adani "through US-traded bonds and non-Indian-traded derivative instruments".

But three hedge fund managers who have looked at doing the trade said Anderson would probably have had to build his position using derivatives linked to India's largest indices, as well as US-traded bonds.

Despite Adani denying the allegations in a 400-page rebuttal, Hindenburg's report has triggered a sell-off in the group's listed entities, knocking more than $100bn off their combined market value.

It is the reaction Hindenburg, which profits when the price of bonds and equities linked to a company go down, was hoping for.

Yet how Anderson and his team structured their trade has been a puzzle to the market.

Short sellers typically borrow stocks through a broker, sell those shares on the market, and hope that the price will go down. If it does, they buy shares to hand back to the lender and pocket the difference.

But it is difficult to short companies in India. Under the country's securities regulation, institutional investors have to declare up front if they are placing a short position, and brokers must upload data on shorts to the stock exchange before trading the following day.

Meanwhile, many companies — including those in the Adani Group — have a small free float, making availability of stock an issue for a would-be short seller. India does not allow naked short selling, where investors can bet that a stock will fall without first borrowing the underlying security.

"I was looking at Adani myself for a short last summer and one of the reasons I decided not to investigate it further is the difficulty of shorting it in India," said Gabriel Grego, a hedge fund manager at Quintessential Capital, who is waging a short selling campaign at cyber security group Darktrace.

Hindenburg found a way. Investors who want to bet against an Indian company can do so using India's main stock index, the Nifty 50, in which Adani Enterprises is one of the largest constituents, according to three hedge funds that have looked at doing the trade.

Banks with operations in Singapore, which is among jurisdictions in which short sellers can do this type of trade, can create a product called a single stock future. These equity derivatives allow investors to get exposure to price movements on the underlying shares.

In Hindenburg's case, it would receive the value of Adani Enterprises' weighting in the index and the rest would be sold in the market.

The drawback for this kind of instruments is little liquidity, which means bets tend to be relatively small. Short sellers would typically use other derivatives, such as credit default swaps, to amp up bets but this is not possible in Adani Enterprises' case because the group is not listed in CDS indices.

Others were deterred by the difficulty of shorting in India but Hindenburg Research, led by Nathan Anderson, found a way
Casey Steffens/New York Times

"There's a reason you have to do this kind of trade on Indian stocks," said Soren Aandahl, chief investment officer of Texas-based short selling activist Blue Orca Capital. "It's the byzantine requirement of the Indian system where you can't trade directly."

Betting against US-listed bonds issued by various Adani entities was also an option for Hindenburg, which declined to comment for this article.

Anderson tends to partner with other short sellers when investigating companies, and has previously worked with Grego. While Hindenburg has declined to disclose whether the firm has partnered with other investors on Adani, a disclaimer included in the report states that one or more could be involved.

Little has been revealed about how the firm set its sights on Adani beyond the fact that the research took two years.

Two people with knowledge of the process said Hindenburg enlisted the help of an outside analyst who focused on Indian companies to investigate Adani.

The analyst led the research with the help of a team of five Hindenburg employees. The team decided to release the report days before a planned $2.4bn share sale by Adani last month.

The timing was crucial because Hindenburg's report cast doubts on the anchor investor group involved in the fundraising, which included Mauritius-based entities. The short seller alleged that these had links to the Adani family and were buying shares to prop up the stock price of the listed businesses in the group.

Adani has denied the allegations.

The group founded by Gautam Adani, who until Hindenburg's report was the world's third-richest person, is the firm's largest target among a small list of non-US companies it has bet against.

Anderson, who considers his mentor Harry Markopolos, the investigator known for sounding the alarm on Bernard Madoff's Ponzi scheme, founded the business six years ago.

In 2020, he issued a report on electric truckmaker Nikola shortly after the company went public via a special purpose acquisition company.

The report, which alleged fraud, included a video that showed a functioning Nikola prototype that the short seller said was moving only because it was rolling downhill. Nikola paid $125mn to resolve fraud charges in 2021. Founder Trevor Milton was convicted last year of defrauding investors.

Anderson made a winning bet on Twitter, shorting the stock in May just as Elon Musk sought to get out of his offer to buy it.

Not all of the firm's campaigns have worked out.

> 'There's a reason you have to do this kind of trade. It's the byzantine requirement of the system'

Shares in property investment business Welltower have increased more than 15 per cent since Hindenburg published a report in December alleging that one of its partnerships was a "sham".

Shares in medical devices group Establishment Labs are up more than 30 per cent since Hindenburg dubbed it a "financially stretched silicone safety charade" in October.

Still, the firm's recent success differentiates it from rivals, many of which have struggled in the decade-long bull market.

While some have applauded Hindenburg for appearing to lift the lid on problems at Adani's conglomerate, others have portrayed the report as an attack on India and a "hit job" on its markets.

Sanju Verma, a spokesperson for the ruling Bharatiya Janata party, has described Anderson as a "notorious short seller" and accused Hindenburg of spreading "malicious lies". Adani is an ally of Narendra Modi.

Supporters of the opposition Congress party have praised Anderson.

"It took a short seller Nathan Anderson from @HindenbergRes to expose the corruption and manipulation that goes about in the #AdaniGroup of companies right under the PM's nose," Ravinder Kapur, a trader and self-declared supporter of members of the Congress party's Gandhi dynasty, tweeted three days after Adani cancelled its share sale.

Joyojeet Pal, associate professor at the University of Michigan's school of information, said: "Overall, the online attacks on Nathan Anderson have been a lot more muted than the online support."

Additional reporting by Chloe Cornish in Mumbai and John Reed in New Delhi

* Enterprises, Total Gas, Transmission, Green Energy, Power, Ports and SEZ, Wilmar, Ambuja Cements, ACC, New Delhi TV
Source: Bloomberg

Airlines

Air France-KLM claims China rivals enjoy 'unfair advantage'

SARAH WHITE — PARIS

European airlines forced to take longer routes to Asia to avoid Russia will struggle to compete with Chinese rivals as travel rebounds after lockdowns, the chief executive of Air France-KLM has warned.

Ben Smith said Chinese airlines had an "unfair advantage" over European carriers that have been banned from Russian airspace since the invasion of Ukraine almost a year ago.

Both Brussels and Moscow have imposed restrictions on European airlines, but Chinese carriers can still fly over Russia and on shorter routes to Europe.

"Between Paris and Seoul, it can add up to three hours in flight time," said Smith. "If you've got a Chinese carrier that is flying over Russia, they've got an unfair advantage over us."

Finnair chief executive Topi Manner this week also warned that European airlines were at a "significant" disadvantage.

"We think that what this will mean is that it will be very hard to make secondary cities of China profitable in terms of flying," he said.

Finland's flag carrier built its business by using its location to offer quick flight paths to Asia through northern Russia, and was badly hit by the closure of the country's airspace.

> 'If you've got a Chinese carrier that is flying over Russia, they've got an unfair advantage'

"It adds hours to the journey and thus fuel, costs and emissions," said Andrew Charlton, an aviation consultant.

Finnair flights between Helsinki and Tokyo now take over 13 hours, up from 9.5 hours before the airspace closures.

The warnings came as a wider rebound in air travel is bringing traffic close to pre-pandemic levels in regions such as Europe, fuelling a recovery for the industry. In particular, airlines are hoping to capitalise on an expected return of China tourists to popular shopping destinations such as Paris.

Smith said the Franco-Dutch group was gradually increasing its flights to Shanghai and Beijing and planned to return to at least 50 per cent of its 2019 flight capacity in China.

Air France-KLM returned to profit for the first time since 2019 last year, with revenues rising sharply, it said yesterday. The group expects its global capacity to increase further this year.

Air France-KLM has been one of the beneficiaries of the renewed appetite for air travel within Europe and to the US since last year. It is trying to move past the last of its pandemic woes by whittling down the €10bn in state bailouts it received to cope with grounded flights.

Smith reiterated the group's interest in Portuguese airline TAP, which the Lisbon government is looking to privatise.

The Franco-Dutch carrier had "no serious interest" in Flybe, the British regional airline that collapsed and has failed to find a rescuer, he said.

Air France-KLM's revenues were up 84 per cent to €26.3bn, slightly exceeding analysts' expectations in a Refinitiv poll, and matching 2019 levels. The group posted a €728mn net profit, after last year's €3.3bn net loss.

Media

Murdoch called Trump US poll claims 'crazy'

ANNA NICOLAOU AND JOE MILLER
NEW YORK

Rupert Murdoch described allegations that the 2020 US election was stolen from Donald Trump as "damaging" and "crazy" even as his Fox News channel continued to air the claims, according to filings from a defamation lawsuit against the network.

The mogul, who owns Fox, repeatedly emailed his concerns to the channel's chief executive Suzanne Scott following the election, as some US states took days to count votes and Trump railed that the process was rigged, according to the filing.

The messages were part of a filing from voting technology group Dominion asking a Delaware judge to rule in its favour on a $1.6bn defamation claim brought against Fox in March 2021.

In recent months the company deposed Murdoch and several figures at the network about its election coverage, in which some Trump allies, including lawyers Rudy Giuliani and Sidney Powell, claimed that voting machines made by Dominion were rigged and that the company had worked for Hugo Chávez, the late Venezuelan leader.

On November 19 2020, during a press conference given by Giuliani and Powell in which they alleged there was "mass cheating" in the election, Murdoch wrote: "Terrible stuff damaging everybody, I fear," according to messages cited in the filing. Scott replied: "yes Sean [Hannity] and even [Jeanine] Pirro agrees," referring to two Fox primetime hosts. In a separate email, with the subject line "Watching Giuliani!", Murdoch wrote: "Really crazy stuff. And damaging."

> 'If Trump becomes a sore loser, we should watch Sean [Hannity] especially and others don't sound the same'

In the court filings, Dominion's lawyers depicted Fox News as scrambling to cover the election while revealing internal concerns that its right-leaning audience was waning after Trump lost.

Fox News said in a statement responding to the filing: "There will be a lot of noise and confusion generated by Dominion and their opportunistic private equity owners, but the core of this case remains about freedom of the press and freedom of speech, which are fundamental rights afforded by the Constitution and protected by New York Times vs Sullivan."

Fox added that it was unable to file a full response until February 27.

The motion filed by Dominion contained multiple instances of Murdoch expressing concern over Fox's coverage.

"If Trump becomes a sore loser, we should watch Sean [Hannity] especially and others don't sound the same," he wrote to Scott on November 6.

Another election machine maker, Smartmatic, has filed similar lawsuits.

Utilities

EDF warns of further outlay on UK reactor

SARAH WHITE — PARIS
NATHALIE THOMAS — EDINBURGH

French energy group EDF warned it could end up shouldering more of the bill for Hinkley Point C as its Chinese partner may fail to meet its share of extra payments to finance the plant.

EDF admitted yesterday that the cost of building the plant could rise above £32bn when factoring in recent inflation, more than 20 per cent higher than its estimate last year closer to £26bn.

The plant, in south-west England, is the first new nuclear power station to be built in Britain for almost 30 years. Its completion date has been repeatedly pushed back because of spiralling costs.

The increase, due to surges in material prices is nearly 80 per cent more than the cost of £18bn in 2016, when EDF started work on the project.

State-controlled EDF told investors yesterday that, when accounting for inflation, a more accurate cost for the project was now £32.7bn.

The French group and its state-owned Chinese partner CGN would be asked in the second half of 2023 to make "voluntary" additional equity payments under a compensation mechanism for cost overruns, as "the project's total financing needs exceed the contractual commitment of the shareholders", EDF said.

But it added the "probability that CGN will not fund the project after it has reached its committed equity cap is high".

That would leave EDF exposed to having to shoulder more of the costs, under the term of the contract.

As part of its original 2016 deal with CGN, the Chinese developer agreed to meet 33.5 per cent of the £18bn estimated for Hinkley Point C's construction costs at the time, with EDF paying the remainder.

EDF declined to comment further.

The warning on Hinkley Point C came as the state-controlled group reported a record €18bn loss after outages at its French reactors hurt its output.

The UK government last year paid China's CGN an estimated £100mn to end its involvement in another UK nuclear plant, Sizewell C, after relations with China soured.

EDF and the UK government are now teaming up on the project but hoping to get other outside investors on board.

The higher costs for Hinkley Point were based on inflation indices as of June 30 last year, EDF said, so the current value could be even higher if taking into account cost increases in the second half of last year.

EDF's new boss, Luc Rémont, vowed yesterday to continue boosting production this year after a record number of outages at its French reactors in 2022, as well as a government cap on retail electricity prices, hit the group's finances.

The outages sent EDF's output tumbling just as demand for electricity rose across Europe. The group, usually a major exporter, was forced to buy expensive electricity on volatile wholesale markets.

Equities. Participation

Retail investors return to bet record sums on US stocks

Old favourite: stocks in Bed Bath & Beyond were driven up by retail investors two years ago
Michael M. Santiago/Getty

The boom is deeper and more widespread than the meme stock phenomenon of 2021

JENNIFER HUGHES — LONDON

Retail investors are pouring record amounts into US stocks, potentially giving small traders even greater sway over markets than at the height of the "meme stock" mania two years ago.

Then, an army of bored amateur traders trapped at home during the pandemic drove up the share prices of several small, struggling consumer companies, such as video games retailer GameStop, cinema operator AMC Entertainment and home goods chain Bed Bath & Beyond.

Now, their bets are more widespread, suggesting fresh appetite following the losses many suffered last year.

The flows of retail cash have helped to drive a powerful market rebound at the start of 2023, despite a relative lack of enthusiasm among professional fund managers.

Smaller investors on average have put an unprecedented $1.51bn to work each day over the past month, according to data collated by consultancy Vanda Research, while data tracked by JPMorgan showed that in January retail accounted for up to a quarter of all stock trading — a record.

"With recent surveys showing the institutional investor community remaining broadly bearish on stocks, it would be unwise to underestimate the importance of the retail cohort," said analysts at Vanda Research.

"The bottom line is that investors should heed signals from the 'unsophisticated money' crowd." Vanda's data shows unprecedented interest from small traders in Tesla — a volatile stock long popular with individual investors — but also heavy buying of dividend-paying stalwarts such as AT&T and Coca-Cola.

Crucially, those purchases were mostly of the shares rather than associated options, which can be used as a cheaper means of betting on a stock's direction.

"The fact that it is not options tells us there has been a shift in their long-term investing. I think that's been the result of having lost money in the last year and a half," said senior strategist Marco Iachini.

This year, flows from the younger generation of traders associated with meme stock mania have been bolstered by interest from older investors, according to JPMorgan.

The latter tend to favour funds rather than individual stocks and had by February 8 put $125bn into exchange traded funds and bond funds after selling $340bn last year.

Retail investors have piled into US markets this year

Daily net inflow by individuals ($mn, 21-day moving average)

Source: Vanda Research

The bank's data shows that younger investors have been buying small stocks again but also snapping up the biggest tech stocks.

Tesla has gained 62 per cent this year, while the tech-heavy Nasdaq Composite is up 12 per cent. The small-cap Russell 2000 has also risen 10 per cent.

It is two years since senior US trading executives, regulators and analysts were summoned to Washington to explain why the meme stock-related surge in activity by small investors had rattled the wider US stock market.

That triggered calls for deep reforms. This week, the US Securities and Exchange Commission approved a timetable for halving trade settlement times to a single day to help reduce the risks that pushed some retail-brokers to limit buy orders at the height of the mania.

At the time, many analysts said Covid-19 had created the perfect conditions for a retail boom, with low borrowing costs and a wave of new apps that made it easy to trade.

But last year's rapid rise in borrowing costs does not appear to have damped the fervour.

Vanda's analysts pointed to the high levels of retail investment sitting in money market funds, which could yet be deployed if market conditions are sufficiently tempting.

Some of the recent activity is likely to be seasonal, with earnings updates providing a catalyst for buying, while the upcoming US tax season may see some investors withdrawing cash to pay their bills.

"New account activity always picks up at the beginning of the year — I assume people say as a new year's resolution: 'I'm going to pay more attention to my financial circumstances,'" said Thomas Peterffy, founder of Interactive Brokers, which focuses on more experienced investors. Its total number of client accounts has risen 23 per cent in a year.

"For me, retail investors are a bunch of sixtysomethings who have money and, every now and again, want to wade into the market," he added. "Twentysomethings don't have much money."

Others disagree, arguing there is also a long-term shift under way as more investors become familiar with apps such as Robinhood that make it even easier to trade.

'The fact that it is not options tells us there has been a shift in their long-term investing'

Some industry participants suggest the meme stock generation has mellowed, and is using apps that first took off during the pandemic boom for more traditional investing purposes.

People assume most young investors are part of the meme stock crowd, said Zoe Barry, founder of Zingeroo, a retail-trading app with echoes of fantasy sports-style league tables. "They don't realise there are a lot of young traders doing the research and trying to learn."

Financials

Chinese bank Renaissance calls for calm after founder's disappearance

HUDSON LOCKETT AND GLORIA LI
HONG KONG
RYAN MCMORROW — BEIJING

China Renaissance, one of the country's leading investment banks, was working to calm anxious staff yesterday following the disappearance of its founder, Bao Fan.

Shares in the Hong Kong-listed company fell 50 per cent when the market opened before paring losses to be down about 28 per cent, after the bank disclosed it was unable to contact Bao.

China Renaissance has been in turmoil since September, when group president Cong Lin was detained by Chinese authorities.

In a message sent to employees yesterday and seen by the Financial Times, Wang Lixing, head of investment banking, sought to ease concern.

"Good morning . . . I think everyone has had a restless night," Wang said, calling on staff "not to spread or believe rumours".

Wang did not mention Bao by name but said that management had been in touch with the "backbone of our investment banking division. In such a critical moment, everyone must believe in the group, believe in the executive committee, and not lose our heads." However, "the available information is limited".

'Everyone must believe in the group, believe in the executive committee, and not lose our heads'

China Renaissance did not respond to a request for comment.

The disappearance of Bao, who made his fortune in tech deals, comes despite Beijing appearing to ease a crackdown on the sector, which had throttled the investment bank's once-thriving business in listings and corporate finance.

The bank said in a filing to the Stock Exchange of Hong Kong on Thursday evening that the company "has been unable to contact Mr Bao Fan" but was not aware that his "unavailability is or might be related to the business and/or operations of the group".

People close to Bao believe his problems may be connected to his lieutenant Cong, who served as the bank's president from 2020.

China's securities regulator called in Cong for a "supervisory discussion" on September 6 in connection with securities violations.

Three days later Cong resigned as a director of the group's Hong Kong securities unit and his securities licences in the city connected to China Renaissance were cancelled, according to public records.

The group said little about Cong's apparent exit and he does not appear among its management on its website.

A long list of Chinese financial executives has disappeared as part of Xi Jinping's anti-corruption campaign, which he launched shortly after coming to power in 2012.

Additional reporting by William Langley in Hong Kong

Financials

Late Citi figure Verme is classed 'among the greatest client bankers' as lender pays tribute

ARASH MASSOUDI AND IVAN LEVINGSTON — LONDON

Alberto Verme, a top Citigroup investment banker whose clients ranged from Saudi prince Alwaleed bin Talal to Russian oligarch Roman Abramovich, died on Wednesday at the age of 65.

The Peruvian banker, who ascended to the top ranks of Citigroup over a near three decade-long career, developed a reputation as a rainmaker who could woo senior clients in any geography and as an inspirational leader inside the US bank.

Citi's chief executive Jane Fraser said in a note to employees that Verme, who was based in London, was "a true titan of our industry and a selfless mentor to many of us", adding: "Alberto was made for this business. There was no one better at developing client relationships."

Verme joined Salomon Brothers in 1994, and played a key role in its integration with Citi in a 1998 merger.

He started his career at the World Bank before stints at German industrial conglomerate Metallgesellschaft and First Boston. Best known for his work as a banker to energy and utility companies, he went on to lead global investment banking at Citi and also served as head of Europe, Middle East and Africa.

In 2008, he moved from London to Dubai, where he built close ties with Prince Alwaleed and his Kingdom Holding Company, according to people who knew Verme. There Verme also developed relationships with Abu Dhabi's Mubadala Investment Company sovereign wealth fund and the Abu Dhabi National Oil Company.

"Alberto was a gracious, highly respected leader, who uniquely embraced global opportunities," said banker Michael Klein, who is set to become the chief executive of CS First Boston and worked closely with Verme at Citigroup until leaving the bank in 2008.

Alberto Verme: rainmaker and 'selfless mentor' has died aged 65

Since 2011, Verme was global chair of the institutional clients group, a unit tasked with serving Citi's top institutional and private banking customers. Before Russia's invasion of Ukraine last year, he was close to Abramovich and also managed Citi's relationship with Russian energy firm Rosneft, according to the people.

Verme, say those close to him, was a popular banker, known for his support of the football teams Alianza Lima and Atlético de Madrid and ending his emails with the phrase "Onwards!"

"Alberto was among the greatest client bankers ever and in a world of large and complex personalities, he was a great guy," said Manuel Falcó, global co-head of banking, capital markets & advisory at Citi.

Verme had been battling cancer, said friends and colleagues. He is survived by his wife and three children.

Mining

Legal & General hits Glencore with fresh lawsuit in latest corruption fallout

KATE BEIOLEY AND HARRY DEMPSEY
LONDON

Glencore has been hit with a fresh lawsuit from a big asset manager over alleged investor losses, prompted by the conviction for bribery of the commodities group last year.

In the latest legal fallout from the corruption scandal, Legal & General filed a claim against the mining and commodities trading group in London's High Court last week.

The case concerns alleged losses to shareholders resulting from Glencore's statements to the market, according to people familiar with the matter, in light of misconduct revealed as part of corruption probes.

The claim has been formally launched but the company has not yet filed legal documents setting out its allegations.

Glencore last year admitted multiple counts of bribery and market manipulation that took place for just over a decade until 2018 across Africa and Latin America. The case followed probes by the US, UK and Brazilian authorities.

The fresh claim ratchets up pressure on the group, which has already been sued by more than a dozen global investors, including sovereign wealth funds Mubadala and the International Petroleum Investment Company, both based in Abu Dhabi, the Kuwait Investment Authority, and Norway's Norges Bank.

L&G, which controls £1.3tn in assets under management, is bringing the new case on behalf of pension, investment and insurance customers. It concerns disclosures that the company made to the market in 2011 and 2013, according to people familiar with the matter.

The new case is being brought on behalf of pension, investment and insurance customers

Those were the years in which Glencore, respectively, floated on the stock market in London and completed the takeover of Xstrata that diversified the trading house into mining and producing the commodities that it sells.

The fresh claim is expected to cover similar ground to that lodged last year, including by Abrdn and HSBC, as well as Phoenix Life, Standard Life, Reassure and British Airways Pension Trustees.

City law firms including Stewarts, Quinn Emanuel Urquhart & Sullivan and Bryan Cave Leighton Paisner have all been drafted in for claims, and BCLP partner Ravi Nayer is understood to have been hired by L&G.

Glencore and L&G declined to comment. At the time of the conviction, Glencore said it had strengthened compliance procedures in recent years and that it was "not the company it was".

Glencore was ordered to pay £276mn by a UK judge last year after pleading guilty to seven counts of bribery in countries such as Nigeria and Cameroon between 2011 and 2016, following a Serious Fraud Office probe.

In total, Glencore set aside $1.5bn to pay fines for bribery convictions last year in the US, UK and Brazil. Similar investigations remain under way in Switzerland and the Netherlands. The US Department of Justice has said it may still pursue individuals for their role in the bribery cases.

Glencore reported record full-year earnings of $34bn on Wednesday.

On Wall Street

Canada breaks ranks on inflation-linked bonds

Jennifer Hughes

Bond market upsets aren't a typical feature of Canadian finances but one revolt appears to have begun there recently. Buried in a 96-page economic update late last year, Canada's finance ministry, led by Chrystia Freeland, killed off its inflation-protected bond issuance programme — even as the country battles its worst price pressures for 40 years.

Fast-rising prices and their impact have been the dominant theme across world markets in the past year, putting a spotlight on bonds that promise protection against inflation's value-eroding effects. They pay out fixed interest like regular government bonds but regularly adjust the principal — the lump sum repaid at the end — in line with inflation rates.

Ottawa's decision is thus a real rebellion in the slow-moving world of bond fashions, where government debt managers usually prize gradual, well-signalled moves that don't upset bond buyers. They also tend to watch their peers closely: when one succeeds in opening a market for, say, ultra-long 50-year bonds or finds demand for "green" debt to fund environmentally friendly projects, others follow.

Canada, an early adopter of "real return" bonds in 1991, has dropped its programme with immediate effect, and is now an exception among G7 nations. Even Japan, still mostly concerned about deflation, sells some protection.

Ottawa cited low demand as a factor in its decision and pointed to the results of industry consultations in previous years. Still, the move has prompted howls from pension funds and others that use the products to help meet liabilities stretching out over decades.

"Wrong signal, bad timing," said the Canadian Bond Investors' Association, representing fund managers holding $900bn in assets. It called for a rethink. "Now, more than ever, investors have greater interest in inflation protection products."

Bond investors are powerful performers given their financial heft and role in financing governments. A committee advising the Bank of Canada also voiced disquiet, with some members fretting that the move might create a perception that the government feared it could not fully contain inflation.

> 'Now, more than ever, investors have greater interest in inflation protection products'

Beyond the decision by Freeland's ministry and investor misgivings, there's an uncomfortable truth about how inflation-linked bonds work. Take performance. The US offers the largest inflation-linked market with its Treasury inflation-protected securities. Investors tracking Bloomberg's total return Tips index lost almost 12 per cent last year, while one for regular US bonds on the same basis lost 12.5 per cent.

In other words, Tips' short-term performance fell victim, and almost as badly, to the same factors as their regular cousins — namely, the Federal Reserve's unusually sharp series of interest rate rises. The Fed pushed bond prices down faster than could be countered by pricing in rocketing inflation.

"Inflation-linked bonds generally performed last year exactly how they should have done given the environment," said Michael Pond, global head of inflation market research at Barclays. "There's been a lot said in the last year about using them as protection against inflation but they only guarantee you that real return if you hold them to maturity. They're not protection over short-term horizons."

That buy-and-hold rationale suits those with distant horizons, such as pension funds and insurers, but the resulting lack of liquidity can push up the costs for smaller issuers by widening the gap between the prices buyers and sellers will pay.

"Debt management offices are charged with issuing bonds that minimise expense. Inflation-linked bonds probably aren't the most efficient for smaller borrowers like Canada on that basis," said Darrell Duffie, Stanford professor and bond markets specialist.

About 2 per cent of Ottawa's borrowing was in real return bonds before it dropped the programme, while Tips account for about 8 per cent of Washington's issuance. For example, the US Treasury on Thursday sold $9bn in 30-year Tips, garnering more in one deal than Canada did from its combined sales of real return bonds for the past five years.

Despite Ottawa's revolt against bond market orthodoxy, others are holding the inflation-protected line. Investors took up a record 90.1 per cent of this week's US deal, leaving dealers — banks that trade in the bonds — with far fewer bonds than average.

Still, buying inflation protection seems likely to remain somewhat of a niche market and demand is unlikely to spike suddenly. That may leave Ottawa comfortable in its decision. But, with its peers facing far larger debut burdens, the rebellion is unlikely to spread.

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The day in the markets

What you need to know

- **US stocks fall on concerns Fed will keep rates higher for longer**
- **Yields on 10-year US Treasuries touch their highest point since November**
- **Europe's benchmark Stoxx 600 climbs from lows to close down 0.2%**

US stocks slid yesterday as the recent run of robust economic data and hawkish comments from central bank officials fanned concerns that the Federal Reserve will keep interest rates high for a prolonged period to combat inflation.

The blue-chip S&P 500 was down 0.9 per cent in morning trade in New York, while the tech-heavy Nasdaq Composite shed 1.5 per cent.

Those declines added to the S&P's worst day in a month on Thursday, underscoring a week in which investors have been readjusting their expectations on US interest rates after economic data that offered further evidence of the strength of the American economy.

Fund managers and economists have been watching for signs of persistent inflation, with recent data pushing up the level at which the market expects interest rates to peak and reducing the number of Fed rate cuts that are being priced in for later this year. This week, stronger than expected retail sales and producer price inflation data have prompted investors to consider that rates will remain elevated.

Yields on 10-year US Treasuries have touched their highest point since November as bond prices fell. Yesterday, the yield fell 0.07 percentage points to 3.83 per cent. Yields on the two-year bond, which is highly sensitive to the expected path of interest rates, edged up 0.01 percentage points to 4.63 per cent.

Meanwhile, more US central bank officials have come out in favour of staying the course on high interest rates, with Federal Reserve Bank of Cleveland president Loretta Mester saying on Thursday she had seen a "compelling case" for a 0.5 percentage point rise at the next meeting.

The dollar index, which measures the greenback against six peer currencies, was up 0.2 per cent, while the euro was up 0.2 per cent against the dollar.

In Europe, the benchmark Stoxx 600 closed down 0.2 per cent, off its lows from earlier in the session, while Germany's Dax was 0.3 per cent lower. France's CAC 40 finished 0.3 per cent lower, after reaching a record high on Thursday.

Yields on 10-year German Bunds gave up gains to ease 0.05 percentage points to 2.44 per cent as investors debated whether the European Central Bank would follow the Fed in raising rates.

Brent crude prices slipped 2.6 per cent to $82.93 per barrel, while the US WTI crude index fell 2.9 per cent to $76.19.

Hong Kong's Hang Seng index was down 1.3 per cent, while the Chinese CSI 300 fell 1.4 per cent. **Martha Muir**

Markets update

	US	Eurozone	Japan	UK	China	Brazil
Stocks	**S&P 500**	**Eurofirst 300**	**Nikkei 225**	**FTSE100**	**Shanghai Comp**	**Bovespa**
Level	4054.67	1833.43	27513.13	8004.36	3224.02	109669.02
% change on day	-0.87	-0.17	-0.66	-0.10	-0.77	-0.25
Currency	**$ index (DXY)**	**$ per €**	**Yen per $**	**$ per £**	**Rmb per $**	**Real per $**
Level	104.482	1.066	134.335	1.200	6.882	5.190
% change on day	0.603	-0.094	0.097	-0.083	0.438	-0.912
Govt. bonds	**10-year Treasury**	**10-year Bund**	**10-year JGB**	**10-year Gilt**	**10-year bond**	**10-year bond**
Yield	3.846	2.441	0.498	3.510	2.889	12.832
Basis point change on day	1.660	-3.500	-0.380	1.500	0.200	-16.400
World index, Commods	**FTSE All-World**	**Oil - Brent**	**Oil - WTI**	**Gold**	**Silver**	**Metals (LMEX)**
Level	424.32	82.69	76.20	1828.95	21.57	4092.40
% change on day	-0.77	-2.88	-3.23	-0.12	0.44	1.20

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

Main equity markets

Biggest movers

%	US		Eurozone		UK	
Ups	Deere &	6.33	Casino Guichard	4.85	Segro	3.59
	Bio-rad Laboratories class A	4.13	Saint Gobain	2.81	Imperial Brands	2.96
	Amgen	2.49	Grifols	2.59	Flutter Entertainment	2.61
	Lumen	2.08	Telecom Italia	2.52	Coca-cola Hbc Ag	2.08
	Southern (the)	2.06	Kerry Grp	2.17	National Grid	2.05
Downs	Albemarle	-10.41	Tenaris	-4.79	Natwest	-6.87
	Zebra	-6.07	Renault	-3.36	Lloyds Banking	-3.83
	Eog Resources	-5.36	Ferrovial	-2.93	Scottish Mortgage Investment Trust	-3.10
	Hess	-5.03	Eni	-2.81	Rightmove	-2.14
	Moderna	-5.00	Ses	-2.78	Shell	-1.80

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

All data provided by Morningstar unless otherwise noted.

Wall Street

At the top of the S&P 500 index was tractor manufacturer **Deere & Company**, which raised its profit outlook after quarterly earnings of $6.55 per share surpassed Wall Street estimates by almost 18 per cent.

John May, chief executive, said demand for its equipment remained "healthy", prompting Deere to lift its guidance for net income to between $8.75bn and $9.25bn for 2023, up from $8bn to $8.5bn stated in November.

Another bullish forecast propelled **DraftKings** higher, with the sports betting group raising the midpoint of its 2023 revenue outlook $50mn to $2.95bn.

Fourth-quarter results were also better than expected. DraftKings said it was on its way to positive adjusted core profits in 2024 as it posted a net loss of $242mn — narrower than a forecast $278mn loss.

AutoNation leapt off the back of record earnings and revenue in the fourth quarter, helping the car dealership generate cash flow from operations of $1.7bn in 2022, another all-time high.

Electric utility **Otter Tail** rose sharply in anticipation of joining the S&P SmallCap 600 index next week.

Energy groups tracked a slide in crude, with **Marathon**, **Hess**, **Diamondback**, **Occidental Petroleum** and **Devon** all down. *Ray Douglas*

Europe

Franco-Dutch airline **Air France-KLM** rallied after saying that 2023 bookings would be within 95 to 100 per cent of 2019's pre-pandemic levels. The carrier ended 2022 with record fourth-quarter revenue of €7.1bn and forecast-beating operating income of €134mn.

French video game producer **Ubisoft** rose on signs of some "solid trends for its leading brands", said Citi, which pointed to the "relatively robust performance" of Tom Clancy's *Rainbow Six Siege*, a game that achieved a record month for daily average revenue per user in December.

French vaccine maker **Valneva** fell on news that about half the participants had been removed from a late-stage trial in the US testing the efficacy and safety of Lyme disease vaccine candidate VLA15.

US drugmaker Pfizer, the study's sponsor, said participants were being "discontinued following violations of good clinical practice at certain clinical trial sites run by a third party".

The move was not linked to any safety concerns or "participant-reported adverse event", said Valneva, adding that trials continued at other sites not operated by the third party.

French satellite operator **Eutelsat** touched an all-time low after posting an almost 4 per cent year-on-year slide in interim core profits. *Ray Douglas*

London

Lender **NatWest** sank to the bottom of the FTSE 100 index despite announcing an £800mn share buyback and tripling its pre-tax operating profit to £1.4bn in the fourth quarter.

What spooked investors was a "weaker than anticipated" outlook, said Citi. For this year, NatWest's net interest margin — the difference between the interest it receives on loans and the rate it pays for deposits — would be 3.2 per cent, missing the broker's 3.38 per cent estimate.

At the opposite end of the blue-chip benchmark was warehousing group **Segro**, which rose after reporting like-for-like growth of 6.7 per cent in net rental income in 2022 and an 8.2 per cent boost to its full-year dividend.

The scaling back of output targets sent **EnQuest** sharply lower, with the oil and gas group forecasting lower average net production this year against 2022 levels.

Hybrid estate agent **Purplebricks** fell to a record low after putting itself up for sale. Its board said Purplebricks' potential "may be better realised under an alternative ownership structure", prompting a strategic review that "may or may not result in a sale".

The group was now trading below 10p per share, having risen above £5 in 2017. *Ray Douglas*

MARKET DATA

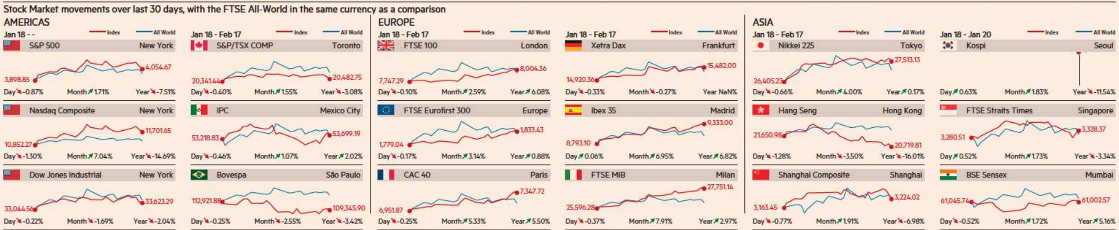
WORLD MARKETS AT A GLANCE

FT.COM/MARKETSDATA

Change during previous day's trading (%)

S&P 500	Nasdaq Composite	Dow Jones Ind	FTSE 100	FTSE Eurofirst 300	Nikkei	Hang Seng	FTSE All World $	$ per €	$ per £	¥ per $	£ per €	Oil Brent $ Sep	Gold $
-0.87%	-1.30%	-0.22%	-0.10%	-0.17%	-0.66%	-1.28%	-0.77%	-0.094%	-0.083%	0.097%	No change	-3.17%	-0.12%

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



Country	Index	Latest	Previous
Argentina	Merval	246911.47	257886.49
Australia	All Ordinaries	7552.20	7620.70
	S&P/ASX 200	7346.80	7410.30
	S&P/ASX 200 Res	6187.30	6245.90
Austria	ATX	3495.97	3500.85
Belgium	BEL 20	3919.02	3915.89
	BEL Mid	10113.63	10081.59
Brazil	IBovespa	109669.02	109941.46
Canada	S&P/TSX 60	1236.46	1241.61
	S&P/TSX Comp	20523.09	20606.42
	S&P/TSX Div Met & Min	1709.66	1713.00
Chile	S&P/CLX IGPA Gen	28119.12	28868.93
China	FTSE A200	10640.75	10786.34
	FTSE B35	9000.71	8988.96
	Shanghai A	3379.40	3405.65
	Shanghai B	294.53	294.67
	Shanghai Comp	3224.02	3249.03
	Shenzhen A	2223.20	2249.43
	Shenzhen B	1230.79	1233.59
Colombia	COLCAP	1261.61	1260.21
Croatia	CROBEX	2013.05	2011.29
Cyprus	CSE M&P Gen	68.46	68.68
Czech Republic	PX	1399.25	1400.55
Denmark	OMXC Copenhagen 20	1926.64	1912.67
Egypt	EGX 30	17488.87	17522.56
Estonia	OMX Tallinn	1882.21	1882.30
Finland	OMX Helsinki General	11252.80	11305.40
France	CAC 40	7347.72	7366.16
	SBF 120	5623.28	5637.12
Germany	M-DAX	28857.81	29027.85
	TecDAX	3268.12	3284.29
	XETRA Dax	15482.00	15533.64
Greece	Athens Gen	1102.00	1091.62
	FTSE/ASE 20	2674.22	2640.49
Hong Kong	Hang Seng	20719.81	20987.67
	HS China Enterprise	6991.27	7089.95
	HSCC Red Chip	3951.71	3968.58
Hungary	Bux	45626.92	46039.34
India	BSE Sensex	61002.57	61319.51
	Nifty 500	15003.95	15083.75
Indonesia	Jakarta Comp	6895.71	6895.66
Ireland	ISEQ Overall	8221.10	8154.19
Israel	Tel Aviv 125	1822.67	1839.44
Italy	FTSE Italia All-Share	30008.95	30098.91
	FTSE Italia Mid Cap	44621.92	44781.10
	FTSE MIB	27751.14	27853.74
Japan	2nd Section	7228.27	7239.06
	Nikkei 225	27513.13	27696.44
	S&P Topix 150	1712.57	1720.97
	Topix	1991.93	2001.09
Jordan	Amman SE	2670.70	2697.08
Kenya	NSE 20	1680.50	1676.47
Kuwait	KSX Market Index	6633.44	6603.51
Latvia	OMX Riga	1194.93	1196.64
Lithuania	OMX Vilnius	996.96	993.59
Luxembourg	LuxX	1605.84	1619.75
Malaysia	FTSE Bursa KLCI	1476.90	1484.26
Mexico	IPC	53767.53	54015.82
Morocco	MASI	10573.37	10555.07
Netherlands	AEX	765.04	771.69
	AEX All Share	1049.87	1059.43
New Zealand	NZX 50	12144.66	12157.75
Nigeria	SE All Share	54520.20	54507.66
Norway	Oslo All Share	1017.37	1006.88
Pakistan	KSE 100	41118.61	41076.65
Philippines	Manila Comp	6779.02	6815.91
Poland	Wig	60484.47	60608.71
Portugal	PSI 20	6022.54	6001.45
	PSI General	4459.67	4451.15
Romania	BET Index	12317.06	12364.21
Russia	Micex Index	2436.57	2445.30
	RTX	1245.71	1212.57
Saudi-Arabia	TADAWUL All Share Index	10548.45	10573.05
Singapore	FTSE Straits Times	3328.37	3311.23
Slovakia	SAX	331.30	329.51
Slovenia	SBI TOP	-	-
South Africa	FTSE/JSE All Share	79271.78	80227.19
	FTSE/JSE Res 20	71045.94	72070.06
	FTSE/JSE Top 40	73231.61	74196.28
South Korea	Kospi	2395.26	2380.34
	Kospi 200	315.58	313.81
Spain	IBEX 35	9333.00	9327.30
Sri Lanka	CSE All Share	8648.36	8643.05
Sweden	OMX Stockholm 30	2249.38	2256.54
	OMX Stockholm AS	863.51	868.22
Switzerland	SMI Index	11256.29	11194.91
Taiwan	Weighted Pr	15479.70	15550.50
Thailand	Bangkok SET	1651.67	1658.29
Turkey	BIST 100	5026.83	5026.83
UAE	Abu Dhabi General Index	9222.93	9251.11
UK	FT 30	2763.80	2765.10
	FTSE 100	8004.36	8012.53
	FTSE 4Good UK	7244.28	7252.03
	FTSE All Share	4370.32	4377.36
	FTSE techMARK 100	6858.88	6838.56
USA	DJ Composite	11388.56	11415.97
	DJ Industrial	33623.29	33696.85
	DJ Transport	15085.48	15209.47
	DJ Utilities	951.25	943.21
	Nasdaq 100	12268.94	12442.48
	Nasdaq Cmp	11701.65	11855.83
	NYSE Comp	15772.85	15873.78
	S&P 500	4054.67	4090.41
	Wilshire 5000	40574.99	40938.76
Venezuela	IBC	27872.43	27823.74
Vietnam	VNI	1059.31	1058.29
Cross-Border	DJ Global Titans ($)	435.61	440.35
	Euro Stoxx 50 (Eur)	4273.61	4297.24
	Euronext 100 ID	1366.91	1375.10
	FTSE 4Good Global ($)	9945.42	10032.05
	FTSE All World ($)	424.32	427.61
	FTSE E300	1833.43	1836.50
	FTSE Eurotop 100	3606.90	3614.93
	FTSE Global 100 ($)	2599.20	2624.09
	FTSE Gold Min ($)	1734.56	1746.68
	FTSE Latibex Top (Eur)	4440.00	4432.20
	FTSE Multinationals ($)	2813.10	2840.79
	FTSE World ($)	770.16	775.98
	FTSEurofirst 100 (Eur)	4935.67	4949.57
	FTSEurofirst 80 (Eur)	5847.97	5872.97
	MSCI ACWI Fr ($)	648.08	652.76
	MSCI All World ($)	2790.63	2815.45
	MSCI Europe (Eur)	1890.41	1886.90
	MSCI Pacific ($)	2745.24	2726.53
	S&P Euro (Eur)	1923.73	1931.07
	S&P Europe 350 (Eur)	1881.46	1884.86
	S&P Global 1200 ($)	3064.59	3087.52
	Stoxx 50 (Eur)	3936.93	3943.07

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

STOCK MARKET: BIGGEST MOVERS

AMERICA

ACTIVE STOCKS	stock traded m's	close price	Day's change
Tesla	210.1	200.45	-1.59
Nvidia	50.7	211.74	-8.29
Apple	40.1	151.56	-2.14
Microsoft	34.9	257.17	-4.99
Amazon.com	24.7	95.95	-2.20
Advanced Micro Devices	19.5	78.10	-1.98
Meta Platforms	16.5	170.97	-1.47
Alphabet	15.0	93.77	-1.74
Alphabet	[illegible]	[illegible]	[illegible]
Deere &	9.6	428.47	25.51

BIGGEST MOVERS	Close price	Day's change	Day's chng%
Ups			
Deere &	428.47	25.51	6.33
Bio-rad Laboratories class A	474.74	18.83	4.13
Amgen	240.06	5.84	2.49
Lumen	3.92	0.08	2.08
Southern (the)	66.52	1.34	2.06
Downs			
Albemarle	255.88	-29.74	-10.41
Zebra	313.21	-20.23	-6.07
Eog Resources	118.44	-6.71	-5.36
Hess	136.53	-7.24	-5.03
Moderna	163.70	-8.61	-5.00

Based on the constituents of the S&P500 and the Nasdaq 100 index

LONDON

ACTIVE STOCKS	stock traded m's	close price	Day's change
Hsbc Holdings	283.6	621.10	2.70
Flutter Entertainment	263.5	13745.00	350.00
Bp	200.8	559.90	-7.70
Natwest	197.2	284.60	-21.00
Glencore	193.6	509.70	2.30
Astrazeneca	191.8	11486.00	124.00
Shell	189.0	2541.00	-46.50
Lloyds Banking	165.5	50.91	-2.03
[illegible]	[illegible]	[illegible]	[illegible]
Gsk	129.9	1484.20	29.20

BIGGEST MOVERS	Close price	Day's change	Day's chng%
Ups			
Tbc Bank	2590.00	115.00	4.65
4imprint	4580.00	180.00	4.09
Segro	866.20	30.00	3.59
Bank Of Georgia	2885.00	95.00	3.41
Imperial Brands	2037.00	58.50	2.96
Downs			
Natwest	284.60	-21.00	-6.87
Hipgnosis Songs Fund	87.10	-3.90	-4.29
Carnival	848.20	-37.20	-4.20
Harbour Energy	294.90	-12.40	-4.04
Lloyds Banking	50.91	-2.03	-3.83

Based on the constituents of the FTSE 350 index

EURO MARKETS

ACTIVE STOCKS	stock traded m's	close price	Day's change
Roche Gs	518.4	282.23	[illegible]
Allianz Se Na O.n.	452.0	216.50	[illegible]
Nestle N	416.8	110.47	[illegible]
Asml Holding	399.2	611.80	[illegible]
Novartis N	398.2	81.16	[illegible]
Intesa Sanpaolo	345.8	2.56	[illegible]
Unicredit	327.7	19.56	[illegible]
Lvmh	253.5	818.20	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
Totalenergies	223.2	58.76	-1.18

BIGGEST MOVERS	Close price	Day's change	Day's chng%
Ups			
Sika N	279.91	13.04	4.89
Safran	136.62	2.52	1.88
Novo Nordisk B A/s	132.43	2.22	1.70
Fresenius Se+co.kgaa O.n.	29.00	0.46	1.61
Heineken	95.78	1.50	1.59
Downs			
Eni	14.30	-0.41	-2.81
Infineon Tech.ag Na O.n.	35.28	-1.02	-2.81
Cs N	2.76	-0.07	-2.47
Prosus	73.07	-1.73	-2.31
Alcon N	68.40	-1.56	-2.25

Based on the constituents of the FTSEurofirst 300 Eurozone index

TOKYO

ACTIVE STOCKS	stock traded m's	close price	Day's change
[illegible]	[illegible]	[illegible]	[illegible]
Sony	356.0	11480.00	-280.00

BIGGEST MOVERS	Close price	Day's change	Day's chng%
Ups			
Kobe Steel,	877.00	40.00	4.78
Bridgestone	5148.00	212.00	4.29
Mitsubishi Chemical Holdings	805.80	28.90	3.72
Jfe Holdings,.	1705.00	57.00	3.46
Yokohama Rubber Co Ltd	2215.00	69.00	3.22
Downs			
Rakuten .	679.00	-37.00	-5.17
Recruit Hldgs Co Ltd	3841.00	-156.00	-3.95
Tse Growth Market Core Index	935.75	-31.23	-3.23
Keyence	58870.00	-1730.00	-2.85
M3,.	3348.00	-95.00	-2.76

Based on the constituents of the Nikkei 225 index

UK MARKET WINNERS AND LOSERS

FTSE 100	Feb 17 price(p)	%Chg week	%Chg ytd	FTSE 250	Feb 17 price(p)	%Chg week	%Chg ytd	FTSE SmallCap	Feb 17 price(p)	%Chg week	%Chg ytd	Industry Sectors	Feb 17 price(p)	%Chg week	%Chg ytd
Winners				**Winners**				**Winners**				**Winners**			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Abrdn	216.00	4.6	12.7	Wizz Air Holdings	2780.00	5.0	46.9	Lowland Investment	129.50	4.4	8.1	Gas Water & Multiutilities Index	6048.76	2.4	6.6
Bt	142.00	4.4	27.4	Warehouse Reit	110.60	4.7	5.7	Record	96.00	4.3	3.5	Food & Drug Retailers	4230.63	2.2	2.6
Losers				**Losers**				**Losers**				**Losers**			
Hargreaves Lansdown	853.60	-7.0	-0.5	Indivior	1685.00	-14.1	-9.0	Up Global Sourcing Holdings	138.50	-18.9	-	Household Goods	11512.09	-2.0	16.3
Barclays	173.50	-6.6	9.9	Ncc	168.60	-11.0	-15.7	Pphe Hotel	1055.00	-15.6	-	Mining	10712.60	-1.6	-4.1
Natwest	284.60	-6.5	7.5	Harbour Energy	294.90	-9.0	-1.3	Enquest	19.00	-13.4	-	Health Care Equip.& Services	10991.25	-0.9	0.6
Lloyds Banking	50.91	-4.5	12.1	C&c	148.80	-8.6	-14.8	Treatt	557.00	-11.6	-10.9	Real Estate & Investment Servic	2349.14	-0.8	10.9
Endeavour Mining	1789.00	-3.7	2.1	Tullow Oil	33.44	-6.9	-8.2	Greencore	77.05	-10.3	20.0	Banks	3824.65	-0.7	16.2
Persimmon	1436.00	-3.7	18.3	Firstgroup	105.00	-6.6	4.9	Dwf	69.50	-9.4	-	Equity Investment Instruments	11610.74	-0.3	3.1
Berkeley Holdings (the)	4189.00	-2.4	11.2	Bakkavor	109.00	-6.5	13.8	The Gym	125.60	-8.5	15.2	Oil & Gas Producers	9072.47	-0.1	11.7
Barratt Developments	463.30	-1.9	17.0	Moonpig	118.90	-6.4	7.8	Chrysalis Investments	65.60	-8.4	-	General Financial	12406.80	0.2	7.7
Taylor Wimpey	120.20	-1.3	18.2	Digital 9 Infrastructure	82.00	-5.2	-5.1	Restaurant	34.00	-7.9	8.8	Industrial Metals	7758.05	0.4	-1.1
Johnson Matthey	2220.00	-1.2	4.4	Pz Cussons	188.20	-4.5	-	Hostelworld	139.20	-7.3	20.6	Software & Computer Services	1884.66	0.4	6.4
Auto Trader	600.20	-1.2	16.0	Integrafin Holdings	295.00	-4.3	-2.4	Alfa Fin Software Holdings	158.00	-6.5	-4.8	Pharmaceuticals & Biotech.	21581.16	0.6	2.5
Ocado	629.00	-1.0	1.9	Crest Nicholson Holdings	237.00	-4.1	0.2	De La Rue	61.30	-6.4	-21.9	Real Estate Investment Trusts	2461.15	0.7	10.1

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

CURRENCIES

Feb 17	Currency	DOLLAR Closing Mid	DOLLAR Day's Change	EURO Closing Mid	EURO Day's Change	POUND Closing Mid	POUND Day's Change
Argentina	Argentine Peso	193.2055	0.4170	206.0243	0.2604	231.8169	0.2503
Australia	Australian Dollar	1.4591	0.0049	1.5558	0.0038	1.7507	0.0040
Bahrain	Bahrainin Dinar	0.3769	-	0.4019	-0.0004	0.4522	-0.0005
Bolivia	Bolivian Boliviano	6.9100	-	7.3685	-0.0066	8.2909	-0.0090
Brazil	Brazilian Real	5.1900	-0.0477	5.5343	-0.0559	6.2271	-0.0641
Canada	Canadian Dollar	1.3493	0.0041	1.4388	0.0030	1.6189	0.0031
Chile	Chilean Peso	790.9500	-0.3500	843.4261	-1.1297	949.0185	-1.4464
China	Chinese Yuan	6.8819	0.0300	7.3386	0.0254	8.2573	0.0271
Colombia	Colombian Peso	4889.6600	-78.0200	5214.0824	-87.9449	5866.8436	-100.0531
Costa Rica	Costa Rican Colon	561.4450	-2.8550	598.6959	-3.5839	673.6476	-4.1575
Czech Republic	Czech Koruna	22.2343	0.0404	23.7095	0.0219	26.6777	0.0197
Denmark	Danish Krone	6.9824	0.0029	7.4457	-0.0035	8.3778	-0.0055
Egypt	Egyptian Pound	30.5555	0.0177	32.5828	-0.0103	36.6619	-0.0184
Hong Kong	Hong Kong Dollar	7.8446	-0.0047	8.3651	-0.0125	9.4123	-0.0156
Hungary	Hungarian Forint	360.7869	1.0426	384.7244	0.7679	432.8886	0.7843
India	Indian Rupee	82.8325	0.1112	88.3283	0.0395	99.3863	0.0262
Indonesia	Indonesian Rupiah	15202.5000	46.0000	16211.1601	34.5634	18240.6856	35.5320
Israel	Israeli Shekel	3.5519	-0.0022	3.7875	-0.0057	4.2617	-0.0072
Japan	Japanese Yen	134.3350	0.1300	143.2479	0.0103	161.1814	-0.0181
..One Month		134.3345	0.1290	143.2476	0.0097	161.1808	-0.0192
..Three Month		134.3333	0.1266	143.2468	0.0082	161.1796	-0.0216
..One Year		134.3278	0.1156	143.2429	0.0003	161.1808	-0.0258
Kenya	Kenyan Shilling	125.6000	-0.0500	133.9333	-0.1734	150.7007	-0.2230
Kuwait	Kuwaiti Dinar	0.3066	0.0001	0.3269	-0.0002	0.3678	-0.0003
Malaysia	Malaysian Ringgit	4.4320	0.0280	4.7261	0.0256	5.3177	0.0279
Mexico	Mexican Peso	18.4825	-0.0760	19.7088	-0.0988	22.1762	-0.1153
New Zealand	New Zealand Dollar	1.6060	0.0072	1.7126	0.0061	1.9270	0.0066
Nigeria	Nigerian Naira	460.7500	0.2500	491.3199	-0.1736	552.8292	-0.2973
Norway	Norwegian Krone	10.3182	0.0633	11.0027	0.0577	12.3802	0.0626
Pakistan	Pakistani Rupee	263.0000	-3.1500	280.4496	-3.6134	315.5596	-4.1247
Peru	Peruvian Nuevo Sol	3.8381	-0.0296	4.0927	-0.0353	4.6051	-0.0406
Philippines	Philippine Peso	55.2500	0.1400	58.9157	0.0966	66.2915	0.0965
Poland	Polish Zloty	4.4722	-0.0033	4.7690	-0.0078	5.3660	-0.0098
Romania	Romanian Leu	4.6049	0.0142	4.9105	0.0108	5.5252	0.0111
Russia	Russian Ruble	74.4250	-0.6750	79.3630	-0.7916	89.2986	-0.9073
Saudi Arabia	Saudi Riyal	3.7505	-0.0003	3.9993	-0.0039	4.5000	-0.0052
Singapore	Singapore Dollar	1.3374	0.0006	1.4261	-0.0006	1.6047	-0.0010
South Africa	South African Rand	18.0488	-0.1100	19.2463	-0.1347	21.6557	-0.1555
South Korea	South Korean Won	1299.6500	14.8000	1385.8796	14.5538	1559.3805	16.0911
Sweden	Swedish Krona	10.4860	0.0405	11.1817	0.0332	12.5816	0.0350
Switzerland	Swiss Franc	0.9277	0.0017	0.9893	0.0009	1.1131	0.0008
Taiwan	New Taiwan Dollar	30.4135	0.1485	32.4314	0.1294	36.4915	0.1369
Thailand	Thai Baht	34.5875	0.2575	36.8823	0.2418	41.4997	0.2644
Tunisia	Tunisian Dinar	3.1236	0.0130	3.3308	0.0109	3.7478	0.0116
Turkey	Turkish Lira	18.8603	0.0198	20.1116	0.0030	22.6294	-0.0007
United Arab Emirates	UAE Dirham	3.6729	-0.0001	3.9166	-0.0037	4.4069	-0.0049
United Kingdom	Pound Sterling	0.8334	0.0009	0.8887	0.0002	-	-
..One Month		0.8335	0.0009	0.8886	0.0002	-	-
..Three Month		0.8337	0.0009	0.8884	0.0002	-	-
..One Year		0.8346	0.0009	0.8878	0.0002	-	-
United States	United States Dollar	-	-	1.0663	-0.0010	1.1998	-0.0013
..One Month		-	-	1.0662	-0.1348	1.1999	-0.0013
..Three Month		-	-	1.0658	-0.1348	1.2001	-0.0013
..One Year		-	-	1.0642	-0.1348	1.2010	-0.0013
Vietnam	Vietnamese Dong	23820.0000	190.0000	25400.4379	180.0114	28580.4110	197.3647
European Union	Euro	0.9378	0.0008	-	-	1.1252	-0.0002
..One Month		0.9376	0.0008	-	-	1.1251	-0.0002
..Three Month		0.9372	0.0008	-	-	1.1249	-0.0002
..One Year		0.9357	0.0008	-	-	1.1243	-0.0002

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

FTSE ACTUARIES SHARE INDICES

UK SERIES www.ft.com/equities

Produced in conjunction with the Institute and Faculty of Actuaries

	£ Strlg Feb 17	Day's chge%	Euro Index	£ Strlg Feb 16	£ Strlg Feb 15	Year ago	Div yield%	Cover	P/E ratio	X/D adj	Total Return
FTSE 100 (100)	8004.36	-0.10	7020.66	8012.53	7997.83	7537.37	3.45	1.85	15.69	16.37	8242.36
FTSE 250 (250)	20088.93	-0.46	17620.11	20181.45	20172.59	21557.59	3.07	0.70	46.81	52.72	16777.82
FTSE 250 ex Inv Co (170)	20839.85	-0.28	18278.75	20898.20	20879.57	22308.76	3.15	1.62	19.61	48.29	17754.01
FTSE 350 (350)	4413.91	-0.15	3871.46	4420.64	4413.40	4240.22	3.40	1.70	17.30	9.39	9020.52
FTSE 350 ex Investment Trusts (267)	4359.64	-0.10	3823.87	4364.05	4356.04	4157.49	3.44	1.91	15.18	9.06	4604.38
FTSE 350 Higher Yield (133)	3839.72	-0.28	3367.84	3850.35	3840.94	3532.26	4.72	1.95	10.88	12.44	8868.19
FTSE 350 Lower Yield (217)	4527.79	-0.02	3971.35	4528.69	4525.18	4594.90	1.99	1.06	46.55	4.27	5582.68
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

FT 30 INDEX

	Feb 17	Feb 16	Feb 15	Feb 14	Feb 13	Yr Ago	High	Low
FT 30	2763.80	2765.10	2756.90	2730.00	2724.10	0.00	2781.60	2454.10
FT 30 Div Yield	-	-	-	-	-	0.00	3.93	2.74
P/E Ratio net	-	-	-	-	-	0.00	19.44	14.26

FT 30 hourly changes

8	9	10	11	12	13	14	15	16	High	Low
2765.1	2741	2752.7	2750.5	2751.7	2757.9	2760.5	2763.6	2764.6	2770.3	2729.5

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

FT WILSHIRE 5000 INDEX SERIES

[illegible]

FTSE GLOBAL EQUITY INDEX SERIES

[illegible]

FTSE SECTORS: LEADERS & LAGGARDS

Year to date percentage changes

General Retailers	21.78	Media	10.46	FTSE SmallCap Index	5.19
Mobile Telecomms	20.45	Financials	10.14	Equity Invest Instr	3.35
Telecommunications	20.38	Industrials	9.98	Software & Comp Serv	3.34
Fixed Line Telecomms	20.22	Automobiles & Parts	9.43	Personal Goods	2.77
Construct & Material	16.56	Real Est Invest & Tr	9.25	Pharmace & Biotech	2.67
Banks	16.28	Life Insurance	9.22	Health Care	2.66
Food Producers	14.56	Support Services	9.10	Health Care Eq & Srv	2.53
Consumer Services	13.42	Aerospace & Defense	7.51	Electricity	1.71
Travel & Leisure	13.07	FTSE 100 Index	7.42	Technology	1.56
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

FTSE 100 SUMMARY

FTSE 100	Closing Price	Week's Change	FTSE 100	Closing Price	Week's Change
3I Group PLC	1645	13.00	Jd Sports Fashion PLC	180.80	1.90
Abrdn PLC	216.00	9.50	Johnson Matthey PLC	2220	-26.00
Admiral Group PLC	2244	42.00	Kingfisher PLC	281.70	7.00
Airtel Africa PLC	128.50	6.20	Land Securities Group PLC	701.60	-5.00
Anglo American PLC	3209.5	-18.50	Legal & General Group PLC	260.00	6.40
Antofagasta PLC	1731.5	57.00	Lloyds Banking Group PLC	50.91	-2.38
Ashtead Group PLC	5630	76.00	London Stock Exchange Group PLC	7614	-10.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

UK STOCK MARKET TRADING DATA

[illegible]

All data provided by Morningstar unless otherwise noted. All elements listed are indicative and believed accurate at the time of publication. No offer is made by Morningstar or the FT. The FT does not warrant nor guarantee that the information is reliable or complete. The FT does not accept responsibility and will not be liable for any loss arising from the reliance on or use of the listed information. For all queries e-mail ft.reader.enquiries@morningstar.com

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

UK COMPANY RESULTS

[illegible]

UK RECENT EQUITY ISSUES

[illegible]

MARKET DATA

FT500: THE WORLD'S LARGEST COMPANIES

Stock	Price	Day Chg	52 Week High	52 Week Low	Yld	P/E	MCap m
Australia (A$)							
ANZ Bank	24.67	-0.25	28.08	20.78	5.75	11.00	50779.63
BHP Group	46.00	-0.12	53.72	35.83	8.05	11.99	166649.13
CmwBkAu	100.97	-0.53	111.38	86.96	3.26	20.20	116837.79
CSL	298.40	-4.59	314.21	246.97	0.95	45.44	98617.18
NatAusBk	29.85	-0.66	33.75	25.43	2.83	16.91	64241.91
Telstra	4.21	-0.01	4.24	3.62	2.23	36.42	33338.22
Wesfarmers	51.09	-0.23	51.66	40.03	3.27	27.94	39706.18
Westpac Bank	22.78	0.02	24.67	18.80	3.66	17.63	54784.62
Woolworths	36.69	0.20	39.63	31.67	2.77	44.51	30586.87
Belgium (€)							
AnBshInBv	55.01	-0.37	58.72	45.56	0.92	29.04	101903.42
KBC Grp	71.82	0.24	76.54	45.53	4.52	12.36	31946.97
Brazil (R$)							
Ambev	13.19	0.11	16.88	12.60	4.26	20.00	40028.39
Bradesco	12.21	-0.01	17.72	11.43	6.77	5.67	11458.62
Cielo	5.21	-0.13	6.22	2.26	2.78	17.70	2727.3
ItauHldFin	22.87	0.04	26.04	16.86	3.37	9.09	21849.15
Petrobras	30.00	-0.15	42.08	23.61	15.92	4.29	43020.36
Vale	88.77	-0.42	107.11	61.90	14.57	3.98	81739.13
Canada (C$)							
Bausch Hlth	12.55	0.50	32.15	5.10	-	-3.98	3365.9
BCE	61.44	0.45	74.09	55.66	5.39	21.71	41525.04
BkMontrl	134.78	-0.33	154.47	113.73	3.17	10.94	70889
BkNvaS	73.11	-0.36	94.33	63.19	4.80	9.66	64575.85
Brookfield	58.88	11.29	63.88	41.28	1.09	19.91	69948.82
CanadPcR	104.90	-0.58	111.43	86.12	0.69	26.52	72343.17
CanImp	62.24	0.01	82.83	53.58	9.13	4.55	41820.47
CanNatRs	76.50	-2.18	88.18	58.75	2.47	12.51	62495.33
CanNatRy	157.24	-0.79	175.39	137.26	1.48	24.12	78102.35
Enbridge	52.56	-0.15	59.69	46.88	6.01	19.35	78880.23
GtWesLif	36.51	0.38	39.42	27.99	5.00	10.83	25217.32
ImpOil	68.30	-0.91	79.83	52.28	1.43	20.74	29570.23
Manulife	27.02	-0.10	27.40	20.81	4.10	8.07	37211.92
Nutrien	102.74	-2.14	147.93	93.43	2.14	15.57	38673.5
RylBkC	139.04	0.50	144.50	116.75	3.03	13.04	142805.36
SHOP	58.77	-1.62	94.73	33.00	-	2.15	58255.24
Suncor En	44.86	-0.81	53.62	36.23	2.21	17.12	44476.14
ThmReut	166.38	-0.33	167.88	119.23	1.16	12.10	58704.25
TrntoDom	92.69	0.04	107.71	77.27	3.34	12.26	125161.21
TrnCan	56.80	-0.25	74.44	52.70	5.80	32.27	42853.6
China (HK$)							
AgricBkCh	2.77	-	3.08	2.22	7.60	3.67	10854.19
Bk China	2.93	-	3.17	2.51	7.50	3.86	31233.76
BkofComm	4.76	-0.04	5.74	3.84	7.26	3.97	21244.85
BOE Tech	0.61	-0.07	0.86	0.55	-	9.92	15.47
Ch Coms Cons	3.99	-0.01	5.02	3.09	5.04	3.34	2247.37
Ch Evrbrght	2.32	-0.02	3.02	2.04	10.20	3.17	3749.61
Ch Rail Cons	4.92	0.02	5.71	3.75	5.26	2.64	1302.21
Ch Rail Gp	4.16	-0.02	5.88	3.48	4.88	3.38	2231.18
ChConstBk	4.94	0.01	6.07	4.12	7.43	3.62	151398
China Vanke	14.32	-0.18	21.50	9.96	9.82	6.51	3480.26
ChinaCitic	3.70	-0.01	4.08	2.92	7.49	3.46	7019.32
ChinaLife	13.52	-0.14	15.14	8.53	4.99	5.96	12824.72
ChinaMBank	43.95	-0.75	69.60	25.40	3.21	8.18	25720.89
ChinaMob	57.35	-0.40	58.50	46.85	5.55	8.93	149581.04
ChinaPcIns	21.55	-0.75	24.35	12.10	6.02	7.08	7624.05
ChMinsheng	2.80	-0.03	3.19	2.19	8.68	3.65	2969.76
ChMrchSecs	13.74	-0.14	16.65	12.06	3.14	12.41	14818.26
Chna Utd Coms	4.92	-0.29	5.60	3.30	2.25	24.97	22135.34
ChShenEgy	23.45	0.35	27.65	18.20	8.63	7.17	10096.37
ChShpbldng	3.61	0.01	4.17	3.36	-	-271.55	11584.28
ChStConEng	5.37	-0.07	6.40	4.67	3.95	4.21	32242.3
ChUncHK	5.81	-0.11	8.06	3.27	2.67	12.91	22662.19
CNNC Intl	5.94	-0.01	8.40	5.78	2.07	15.71	16270.35
CSR	3.60	0.06	3.68	2.37	5.68	9.98	2005.93
Daqin	6.65	-	7.08	5.95	7.14	10.19	14365.93

[illegible]

FT 500: TOP 20

[illegible]

FT 500: BOTTOM 20

[illegible]

BONDS: HIGH YIELD & EMERGING MARKET

[illegible]

BONDS: GLOBAL INVESTMENT GRADE

[illegible]

INTEREST RATES: OFFICIAL

[illegible]

INTEREST RATES: MARKET

[illegible]

BOND INDICES

[illegible]

VOLATILITY INDICES

[illegible]

BONDS: BENCHMARK GOVERNMENT

[illegible]

GILTS: UK CASH MARKET

[illegible]

GILTS: UK FTSE ACTUARIES INDICES

[illegible]

COMMODITIES

[illegible]

BONDS: INDEX-LINKED

[illegible]

BONDS: TEN YEAR GOVT SPREADS

[illegible]

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

FINANCIAL TIMES SHARE SERVICE

Main Market

[illegible]

	Price	+/-Chg	52 Week High	Low	Yld	P/E	Vol 000s
Morgan Ad	302.50	-3.50	327.62	211.00	2.21	12.76	144.9
OxfordIn	2470	-	2770	1600	0.69	33.74	138.2
Renishaw	3940	-58.00	4922	3238	1.68	22.48	31.4
Spectris	3236	21.00	3338	2371	2.15	10.64	300.1
TT Elect	192.00	7.00	226.50	123.40	3.39	26.67	49.5
XP Power	2565	-50.00	4730	1402	3.56	13.81	15.8
Financial General							
3i	1645	4.00	1685	1042	2.34	5.70	2916.4
abrdn	216.00	-	242.00	131.03	6.76	4.70	5754.8
House, Leisure & Pers Goods							
BarrttDev	463.30	-3.90	613.60	313.00	6.35	7.24	4563.2
Bellway	2170	5.00	2983	1572	5.41	6.52	188.3
Berkeley	4189	16.00	4377	3120	0.22	10.90	203.6
Burberry Gp	2557	24.00	2565	1473.5	1.66	22.01	1218.1
Cairn Homes	85.10	-0.60	108.20	69.40	2.62	17.47	23.3
Crest Nicholson	237.00	1.00	330.00	170.50	1.73	6.62	639.4
GamesWk	9410	15.00	9490	5565	2.71	25.92	64.6
Gleeson	457.00	-3.00	710.60	331.00	3.28	7.15	41.3
Headlam	330.00	-	432.25	230.00	2.36	14.22	194.0
Lancashire	617.00	2.00	670.00	342.40	1.87	-32.14	233.7
Leg&Gen	260.00	0.50	287.90	191.37	6.85	7.96	22860.6
Old Mut	53.10	-0.70	81.04	44.05	5.19	7.71	1423.5
PhoenixGrp	633.60	-1.40	690.40	501.00	7.61	-7.33	3872.0
Prudntl®	1306.5	-3.50	1357.5	782.40	0.90	21.22	7484.5
StJmsPl	1250	-3.50	1538.5	904.60	4.90	23.81	956.2
LEISURE							
[illegible]	107.00	5.00	109.00	55.70	-	18.67	655.5
Pharmaceuticals & Biotech							
AstraZeneca®	11486	124.00	11816	8326	1.80	1944.90	1669.6
Dechra	3064	-82.00	4310	2487.45	1.32	45.75	180.4
GlaxoSmh®	1484.2	29.20	2753.96	1280.92	5.39	17.14	8749.7
HikmaPhm	1770.5	-4.50	2137	1174.5	2.16	13.27	293.9
Oxfd Bio	513.00	13.00	810.00	276.62	-	23.07	64.7
RichterG $	22.00	0.20	25.80	16.40	2.76	10.72	0.0
Real Estate							
REITs							
Support Services							
AshtdGp	5630	-102.00	5759.44	3269	0.80	27.41	848.4
Bunzl	3066	-6.00	3249	2542	1.78	23.26	391.6
Capita	28.90	0.04	31.50	19.89	-	2.20	1523.3
DCC	4607	14.00	6508	3986	3.47	15.23	110.5
DeLaRue	61.30	-1.30	118.80	60.90	-	8.07	127.9
Diploma	2864	16.00	3022	2090	1.48	51.23	160.1
DWF Group PLC	69.50	-0.30	120.12	67.05	6.47	-13.63	95.7
Essentra PLC	225.50	-1.00	336.00	168.60	2.35	25.34	397.6
PPHE Htl	1055	-45.00	1617.25	1040.25	-	-8.58	104.4
TUI	174.85	-4.55	297.10	101.45	-	-1.83	2427.3
Whitbrd	3110	-37.00	3202	2245.51	-	-25.24	253.3
Utilities							
Drax	676.50	-5.00	845.89	467.20	2.63	50.11	802.7
Natl Grid®	1070	21.50	1271.45	844.29	4.59	24.94	7141.5
Pennon	876.50	2.50	1124	735.00	3.72	63.51	406.6
Severn Trent	2807	50.00	3228	2167.42	3.62	-104.35	447.9
SSE	1756.5	23.50	1935.5	1405	4.61	6.86	1709.9
UtdUtils	1050.5	15.00	1186.88	813.20	4.12	96.38	870.5

AIM

	Price	+/-Chg	52 Week High	Low	Yld	P/E	Vol 000s
Aerospace & Defence							
Cohort	497.00	7.00	580.00	384.00	2.23	44.18	35.6
Velocity Composites PLC	43.20	-0.30	65.00	13.65	-	-14.40	5.1
Banks							
Caribbean Inv	26.50	-	45.40	24.03	-	3.05	138.6
Basic Resource (Ex Mining)							
CropperJ	675.00	-	1350	620.00	-	20.58	0.6
Chemicals							
Directa Plus PLC	78.00	-2.00	140.00	66.25	-	-18.17	40.5
Versarien PLC	6.80	-0.33	27.95	6.50	-	-1.95	1125.8
Construction & Materials							
AccsysTch	78.00	0.40	161.70	54.40	-	-45.83	71.1
Electronic & Electrical Equip							
Checkit	27.00	-2.50	48.00	13.74	-	-3.29	511.3
LPA	83.50	-	87.00	66.00	-	-309.26	2.6
ThorpeFW	365.00	-10.00	484.00	335.38	1.59	25.40	31.4
Zytronic	125.00	-	192.49	110.00	-	41.67	43.3
Financial General							
Appreciate Grp	41.90	0.05	43.00	21.10	2.39	16.22	7.7
Arbuthnot	875.00	2.50	1050	625.00	1.83	19.36	20.0
BP Marsh	337.00	-4.00	353.98	272.25	0.72	9.28	18.4
Burford Capital Ltd	683.50	2.50	943.38	590.00	2.02	-2801.23	93.4
Gresham House Plc	775.00	1.00	1020	681.50	0.77	31.11	28.6
MattiolWds	620.00	-	833.00	530.00	3.39	-221.43	10.0
Numis	226.50	-5.50	298.28	170.00	5.30	4.61	65.9
Premier Miton Group	118.50	-	176.00	84.69	6.92	13.23	395.0
STM Group	26.00	-	31.70	22.05	5.38	10.01	18.7
Food & Beverages							
Camellia	4850	10.00	6960	4300	2.97	89.32	0.1
Fevertree Drinks	1100	-4.00	2054	804.50	1.44	28.80	258.6
Nichols	992.50	-37.50	1565	957.00	1.87	-16.53	17.4
Health Care Equip & Services							
AVO	7.50	-	30.00	7.00	-	-0.89	550.9
Tristel	315.00	-2.50	430.00	270.00	2.08	64.95	200.6
House, Leisure & Pers Goods							
Airea	34.50	-	36.99	23.00	-	12.78	2.0
Churchll	1255	-	1650	1020	-	149.40	2.3
Frontier Developments PLC	455.50	-6.50	1648	429.00	-	13.13	112.4
Portmern	355.00	-	651.00	285.00	3.66	15.11	9.2
Sanderson Design Grp	123.50	1.50	176.00	86.00	-	10.58	36.6
Industrial Engineering							
600 Grp	8.50	-0.25	16.97	8.00	-	49.71	60.3
MS Intl	645.00	30.00	746.60	218.00	0.54	92.14	11.4
Pres Tech	41.00	-	103.00	23.20	-	-3.41	114.4
IT							
Keywords Studios	2850	-62.00	3056	1950	0.02	78.98	63.8
Learning Technologies Group	136.60	-1.40	184.10	97.70	0.92	57.54	2722.3
Media							
Mission Group	52.00	-0.50	71.00	40.80	4.48	8.81	174.7
Mining							
AMC	0.90	0.03	3.49	0.61	-	-20.81	1274.9
BotswanaD	1.15	0.10	1.39	0.75	-	-19.17	1895.7
CentAsiaM	272.00	-0.50	299.00	187.47	5.94	7.97	512.9
Gemfields	17.25	-	19.90	12.00	-	-23.83	52.0
Oil & Gas							
BorSthnPet	2.83	-	8.50	0.90	-	-27.75	282.3
ClontarfEn	0.17	0.03	0.80	0.05	-	-3.44	2173990.3
Egdon Res	2.90	-	10.00	1.91	-	-3.72	494.4
Hurricane Energy	7.53	-0.17	12.37	5.70	-	-0.75	848.9
Phoenix Global	6.50	0.25	7.95	3.07	-	-1.83	53.0
UnJackOil	27.00	0.25	53.72	17.29	-	-13.99	115.3
Pharmaceuticals & Biotech							
Reneuron	10.25	-	44.50	8.50	-	-0.64	16.5
Sareum	115.00	2.50	345.00	55.10	-	-38.33	44.6
Real Estate							
Lok'nStor	912.00	-4.00	1090	674.00	1.64	27.65	14.6
Retailers							
ASOS	834.00	9.00	2040	459.90	-	27.71	337.7
Boohoo Group PLC	54.76	5.76	99.92	30.00	-	11.80	18001.3
CVS Group PLC	1909	21.00	2134	1512	0.34	53.47	412.8
Support Services							
Begbies	131.20	-0.80	156.00	97.00	2.29	656.00	217.9
Christie	111.00	1.00	135.00	88.00	-	47.23	0.9
Gattaca	82.00	1.50	94.00	53.00	1.83	-63.08	75.5
Impellam	707.50	-	735.00	406.00	-	38.66	10.4
JhnsnSrv	112.40	-0.60	164.20	69.00	-	70.25	980.6
LonSec	3050	-	3940	2150	2.82	16.82	0.1
NWF	236.00	-	266.00	188.00	3.05	118.00	83.6
Petards	11.50	-	13.80	8.01	-	20.91	5.0
Renew	695.00	-4.00	789.00	550.00	1.89	17.18	36.7
Smart Metering Systems	870.00	-	968.00	670.00	3.02	272.73	100.8
Tech - Hardware							
IQE	47.85	-1.60	58.41	27.67	-	-531.67	1073.8
Tech - Software & Services							
Bellian Prism Group PLC	1274	-	1392	747.50	-	-23.65	1869.0
Eckoh	40.50	-	51.00	38.20	1.51	39.71	215.4
Oxford Metrics	106.50	-	114.89	73.44	1.69	46.30	40.6
Travel & Leisure							
gamingrealms	28.03	-0.48	35.00	20.39	-	-700.63	40.3
Jet2	1301	9.50	1433	637.40	-	-6.99	306.9
MinoanGp	1.08	-0.03	1.37	0.87	-	-7.62	599.2

Investment Companies

Conventional (Ex Private Equity)	Price	+/-Chg	52 Week High	Low	Yld	NAV	Dis(-) or Pm
abrdnuksm	463.00	-4.50	646.00	389.73	1.66	526.9	-12.1
3i Infra	320.50	-4.50	368.50	281.50	3.06	320.2	0.1
AbnAsianIn	229.00	-	237.00	185.50	4.06	254.0	-9.8
Abrdn Div I&G	88.40	-0.80	103.50	83.20	6.22	117.9	-25.0
AbnLatAmIn	56.75	-0.25	62.00	48.80	6.17	63.4	-10.5
AbnNewIndia	550.00	2.00	614.00	476.25	-	670.1	-17.9
Abf Sml	1354	-2.00	1428	1066	2.50	1504.9	-10.0
Abf Spl Inc	76.80	-1.60	80.00	53.40	3.97	82.5	-6.9
abrdn Asia Focus	268.00	-1.00	289.00	224.24	1.12	299.3	-10.5
Abrdn Eqt Inc	362.00	-2.50	385.14	290.00	5.69	364.9	-0.8
abrdnJapInv	577.50	-10.00	674.89	507.49	2.60	664.7	-13.1
AbnNewDn	293.00	-1.00	318.00	243.00	1.47	328.4	-10.8
Alliance	1022	-14.00	1046	867.84	1.65	1083.4	-5.7
AllianzTech	229.00	-8.00	292.71	199.40	-	257.0	-10.9
Art Alpha	344.00	-	394.00	262.00	1.54	373.6	-7.9
Asia Dragon	440.00	-10.00	491.50	352.00	1.48	490.5	-10.3
Aurora Inv	223.00	-2.00	254.00	178.00	0.25	242.2	-7.9
AVI JapOpp	122.00	0.25	124.00	103.00	1.11	118.9	2.6
Axiom	91.00	-	98.50	75.00	6.59	95.2	-4.4
BG Euro	99.10	-1.30	120.20	73.50	0.35	114.6	-13.5
BG Japan	783.00	-5.00	861.00	657.00	0.77	846.9	-7.5
BG Shin	157.40	-1.80	179.80	131.32	-	171.4	-8.2
Baillie Gifford UK	173.00	-1.80	201.00	139.40	1.40	201.3	-14.1
Bankers	105.00	-1.00	114.80	90.88	2.06	114.8	-8.5
BB Healthcare Trust	169.00	-0.60	193.40	132.40	3.26	178.6	-5.4
BiotechGth	947.00	-3.00	1048	722.37	-	1032.7	-8.3
BlckRoEne	144.25	-1.75	151.00	95.00	2.77	142.9	0.9
BlckRFrnt	144.00	-	144.00	114.00	3.57	148.2	-2.8
BlckRGtEur	545.00	5.00	591.16	396.00	1.13	565.4	-3.6
BlckR I&G	198.50	3.00	206.00	164.00	3.63	216.2	-8.2
BlckRckLat	384.50	3.50	457.00	330.00	5.55	430.4	-10.7
BlckRSmlr	1386	-16.00	1834	1162	2.40	1619.5	-14.4
BlckRckSusAm	207.50	-1.50	215.00	163.26	3.86	218.4	-5.0
BlckRThrmt	634.00	-6.00	812.00	477.96	1.61	657.0	-3.5
BlckRWld	734.00	-16.00	804.98	524.00	3.24	733.4	0.1
Brunner	1100	-5.00	1114.28	888.00	1.83	1228.3	-10.4
Caledonia Inv	3590	-35.00	4065	3015	1.75	4973.3	-27.8
CanGen C$	34.04	-0.01	42.49	28.21	2.45	52.9	-35.7
City Lon	429.50	0.50	431.50	363.28	4.46	420.5	2.1
COSNatRs	205.00	-1.00	232.06	147.50	2.73	228.9	-10.4
CTMgdI	127.50	-	141.60	112.00	4.98	125.6	1.5
CTMgdG	244.00	-	270.00	214.00	-	240.8	1.3
CT Cp&I	302.00	7.00	341.00	269.56	3.84	323.8	-6.7
CT UK HIT B	90.00	-	93.00	79.00	5.89	93.8	-4.1
CT UK HIT Ord	86.75	-	93.00	71.00	6.11	93.8	-7.5
CT UK HIT UNIT	346.00	-	371.00	294.00	-	375.3	-7.8
Dun Inc	302.00	-2.00	307.00	250.75	4.24	307.9	-1.9
EcofinGlobal	220.00	1.50	252.00	165.00	3.00	217.8	1.0
Edin Inv	681.00	4.00	684.00	537.00	3.52	740.3	-8.0
Edin WWd	174.40	-6.40	243.50	154.60	-	210.1	-17.0
EuroAsset	96.80	-0.40	120.00	74.60	8.26	103.4	-6.4
Euro Opps	777.00	-	780.00	608.00	0.26	897.2	-13.4
F&C Inv Trust	963.00	-14.00	989.00	767.21	1.29	978.8	-1.6
FidAsian	508.00	-2.00	536.00	406.22	1.73	540.6	-6.0
FidChiSpS	270.50	-1.50	306.50	181.97	1.73	296.3	-8.7
FidelityEmrgMkt	631.00	-7.00	814.00	552.70	2.09	741.9	-14.9
Fid Euro	346.00	-1.00	384.25	256.50	1.89	373.1	-7.3
Fid Jap	175.00	-1.00	190.00	143.00	-	194.3	-9.9
Fid Spec	280.50	-1.50	305.07	232.00	2.09	307.1	-8.7
FinsG&I	896.00	3.00	899.43	731.80	2.87	939.3	-4.6
FstPacfic HK HK$	2.80	-0.01	3.63	2.08	4.55	-	-
GRIT	1.95	-	11.22	1.50	-	9.6	-79.7
HAN	178.00	-	208.00	166.00	1.80	316.9	-43.8
HANA	178.50	3.50	208.00	168.00	1.79	316.9	-43.7
Hen Div Inc Tr	73.20	1.00	81.20	56.26	6.01	72.7	0.7
HenEuroF	162.00	-1.50	164.46	120.60	1.93	185.2	-12.5
HenEuro	139.25	-1.25	141.00	105.51	1.80	161.4	-13.7
HenFarEs	277.50	-3.00	305.00	240.00	8.40	268.0	3.5
HenHigh	174.75	0.25	181.00	137.25	5.69	176.8	-1.2
HenInt Inc	182.00	-0.50	184.00	150.00	3.30	188.9	-3.7
Hen Opp	1157.5	-27.50	1390.52	942.45	2.33	1324.6	-12.6
HenSmlr	885.00	-7.00	1096	674.33	2.68	982.4	-9.9
Herald	1898	-38.00	2014	1540	-	2227.6	-14.8
HICL Infra	161.80	1.00	164.98	138.89	5.10	165.4	-2.2
Highbridge Tactical	243.00	-	272.00	216.00	-	268.3	-9.4
Impax Env.	446.00	-4.00	486.44	370.88	0.85	463.6	-3.8
Ind IT	420.50	-	583.16	385.00	1.90	-	-
IntBiotech	707.00	1.00	744.00	563.00	4.02	744.0	-5.0
Intl PP	151.20	-0.20	174.81	132.72	4.93	158.6	-4.7
Inv AsiaTr	368.00	-2.00	374.00	280.00	4.38	400.7	-8.2
Invesco Bond Inc	171.00	-	184.50	141.04	6.14	167.2	2.3
IPST BalR	138.00	1.00	164.90	111.00	-	155.0	-11.0
IP UKSmall	463.50	-1.00	564.00	373.50	4.17	514.1	-9.8
JPM Amer	725.00	-18.00	800.00	650.00	0.93	752.2	-3.6
JPM Asia	385.00	-2.00	441.50	294.50	4.91	418.5	-8.0
JPM China	371.00	-10.00	457.50	246.50	6.15	387.0	-4.1
JPM Emrg EMEA	83.00	-0.30	794.00	55.20	42.17	46.5	78.5
JPM Emrg	116.80	-1.00	122.40	91.00	1.16	125.3	-6.8
JPM EurGth & Inc	94.00	-3.00	97.00	70.30	6.06	107.9	-12.9
JPM EuDisc	445.00	-2.00	475.50	339.00	1.51	518.9	-14.2
JPM Clavr	698.00	-4.00	748.00	610.32	4.44	741.0	-5.8
JPMGblCoreRa	83.40	-1.40	113.00	80.80	4.50	101.3	-17.7
JPM GEI	137.00	-1.00	146.00	108.00	3.72	149.8	-8.5
JPM Gl Gr&Inc	471.00	-4.00	481.00	386.00	3.20	464.1	1.5
JPM Ind	828.00	-6.00	898.00	691.30	-	1002.3	-17.4
JPM JpCapSn G&I	325.00	-3.00	400.00	301.00	6.89	360.6	-9.9
JPM Jap	477.50	-8.50	532.00	408.50	1.07	511.0	-6.6
JPM Mid	955.00	-2.50	1190	735.00	3.09	1096.1	-12.9
JPM Smlr	296.00	-	352.00	230.00	1.93	323.2	-8.4
JPM US Sml	430.00	-1.00	444.48	337.25	0.58	475.0	-9.5
KeystoneInv	339.00	-1.00	358.00	161.00	3.30	257.4	31.7
Law Deb	840.00	-3.00	850.98	649.00	3.41	819.3	2.5
LinTrain £	1035	-	1305	944.00	4.55	1063.9	-2.7
Lowland	129.50	-	138.50	99.05	4.63	141.6	-8.5
Majedie	207.50	0.50	212.00	156.80	5.49	256.6	-19.1
Marwyn Val	97.00	-	120.00	90.00	4.67	175.3	-44.7
MercantIT	215.00	-1.50	239.80	158.33	3.12	244.6	-12.1
MrchTst	600.00	-	605.63	480.00	4.54	592.4	1.3
Mid Wynd	717.00	-6.00	820.00	639.80	0.89	728.4	-1.6
Monks	1028	-15.00	1144.2	875.00	0.19	1147.9	-10.4
MontanSm	148.00	-2.40	171.00	104.20	0.63	161.7	-8.5
Mur Inc	882.00	5.00	903.50	715.00	3.42	944.3	-6.6
Mur Int	1334	-20.00	1374	1090.04	4.09	1366.8	-2.4
COSNewCityHY	51.60	-	57.00	48.20	8.86	48.3	6.8
New Star IT	123.50	-	146.00	115.30	1.13	179.6	-31.2
NorthAmer	309.00	-1.00	324.00	256.30	3.50	341.6	-9.5
NthAtSml	3960	-30.00	4354.88	3125	0.76	5242.2	-24.5
PacAsset	376.00	-5.00	384.00	286.32	0.64	398.4	-5.6
PacHorzn	649.00	-14.00	788.00	507.75	-	656.2	-1.1
PerAsset	480.00	1.00	506.00	465.50	116.67	-	-
Petershill plc	163.20	-3.20	293.00	158.20	-	-	-
PolarHealth	337.00	-	340.00	262.00	0.59	355.6	-5.2
PolarFins	160.80	-2.20	180.00	131.80	2.50	171.1	-6.0
PolarTech	1964	-61.00	2334	1697.57	-	2256.5	-13.0
RIT Cap	1920	-50.00	2680	1908	1.84	2388.0	-19.6
Ruffer Inv Pr	310.00	-1.00	329.00	283.00	0.58	306.0	1.3
Schroder ToRt	449.00	-6.00	494.00	366.50	1.58	469.5	-4.4
SchdrAsiaP	538.00	-3.00	580.00	446.00	1.49	599.2	-10.2
SchdrEurReE	84.50	0.60	117.00	73.20	6.49	126.8	-33.4
Schdr Inc	319.00	-1.00	323.23	254.60	3.95	321.8	-0.9
SchdrJap	211.00	-2.00	216.00	185.95	2.32	236.8	-10.9
SchdrOrient	272.00	-2.50	280.08	230.00	3.79	283.4	-4.0
SchdrRealEst	47.50	0.20	61.00	40.00	5.33	62.4	-23.9
SchdrUKMid	602.00	-6.00	626.00	454.00	2.21	674.6	-10.8
SchdrUKPubPriv	15.00	-0.20	30.00	13.56	-	29.7	-49.5
ScotAmer	512.00	-6.00	536.59	434.00	2.40	530.0	-3.4
ScottMort	737.40	-23.60	1061.82	670.60	0.46	876.7	-15.9
ScottOrtll	1220	-20.00	1240	998.82	0.94	1400.7	-12.9
Smithson	1430	-20.00	1666	1120	-	1554.8	-8.0
StrategicEq	308.50	-1.50	318.00	252.00	0.52	323.7	-4.7
Temp Bar	244.00	-2.50	253.60	195.20	3.07	263.1	-7.3
Tetragon $	9.80	-	10.56	8.28	3.62	29.8	-67.1
EurSmlCom	169.50	-2.50	172.00	122.93	1.84	197.3	-14.1
GblSmlrTrst	158.00	-0.60	162.80	122.00	1.11	174.7	-9.6
TRIG	128.80	-1.20	148.57	112.60	5.24	133.5	-3.5
TroyInc&G	72.20	-1.40	78.00	64.43	3.68	73.4	-1.6
Utilico Emerging Market	217.00	-1.00	227.52	196.50	3.62	252.6	-14.1
UIL Inv	155.50	-4.00	252.00	144.00	5.14	254.0	-38.8
VEIL	587.00	-	772.00	500.00	-	675.0	-13.0
Witan	233.00	-1.00	240.00	199.78	2.36	255.8	-8.9
WwideHlth	3210	-10.00	3500	2820	0.69	3509.8	-8.5

Conventional - Private Equity	Price	+/-Chg	52 Week High	Low	Yld	NAV	Dis(-) or Pm
abrdnPvEq	454.00	-9.00	554.00	365.00	2.97	732.2	-38.0
BGUSGROWTH	159.80	-4.20	253.00	143.80	-	193.3	-17.3
BG China Growth	289.00	-4.00	353.21	206.25	2.47	317.8	-9.1
CT PvtEq	483.00	-1.00	520.00	375.51	3.84	707.4	-31.7
HVPE	2145	-25.00	2761.15	1966.11	-	3976.0	-46.1
HgCapital	365.50	-6.00	457.50	310.00	1.37	450.9	-18.9
ICG Ent Tr	1120	-16.00	1260	928.00	2.23	1852.8	-39.6
Pantheon Intl	255.50	-4.00	325.00	229.23	-	466.7	-45.3
PrincssPE €	9.72	-0.07	13.40	7.80	6.51	14.6	-33.4
Unbound Group plc	4.75	-	57.40	3.80	-	-	-

Discretionary Unit Fund Mngrs (1000)F	Price	+/-Chg	52 Week High	Low	Yld	NAV	Dis(-) or Pm
Right &ISS	2070	40.00	2598	1850	1.56	2439.5	-15.1

Conventional - Property ICs	Price	+/-Chg	52 Week High	Low	Yld	NAV	Dis(-) or Pm
Direct Property							
abrdnPropInc	65.00	-0.10	90.00	50.82	5.25	83.6	-22.2
AEW UK REIT	99.90	-0.10	135.00	83.77	8.01	104.0	-3.9
Bal ComPrp	84.70	1.40	124.20	68.53	5.05	118.4	-28.5
CT Prop T	65.60	-1.20	101.00	65.00	5.64	95.9	-31.6
Longbow	47.70	-0.10	73.40	45.20	12.58	60.7	-21.4
TR Prop	331.50	-0.50	487.50	263.00	4.28	360.3	-8.0
Tritax EuroBEUR €	0.79	0.00	1.30	0.66	5.90	1.3	-39.2
Tritax EuroBGBP	70.20	0.10	109.20	57.70	-	-	-
UKComPrp	55.20	-0.10	95.80	52.00	5.30	79.3	-30.4

VCTs	Price	+/-Chg	52 Week High	Low	Yld	NAV	Dis(-) or Pm
Baronsmead 2nd VT	60.00	-	77.50	51.00	10.83	63.6	-5.7
BSC VCT	74.50	-	83.50	73.00	9.40	85.0	-12.4
..VCT2	54.00	-	59.50	53.00	14.81	59.9	-9.8
Inc&GthVCT	75.00	-	99.50	70.00	6.67	80.5	-6.8
Nthn 2 VCT	54.50	-	63.72	52.00	6.42	58.9	-7.5
Nthn 3 VCT	85.00	-	98.40	82.00	5.29	91.4	-7.0
NthnVent	57.50	-	69.40	55.00	7.83	62.2	-7.6
UnicornAIM	112.50	-1.00	181.00	108.00	5.78	132.5	-15.1

Zero Dividend Preference Shares	Price	+/-Chg	52 Week High	Low	HR SP	WO	TAV 0%
Abf Spl Inc	119.50	-	121.00	113.00	-60.1	-94.8	-
UIL Finance 2024 ZDP	123.50	-	126.24	115.00	-55.2	-67.1	-
UIL Finance 2028 ZDP	95.00	0.50	102.00	82.40	-23.5	-28.3	-
UIL Finance 2026 ZDP	114.00	-	118.40	104.36	-32.7	-40.1	-

Investment Companies - AIM

	Price	+/-Chg	52 Week High	Low	Yld	NAV	Dis(-) or Pm
BB Biotech AG SFr	57.40	0.10	68.00	49.35	5.7	-	-
CrysAmber	94.00	-	123.50	90.00	2.7	132.7	-29.2
Infra India	0.40	-	0.85	0.20	-	10.6	-96.2

Guide to FT Share Service

For queries about the FT Share Service pages e-mail ft.reader.enquiries@morningstar.com.

All data is as of close of the previous business day. Company classifications are based on the ICB system used by FTSE (see www.icbenchmark.com). FTSE 100 constituent stocks are shown in bold.

Closing prices are shown in pence unless otherwise indicated. Highs & lows are based on intra-day trading over a rolling 52 week period. Price/earnings ratios (PER) are based on latest annual reports and accounts and are updated with interim figures. PER is calculated using the company's diluted earnings from continuing operations. Yields are based on closing price and on dividends paid in the last financial year and updated with interim figures. Yields are shown in net terms; dividends on UK companies are net of 10% tax, non-UK companies are gross of tax. Highs & lows, yields and PER are adjusted to reflect capital changes where appropriate.

Trading volumes are end of day aggregated totals, rounded to the nearest 1,000 shares.

Net asset value per share (NAV) and split analytics are provided only as a guide. Discounts and premiums are calculated using the latest cum fair net asset value estimate and closing price. Discounts, premiums, gross redemption yield (GRY), and hurdle rate (HR) to share price (SP) and HR to wipe out (WO) are displayed as a percentage, NAV and terminal asset value per share (TAV) in pence.

- ⊕ FT Global 500 company
- ♦ trading ex-dividend
- ■ trading ex-capital distribution
- # price at time of suspension from trading

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