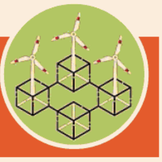
FINANCIAL TIMES
TUESDAY 30 AUGUST 2022 INTERNATIONAL NEWSPAPER OF THE YEAR ASIA

Robotic actors
The machines leaving thespians in the wings — SARAH O'CONNOR, PAGE 15

Crypto climate
Can blockchain clean up the carbon market? — BIG READ, PAGE 13



Armed withdrawal
Lebanese bank customers take the Robin Hood route — RAYA JALABI, PAGE 14

Back to earth
Hitch delays US moonshot


Phelan M. Ebenhack/AP

Disappointed spectators leave Max Brewer Bridge near Cape Canaveral yesterday after the launch of the Artemis mission from the Kennedy Space Center in Florida was cancelled.

Lift-off of the mission to orbit the moon will be attempted again on Friday after Nasa said there was a problem with an engine cooling system.

After 12 years of development and significant cost overruns, the first launch of the moon mission is a significant test for Boeing, the rocket's main contractor. Nasa portrayed the delay as part of the usual teething problems when launching a new rocket. Bill Nelson, Nasa's administrator, said: "You don't light the candle until it's ready to go."

Launch shelved page 2

Brussels to unveil crisis action in bid to curb soaring energy prices

● Push to sever electricity and gas prices ● Utilities seek aid ● Crisis might last years, says Shell

TOM WILSON — LONDON
SAM FLEMING AND
VALENTINA POP — BRUSSELS

The EU is preparing emergency measures to curb soaring electricity prices, as Shell yesterday warned that the energy crisis could last for years and European utilities turned to the state for support.

With member states stepping up pressure to decouple electricity prices from the spiralling cost of gas, European Commission president Ursula von der Leyen said Brussels was working on "emergency intervention" as well as structural reform to the power market.

One of the leading ideas being considered is to alter EU market rules so electricity prices are no longer determined by natural gas costs but can instead take into account cheaper renewable energy.

The crisis was "exposing the limitations of our current electricity market design", von der Leyen said yesterday. "We need a new market model for electricity that really functions."

She said later in Berlin: "Currently, gas dominates the price of the electricity market . . . with these exorbitant prices, we'll have to decouple."

As the crisis threatened to tip Europe into recession, Ben van Beurden, Shell's chief executive, warned that the region might need to ration energy for years.

"It may well be that we have a number of winters where we have to somehow find solutions through efficiency savings, through rationing and a very, very quick build-out of alternatives," he said.

"That this is going to be somehow easy, or over, I think is a fantasy that we should put aside." He added that the crisis would test "solidarity" between EU states as governments were forced to decide how to keep key industries going.

In the wake of the Russian invasion of Ukraine, Europe's benchmark electricity price has risen to 10 times its decade-long average, in line with a 14-fold increase in the cost of gas.

The price surge has taken its toll on utilities even as oil and gas companies enjoy record profits.

Uniper, one of Germany's biggest utilities, said yesterday it had asked for a €4bn increase to a €9bn credit line from state-owned bank KfW to help secure its short-term liquidity. The Düsseldorf-based company, historically Europe's largest buyer of Russian gas, is among the bloc's biggest electricity generators.


Ursula von der Leyen: 'We need a new market model for electricity that really functions'

Wien Energie, Austria's largest energy company, said wholesale gas and power prices were rising so fast that it was having difficulty financing its operations, adding that it was in discussions with the country's government.

Germany, the Czech Republic and Spain are stepping up efforts to sever the link between electricity and gas prices. Czech industry minister Jozef Sikela said he expected draft proposals in time for an emergency EU energy council next week.

"We have to separate electricity prices from gas prices," he said, suggesting the EU could cap the price of gas for electricity production.

Additional reporting by Sam Jones and Philip Stafford

Utilities seek state ballout page 2

Briefing

▸ Investors ramp up bets against euro
Market wagers that the currency will fall in value have reached their highest level since the onset of pandemic more than two years ago, as the risk rises that high energy prices will spark recession.— PAGE 5

▸ Scholz seeks air defence collaboration
The German chancellor has called for a new European air defence system, saying Berlin will make "substantial" investments and invite its neighbours to participate in the project.— PAGE 4

▸ Honda and LG to build US battery plant
The Japanese carmaker and South Korean battery manufacturer LG Energy Solution have said they will invest $4.4bn in a factory amid a US push to cut China out of supply chains.— PAGE 5; LEX, PAGE 16

▸ Airlines braced for hard landing
Warnings that passenger numbers will fall as incomes are squeezed by high inflation mean airlines face the prospect of a grim winter after a booming summer.— PAGE 5

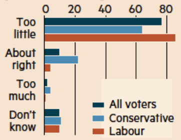
▸ Blacklisted companies hit back at Texas
Those included on a list of companies the state sees as hostile to fossil fuels have attacked the process as haphazard, politicised and arbitrary, since it relied on a single ESG ranking.— PAGE 6; LEX, PAGE 16

▸ Singapore reins in crypto aspirations
The city-state's financial regulator has said it will beef up curbs on retail access to digital currencies after its aspirations to be seen as a safe hub for the volatile asset class were hurt by scandal.— PAGE 8

▸ Ambani unveils green ambition for India
Billionaire Mukesh Ambani has said India can be a "credible alternative" to China for green energy production, as he detailed a $10bn bid to make the country an exporter of green technology.— PAGE 6

Datawatch

Help with living costs
% of UK adults who think the government is doing:



Source: YouGov, Aug 25 2022

Some 94 per cent of Britons have experienced price inceases over the past six months as energy costs and inflation rise. Most people, including 64 per cent of Conservatives, say the government is not doing enough to help those struggling

Doubt clouds audit deal on US-listed Chinese groups

Analysis ▸ PAGE 2

Kyiv's forces launch counter-strike to reverse Russian gains around Kherson

ROMAN OLEARCHYK AND
JOHN PAUL RATHBONE — KYIV
MAX SEDDON — RIGA

Ukraine said it had launched a counter-offensive against Russian forces near the city of Kherson yesterday in an attempt to reverse some of the territorial gains made by Moscow in the six months since its full-scale invasion.

A Ukrainian government adviser confirmed that Kyiv had begun a major operation aimed at retaking the strategically important southern city captured by Russian forces early in the war. "The next phase of the counter-offensive is beginning," the adviser said. "It started with massive attacks on Russian military infrastructure and logistics."

Russian investigators said a former Ukrainian lawmaker in Kherson who had sided with Moscow's occupying forces had been shot dead in the city on Sunday alongside his girlfriend.

Oleksiy Kovalev, a senior official in Kherson's Moscow-appointed administration, was expelled from President Volodymyr Zelenskyy's party in April and charged with "collaborationist activity" for allegedly trading in goods with the Russia-annexed Crimean peninsula.

Ukraine's long-anticipated assault in Kherson is aimed at recapturing territory Russia seized in the war's early weeks. In the past two months, Ukraine has carried out dozens of strikes on supply lines and infrastructure supporting Moscow's occupation of the region.

Ukraine's Centre for Strategic Communication and Information Security wrote on Twitter that the armed forces had "breached the occupiers' first line of defence near Kherson", the only provincial capital Russia has captured since President Vladimir Putin ordered the invasion in February.

A senior White House official said Ukraine's counter-offensive had already forced Russia to "pull resources" from the east of the country.

Andriy Yermak, Zelenskyy's chief of staff, wrote on Telegram that Ukraine's military was "grinding down the enemy" as "Kherson lay ahead".

Russian officials have played down the extent of the counter-attack. Sergei Aksyonov, Moscow-appointed governor of Crimea, wrote on Telegram that reports of the offensive were "the latest fake from Ukrainian propaganda".

But in a sign that Ukraine was coming closer to big population centres, an official installed by Russia in Nova Kakhovka, a city east of Kherson, said he had ordered the evacuation of civilians.

Inspectors head for power plant page 4

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

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World Markets

STOCK MARKETS

	Aug 29	Prev	%chg
S&P 500	4038.92	4057.66	-0.46
Nasdaq Composite	12034.04	12141.71	-0.89
Dow Jones Ind	32163.59	32283.40	-0.37
FTSEurofirst 300	1667.67	1682.38	-0.87
Euro Stoxx 50	3569.45	3603.68	-0.95
FTSE 100	7427.31	7479.74	-0.70
FTSE All-Share	4076.32	4103.35	-0.66
CAC 40	6222.28	6274.26	-0.83
Xetra Dax	12892.99	12971.47	-0.61

CURRENCIES

Pair	Aug 29	Prev	Pair	Aug 29	Prev
$/€	0.998	1.002	€/$	1.002	0.998
$/£	1.169	1.179	£/$	0.855	0.848
£/€	0.854	0.850	€/£	1.171	1.177
¥/$	138.735	137.270	¥/€	138.507	137.497
¥/£	162.216	161.862	£ index	78.862	78.820
SFr/€	0.968	0.965	SFr/£	1.134	1.136

CRYPTO

	Aug 29	Prev	%chg
Bitcoin ($)	20288.00	19538.70	3.83

GOVERNMENT BONDS

Yield (%)	Aug 29	Prev	Chg
US 2 yr	3.43	3.42	0.01
US 10 yr	3.12	3.03	0.09
US 30 yr	3.26	3.20	0.05
UK 2 yr	2.95	2.92	0.03
UK 10 yr	2.60	2.60	0.00
UK 30 yr	2.88	2.88	0.00
JPN 2 yr	-0.09	-0.09	0.00
JPN 10 yr	0.24	0.22	0.02
JPN 30 yr	1.19	1.15	0.05

Dubai

Nikkei	27878.96	28641.38	-2.66
Hang Seng	20023.22	20170.04	-0.73
MSCI World $	2694.62	2768.48	-2.67
MSCI EM $	1006.50	1003.44	0.31
MSCI ACWI $	627.90	642.97	-2.34
FT Wilshire 2500	5293.57	5477.74	-3.36
FT Wilshire 5000	41361.35	42797.16	-3.35

Ethereum	1528.86	1424.37	7.34

COMMODITIES

	Aug 29	Prev	%chg
Oil WTI $	96.26	93.06	3.44
Oil Brent $	104.13	100.99	3.11
Gold $	1751.25	1753.55	-0.13

GER 2 yr	1.08	0.95	0.13
GER 10 yr	1.50	1.39	0.11
GER 30 yr	1.60	1.52	0.08

Prices are latest for edition
Data provided by Morningstar

A Nikkei Company

INTERNATIONAL

Europe

Power utilities seek additional state bailout

Uniper and Wien Energie call for extra aid as gas prices hit record high

TOM WILSON AND PHILIP STAFFORD
LONDON
SAM JONES — ZURICH
GUY CHAZAN — BERLIN

German Uniper and Austria's Wien Energie have called for more emergency government support as the soaring costs of gas and power across Europe threaten the ability of the utilities to operate.

Uniper, one of Germany's biggest utilities, said yesterday it had asked for a €4bn increase to an existing €9bn credit line from state-owned bank KfW that would help secure the company's "short-term liquidity". Wien, Austria's largest energy company, said wholesale gas and power prices were rising so fast that it was having difficulty financing its operations. The company, which supplies gas and electricity to about 2mn domestic customers, said it was in talks with the government "to ensure a stable overall situation for energy supply in Vienna and all of Austria".

The calls for additional support came after Europe's benchmark gas price soared by almost a third last week to more than €343 per megawatt hour.

Russia's decision to choke off gas supplies to Europe has pushed up gas and power prices to record levels, forcing governments to seek alternative supplies and resort to ever more draconian measures to reduce consumption.

Uniper, historically Europe's largest buyer of Russian gas, said the volumes it received from Russia had fallen by 80 per cent since June, forcing it to procure alternative supplies at "significantly higher prices" and resulting in cash losses of "well over" €100mn a day. The Düsseldorf-based company is a major gas supplier and among Europe's largest electricity generators with 34 gigawatts of capacity. It has about 600 clients in Germany and neighbouring countries, ranging from industrial customers and municipalities to regional distributors.

'We must put a stop to this madness . . . and that can only be done through a European solution'

The rapid run-up in prices had also further increased the margin payments — or collateral — Uniper was required to make to exchanges when it traded gas and power, the company added, resulting in "a significant impact on the liquidity situation in recent days".

Uniper said it had drawn down the final €2bn from the €9bn KfW credit line agreed in July as part of €15bn rescue and would need to borrow more.

EEX, the German energy derivatives market, also called on governments to provide more support to utilities struggling to meet margin requirements when buying and selling gas and power.

Peter Hanke, head of the city of Vienna's finance ministry, told the Austrian Press Agency that Wien Energie could require as much as €6bn from the federal government to help it meet margin calls on contacts. The city had already provided emergency funding, he said, but did not have the resources to continue to do so alone. He stressed that Wien Energie's underlying business was sound and profitable.

Austrian chancellor Karl Nehammer said he would propose an EU-wide cap on electricity prices at a meeting of European energy ministers. "We must finally put a stop to this madness . . . and that can only be done through a European solution," he said.

Robert Habeck, Germany's economy minister, said German gas storage levels were at about 83 per cent and would reach the 85 per cent target set for October by the start of next month.

Artemis programme

Nasa shelves launch of moon mission after engine problems

RICHARD WATERS — SAN FRANCISCO

The blast-off of the first US rocket in 50 years capable of carrying humans to the moon was called off yesterday morning after last-minute problems with an engine cooling system.

The 322ft-tall Space Launch System rocket had been due to lift off from launch pad 39B at Florida's Kennedy Space Center, the same site that witnessed the launch of Apollo 17, the last US mission to the moon.

The launch, set for 8.33am local time, was put on hold and then scrapped after Nasa assessed a number of last-minute problems, including with one of the hydrogen "bleed" lines used to cool the engines before ignition. Back-up launch windows are available for a second attempt on Friday, with a third launch option next Monday.

After 12 years of development and significant cost overruns, the first launch of the moon mission is a major test for Boeing, the rocket's main contractor. Nasa sought to paint the delay as part of the usual teething problems for a new rocket.

"It's just part of the space business, and part of particularly a test flight," said Bill Nelson, the Nasa administrator. "You don't light the candle until it's ready to go."

In a statement after the cancellation, Nasa said its team "ran out of time in the two-hour launch window" as engineers scrambled to find the problem with the engine cooling system ahead of the scheduled lift-off.

"Launch controllers were continuing to evaluate why a bleed test to get the RS-25 engines on the bottom of the core stage to the proper temperature range for lift-off was not successful," Nasa said. The procedure that caused the problem was one that Nasa had not been able to test in the run-up to the planned launch.

The first flight of the rocket is set to open a new era in human space exploration as the US races against China to put astronauts back on the lunar surface. Yesterday's mission was due to carry an unmanned Orion capsule on a six-week test flight around the moon, a prelude to its first human mission in 2024 and a moon landing in 2025.

The moon missions are the first step in Nasa's Artemis programme, which was set up with the eventual goal of carrying astronauts to Mars and beyond. It comes after decades in which the US gave up on human exploration of deep space, leaving it reliant for much of the time on renting space on Russian rockets to carry its astronauts into orbit.

"Prior to the Artemis programme, there were many countries that were looking towards China" for leadership in space, said Mike Gold, a former Nasa official in charge of policy and partnerships. Speaking at an event the day before the launch, Gold said that the US had "failed time and time again to sustain a programme" in space beyond low-earth orbit, leaving an opening for China to take a lead and making it essential for the US to respond.

China, which has landed three robotic craft on the moon, has said it is planning to build a lunar base with Russia, and has invited other countries to join the project.

Sweden. Election

Social Democrats count on PM's popularity

Party has decided to make its campaign unusually personal with a focus on Andersson

RICHARD MILNE — STOCKHOLM

In southern Stockholm, volunteers for the governing Social Democrats are knocking on doors with an image of their not-so-secret weapon emblazoned on their T-shirts: Prime Minister Magdalena Andersson.

Eight years after the centre left came to power in Sweden but just nine months after Andersson assumed the premiership in chaotic circumstances, the Social Democrats are counting on the personal appeal of the country's first female prime minister.

"She is more popular than her party. She is more popular than her rivals. After Covid and the war in Ukraine, leadership matters more than it did four years ago," said Catharina Piazolla, Stockholm's county clerk, as she knocked on doors wearing "I vote for Magdalena" T-shirt and a tote bag with the prime minister's face on it.

After a tumultuous four years — including a Nato application that ended 200 years of Swedish neutrality, soaring gun and gang crime, and a Covid strategy at odds with most of Europe — voters go to the polls on September 11 in an election seen as too close to call.

The Social Democrats, who have come in first in every Swedish election for more than a century but have struggled to form viable coalitions in recent decades, have chosen to make this campaign unusually personal.

Andersson, a 55-year-old economist by training who was finance minister from 2014 to 2021, is by far the most popular party leader in Sweden. She had the support of 56 per cent of Swedes in a Novus opinion poll last month, against just 33 per cent for her main rival, centre-right leader Ulf Kristersson, and 27 per cent for nationalist Sweden Democrat chief Jimmie Åkesson.

That has translated into a decent lead for her party, which registered a big jump after Andersson became prime minister in November.

The latest poll for newspaper Dagens Nyheter on Friday gave the Social Democrat 30 per cent against 21 per cent for the Sweden Democrats and just 17 per cent for Kristersson's Moderates. Karin Jordås, a party activist out canvassing in Södermalm, a trendy Stockholm district of mostly young professionals, mentioned Andersson at every opportunity, sometimes striking a chord even when the voter supported a different party.

In step: premier Magdalena Andersson arrives in Gavle on a campaign visit this month
Pontus Lundahl/TT

"She is very big. I can't remember the last time we had a leader who was so popular," she added.

Still, Andersson faces significant challenges. Forming a coherent coalition when she needs the support of both the nominally centre-right Centre party and the ex-Communists of the Left will be tricky. She is vulnerable on Sweden's high level of gang crime with scarcely a day going by without a new shooting.

"It is obvious to everyone that Sweden has problems," she said on Thursday, while unveiling a manifesto that focused to an unusual extent for the Social Democrats on cracking down on crime and fighting segregation.

"She is still fairly untested. She hasn't really proved herself in the hurly-burly of politics and campaigning," said Nicholas Aylott, associate professor at Södertörn University. One policy issue has "augmented" her standing, he added: Sweden's momentous decision to join Nato.

That it should benefit Andersson seemed unlikely. Some Social Democrats feared that a debate on joining the western military alliance could split the centre-left party, known for its proud pacifism and anti-nuclear weapon stance.

Ahead of the government decision in May to seek membership of the alliance, former foreign secretary Margot Wallström told the Financial Times the Social Democrats needed to make up their minds on Nato before the opposition could use it as an election issue against them.

In a recent interview, she said: "When the Social Democrats changed their direction it became a non-issue."

But Sweden's Nato membership still has the potential to divide the party. Most acknowledge that the decision to join Nato stems not from desire but from political calculation, after neighbouring Finland decided to apply for membership, a move that ended chances of a credible bilateral defence alliance with Helsinki. Turkey's opposition to Sweden's Nato membership, and the pressure it is putting on Stockholm to curb its support for Kurdish rights, are awkward.

'She is more popular than her party and her rivals'

"The whole Turkish issue is rather embarrassing. If we give into Turkey, it will not be well received [by voters]," said Wallström, who said she was also worried about a loss of independence in foreign policy.

For now, however, Andersson is enjoying strong poll numbers even as she focuses on policies that have traditionally been the preserve of the centre right.

Aylott said it reflected the rightward drift of centre-left parties across Europe. "The Social Democrats are a post-ideological party. Very long-standing positions on national security, law and order, and immigration can be changed surprisingly quickly in the right political circumstances, and that is what she has done," he added.

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Energy

Denmark urges bloc to speed up approval of renewable plans

ALICE HANCOCK — BRUSSELS

Denmark's energy minister has called for European governments to do more to ease the process of approvals for renewable energy projects amid mounting pressure for them to diversify away from Russian fossil fuels.

Dan Jørgensen said that while the EU had "sent some good signals" about

to expand wind capacity in the region. At a similar summit in May, Denmark agreed with Germany, Belgium and the Netherlands to increase wind power in the North Sea by 150 gigawatts — around 10 times Europe's entire wind energy capacity today.

The EU has also set out good practice recommendations on permitting procedures, which it said needed to be "drasti-

increase the share of renewables in the EU's energy mix to 45 per cent by 2030, up from its current 32 per cent target.

But the industry has made clear that these targets would be almost impossible to achieve.

As well as the slow process to realising projects, material input costs have surged as China, which supplies many of the metals needed to make wind tur-

supply chain issues and development delays. WindEurope, the industry body, has indicated that given the obstacles, developers would be able to build only 18GW of wind capacity per year between 2022 and 2026, far below the 37GW required annually to meet the EU's 45 per cent target.

Giles Dickson, WindEurope's chief executive, said countries would need to

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smoothing out permitting procedures, which can take as long as nine years for wind farms, "there is still potential for us to do better".

He said: "It's not only about regulation but also, as public authorities, how you deal with these processes. How do you make sure that when the contractor is doing this project, they're able to do it as swiftly as possible?"

Denmark has a strong record in wind power: in 1991, it became the first country to build an offshore wind farm and aims to become a net exporter of green energy by 2030.

Jørgensen will host an energy summit today on the Baltic Sea island of Bornholm, where Denmark hopes to reach a deal with Germany, Poland, Sweden, Finland, Estonia, Latvia and Lithuania

cally accelerated".

There is currently 2.8GW of wind power in the Baltic, of which 1.5GW is Danish. The Danes believe there is the potential for up to 93GW in the Baltic, but would need others to realise that potential. Talks on particular projects are already under way, officials have said.

European gas prices are almost 12 times higher than the levels this time last year, prompted by sharp cuts to gas flows from Russia in retaliation for the EU's support for Kyiv following the invasion of Ukraine.

This has increased the pressure to find ways to boost renewable energy production.

The European Parliament will vote in the coming month on proposals to

bines, has grappled with coronavirus lockdowns. Four of Europe's biggest wind turbine manufacturers are loss-making and face increasingly acute financial challenges as a result of the


Wind power: Denmark aims to be a net exporter of green energy by 2030

come together to pool infrastructure given the level of investment in the electricity grid required to support renewable energy, which is typically far more volatile than fossil fuel power.

There are some indications that this is happening. Kriegers Flak, the newest wind farm in the Baltic Sea built in 2021, is the first offshore wind project to have connections to multiple countries.

Jørgensen said: "We need to move away from single countries looking just at their own energy needs. We need to work together on this."

He declined to give details of what he was targeting as a result of the Bornholm summit but said: "We'll be quite ambitious and I think people will be positively surprised by the outcome."

Energy and euro see Companies

INTERNATIONAL

US student debt weighs heavily on a generation of borrowers

Biden loan forgiveness scheme follows decades of rapidly rising tuition fees

AMANDA CHU AND SARAH ANDERSEN
NEW YORK

Amanda Collins, 39, has spent nearly half her life paying back $60,000 in student loans for her undergraduate degree at Morehead State University in Kentucky. A social worker and single mother, she took a second job marketing for a car lot to make ends meet.

Collins felt she could finally keep her head above water when the US government paused student loan payments in March 2020 in response to the coronavirus pandemic. Two years later, President Joe Biden has now announced up to $20,000 in forgiveness for student loan holders, which will slash her remaining debt to $3,000.

"I'm more of a 'I'll believe it when I see it' type person, but I'm at least hopeful to be out of this nightmare soon," said Collins, who says she has held off on marriage and returning to education because of student loan debt.

For months, America's student loan borrowers were left in limbo over when payments would restart. Whether to extend the pause again — or go a step further by fulfilling a campaign pledge to forgive a portion of student loan debt altogether — had been a thorny decision for Biden as he sought to avoid upsetting his Democratic base ahead of the midterms while giving Republicans no ammunition to use in their campaigning.

In a Financial Times survey of nearly 600 borrowers, half said they put money in savings or paid down other debts as a result of the pause on student loan payments. Twenty per cent were able to make a large purchase like a car or a home. Last week the president announced a three-part plan to address the student debt crisis, cancelling $10,000 in federal student loan debt for all borrowers earning less than $125,000 and an additional $10,000 for Pell Grant recipients, a federal scholarship for low-income students. The payment pause on federal student loans would also be extended for the seventh, and, he said, final time to December 31.

The decision was largely cheered by the Democratic party. But critics from both sides of the political spectrum say forgiveness would stoke inflation and do nothing to solve the problem of affording college. "We have got to do more," said Democratic senator Bernie Sanders, who wants to make public colleges free. "At a time of massive income and wealth inequality, education must be a fundamental right for all."

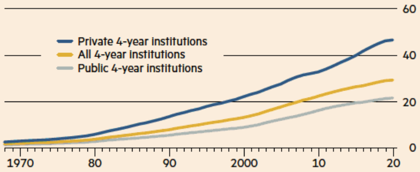
Approximately 43mn Americans owe $1.6tn in federal student loans, which make up the vast majority of student loan debt, according to the Federal Reserve Bank of New York. Biden's new plan would cancel the full remaining balance of student debt for 20mn Americans, according to the administration.

The mushrooming of student loan debt is a largely recent phenomenon in the US, as tuition rates soared in the past three decades. A single year of college at a four-year institution in the US averaged $29,033 in 2020, more than double two decades ago and about twice the OECD average, according to the National Center for Education Statistics and OECD data. The US has a hotchpotch system for student loans where borrowers can tap multiple loan programmes and lenders. According to the Education Data Initiative, a research group, an additional $140bn is held in private student loans, which unlike federal loans are not held by the US government and tend not to have fixed rates.

Learning the hard way: a rally outside the White House in Washington backing the Biden scheme but demanding the cancellation of student debt
Shawn Thew/EPA-EFE

Tuition fees at US universities have skyrocketed

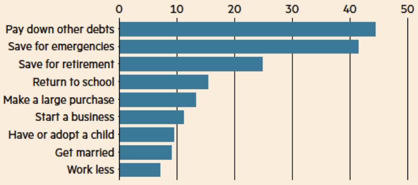
Annual total tuition, fees, room and board ($'000)*



* Average undergraduate tuition, fees, room and board rates charged for full-time students in degree-granting post-secondary institutions

Forgiving $10,000 in student loans would have far-reaching effects

US borrowers were asked what they would do if they had $10,000 in student loans forgiven



Sources: National Center for Education Statistics; Social Policy Institute at Washington University St. Louis

Rapidly rising tuition prices have hurt an entire generation's ability to save and reach milestones. According to a study by TIAA and MIT AgeLab, 84 per cent of borrowers said their student loans were negatively impacting the amount they were saving for retirement. Among borrowers who took out less than $25,000, more than a third said the loans had an impact on when they planned to buy a home and nearly a fifth said loans affected their plans to have children.

Wande Ogun, 35, borrowed $60,000 for her undergraduate degree at Rutgers University. Unable to find a well-paid journalism job after college, she put her loans in deferment and was later threatened with wage garnishment, a court order to withhold money from a salary to pay off a debt. "A big part of me still feels like I graduated college yesterday," said Ogun. "I don't have a solid career. I don't have a retirement fund set up. I don't have any property. I'm not married. I don't have any children."

A study by the Social Policy Institute found that a universal $10,000 cancellation could cause large behavioural shifts in households. When asked what changes they would make if they had $10,000 forgiven, 44 per cent of student loan borrowers said they would save more for emergencies.

"We not only expect President Biden's student loan forgiveness policy to improve household economic stability . . . but we also expect this policy to improve economic mobility through wealth-building opportunities, like purchasing a new home," said Jason Jabbari, one of the authors of the study.

But some experts fear the forgiveness programme could worsen inequality. Constantine Yannelis, a professor at the University of Chicago, calls student loan forgiveness "regressive" because higher-income earners tend to hold more degrees and thus incur more student loan debt. "The announced forgiveness plans will primarily benefit upper- and middle-class earners," Yannelis said. "The fact that there is an income cap prevents dollars going to those earning very high amounts today, but many college graduates will earn significant amounts over their lives."

Biden has also proposed limiting monthly payments for undergraduate loans to 5 per cent of an individual's monthly income and forgive borrowers after 10 years of payments.

Liz Sampson owed $58,217 for her undergraduate degree in health services administration at D'Youville University in Buffalo, New York. She juggled four jobs and lived pay cheque to pay cheque for three years to pay off her loans. Despite the burden of loans, she did not support student loan forgiveness. "It still does not solve the root cause of the problem — college is unaffordable."

> 'A big part of me still feels like I graduated yesterday. I don't have a retirement fund or property. I'm not married. I don't have children'
>
> Wande Ogun, 35,

Stephen Bush see Letters page

INTERNATIONAL

Germany

Defence looms large in Scholz vision for EU

Chancellor urges greater resilience and reform of governance in Brussels

GUY CHAZAN — BERLIN

Olaf Scholz has called for a new European air defence system, one of a series of proposals to improve the continent's resilience, and reform of EU governance following Russia's invasion of Ukraine.

In a speech in Prague yesterday, the German chancellor said Berlin intended to make "substantial" investments in air defence, and its neighbours would from the start be invited to participate.

"We have a lot of catching up to do in Europe when it comes to defending ourselves against airborne and space-based threats," Scholz said. Germany would continue to send modern weapons to Ukraine, including air defence and radar systems and reconnaissance drones, and could play a "special" role in building up Ukraine's artillery.

Germany would also ensure that the planned EU rapid response force would be ready for deployment in 2025.

Much of the speech, delivered at Charles University, was focused on the idea of making Europe more "sovereign", better able to defend itself and more effective at countering competition from countries such as China.

EU nations must, said Scholz, develop the bloc's "promise of peace" by ensuring it was "able to safeguard its security, independence and stability in the face of external challenges".

Scholz won praise in Europe for responding to Russia's war by launching an overhaul of German foreign and defence policy, promising to end the dependence on Russian energy, support Ukraine with weapons and invest much more in the German military.

But since then, opposition politicians have accused Scholz of being half-hearted in his backing for Kyiv and of lacking a strategic vision for Germany and Europe.

In a speech intended to silence the critics, he said the six states of the west Balkans should join the bloc, as well as Ukraine, Moldova and, eventually, Georgia. They "belong to us, to the free, democratic part of Europe", he said. Croatia, Romania and Bulgaria should join the EU's passport-free Schengen area, he said.

But expansion would require changes to EU rules, especially on decision-making. Scholz said he favoured a shift to qualified majority voting in foreign and tax policy, "knowing well that this would have an impact on Germany, too".

He accepted that smaller states were wary of the proposal, and suggested the reform be limited initially to areas such as sanctions and human rights, "in which it is particularly important that we speak with one voice".

Scholz also called for changes to the composition of the European Parliament and the European Commission, without elaborating.

He proposed closer co-ordination between EU states on military matters, with regular meetings of EU defence ministers in Brussels and much closer co-operation between European arms companies on joint defence projects.

Scholz threw his weight behind a proposal put forward in May by French president Emmanuel Macron for a "community" of European democracies that would include non-EU members.

There was a need for a forum in which EU and non-EU leaders "can meet once or twice a year to discuss the central issues that affect our continent as a whole: security, energy, climate or connectivity", he added.

Zaporizhzhia

UN nuclear watchdog to inspect besieged power plant

HENRY FOY — BRUSSELS
ROMAN OLEARCHYK AND JOHN PAUL RATHBONE — KYIV
MAX SEDDON — RIGA

A team from the UN's nuclear watchdog is heading to Ukraine to inspect the Zaporizhzhia power plant, which has come under repeated fire.

Europe's largest atomic plant was taken by Russian troops in March but is still operated by Ukrainian staff. Both sides have accused each other of actions that threaten the stability of its reactors.

Rafael Grossi, director-general of the International Atomic Energy Agency, said yesterday he would lead a mission to the Zaporizhzhia nuclear power plant this week.

"The day has come, [IAEA's] Support and Assistance Mission to Zaporizhzhia is now on its way," he wrote on Twitter. "We must protect the safety and security of Ukraine's and Europe's biggest nuclear facility. Proud to lead this mission which will be in ZNPP this week."

The team would assess damage, check safety and security systems, evaluate staff conditions and "perform urgent safeguard activities", said Grossi.

Mikhail Ulyanov, Russia's envoy to international organisations in Vienna, told the RIA Novosti state newswire the team included about 15 IAEA nuclear security specialists and a UN logistics and security team.

Grossi wanted to "leave several people" at Zaporizhzhia "on a full-time basis", he said.

Russia has stationed troops and weapons in and around the plant in southern Ukraine, a decision western capitals say risks catastrophe. Ukraine and its western backers have called on Russia to quit the facility and return control to Kyiv.

But Dmitry Peskov, the Kremlin spokesman, was quoted by Interfax as saying: "All countries must put pressure on the Ukrainian side so that they stop putting the continent of Europe in danger by shelling the Zaporizhzhia nuclear plant and the surrounding territories."

The team will enter the plant from Ukrainian-held territory, Peskov said, and Russia will then "ensure security at the required level" once it reaches the facility. Russia had "long waited for" the visit and thought it was "essential".

After the mission was announced, Mykhailo Podolyak, an adviser in the Ukrainian administration, posted a video via Twitter showing cars in flames after shelling in Energodar, the city where the plant is located.

Podolyak said Russian forces were shelling Energodar to create a "specially organised bloody show, the purpose of which is to intimidate local civilians, blaming Ukraine's Armed Forces and mask their 'nuclear' crimes".

Olga Kosharna, who worked for the Ukrainian state nuclear regulatory authority, said that on a scale from one to 10, her fears for the plant were six.

"It would rise to seven if the . . . plant lost its external power supply again [to pump water around the reactors] as there is a danger the back-up diesel generators might not work."

Explosions near the switchboard this month caused the shutdown of its power transformer and damaged radiation detectors. Last week, shelling dis-

Brazil presidency

Bolsonaro and Lula clash in heated first debate

MICHAEL POOLER — SÃO PAULO

Jair Bolsonaro accused his main election challenger Luiz Inácio Lula da Silva of overseeing "the most corrupt government in Brazil's history", as the frontrunners for the country's top office faced off in public for a first presidential debate.

Ahead of what is shaping up to be a polarised contest in Latin America's most populous country, tempers flared in a nearly three-hour televised event on Sunday evening that included six candidates.

Lula, the leftwing ex-president who is leading most opinion polls in the run-up to the October 2 ballot, countered by accusing far-right incumbent Bolsonaro of "destroying the country".

Yet Bolsonaro landed a strong blow against his rival, focusing on the theme of corruption, alluding to a political bribery scheme at state-controlled oil company Petrobras under the rule of Lula's Workers' party, or PT.

"Why do you want to return to power? To continue doing the same thing at Petrobras?" said Bolsonaro, 67, who is running under the banner of the Liberal party, or PL.

"Your government was marked by kleptocracy. In other words, a government based on theft. And this robbery was to gain support within parliament."

Lula insisted his administrations had taken measures to improve transparency and combat corruption. He listed achievements in the areas of job creation and social inclusion during his two presidencies, between 2003 and 2010, before going on the counter-offensive.

"It is a country that the current president is destroying. He's destroying it because he loves bravado," said Lula, 76.

"The country I left [behind] is a country that people miss. It's the country of employment, it's the country where the people had the right to live with dignity with their heads held high."

Debate in the campaign has largely centred on the economy, with Lula harking back to memories of poverty reduction during his time in power.

War games

China and Russia start Vostok exercises

Russia and China will embark on military exercises this week, a sign of Moscow's deepening ties with Beijing and of the Kremlin's desire to project a "business as usual" image despite the mounting costs of its war in Ukraine.

The Vostok war games, which begin today, are held every four years in Russia's far east. A reported 300,000 of its troops drilled alongside those from China and Mongolia during the last exercises in 2018, with this year's manoeuvres given added symbolism by the fighting in Ukraine, which is now into its seventh month.

Western officials and defence analysts say they illustrate the "friendship without limits" that was pledged just before war broke out by presidents Vladimir Putin and Xi Jinping. The war games also underline the Kremlin's ability to maintain ties with other allies including Belarus and India, which will join the exercises.

Beijing has stressed that its participation in the Vostok exercises is "unrelated to the current international and regional situation". Russia and China held joint military exercises in China last year, and Washington has said it does not read any new significance into the latest drills.

Beijing when US House Speaker Nancy Pelosi visited Taiwan, which China views as a renegade province. Putin described Pelosi's trip as a "carefully planned provocation".

The adviser added: "Russia has lost the information war in the west, and Putin is now showing to the east that Russian life is going on as usual: that 'We're doing what we're doing in Ukraine, we're strong, and we're going to win'."

In a show of that strength, two Russian naval convoys last week passed through the Soya Strait that separates Russia and Japan, according to the defence ministry in Tokyo, suggesting they were heading to the exercises.

Still, with as much as three-quarters of the Russian army thought to be in Ukraine, analysts said the exercises would mostly be military theatre. While cancelling them would have sent the wrong signal, holding them may also be of little strategic benefit.

"The Vostok military exercises today make no sense," said Pavel Luzin, an independent Russian military analyst. "Almost all Russian combat-capable units are engaged in the war in Ukraine. It's just pretending that everything is still all right."

as the upper storeys of its building are on fire".

Even some Russian analysts have criticised its recent military performance and its weaponry, which has been on display at an international arms expo in Moscow.

Putin boasted at the expo's opening that the Russian military was "decades ahead" of its competitors, and that he was willing to share its technology with allies.

However, Ruslan Pukhov, a military analyst and member of the Russian defence ministry's public council, was critical of the armed forces for "not having enough high-precision weapons and modern aiming equipment" in Ukraine.

This meant that "in the case of an artillery duel, they often beat us", Pukhov said in a recent interview.

While some of Russia's weapons are on a par with leading western technologies, such as its S-400 air defence systems, a lack of western components has stymied the industry's technical capacity and hurt arms exports, analysts say.

"Russia has been losing its defence export capabilities for several years," said Luzin, adding that its

Amid a cost of living crisis, Bolsonaro highlighted a recent temporary increase in welfare payments for the country's poorest citizens, who will receive about R$600 ($120) a month.

Chinese troops in the 2018 Vostok manoeuvres — Sergei Grits/AP

Still, "the fact that Vostok means 'east' tells you everything you need to know", said a western defence adviser, pointing to Moscow's support for

Ben Barry, a senior fellow at the International Institute for Strategic Studies think-tank, said Moscow was "keeping its shop displays going even

military industry had "been in deep crisis for at least six years and will not survive the current sanctions".
John Paul Rathbone

connected it from the Ukrainian grid.

Grossi said "all safety systems remained operational and there had been no increase in radiation levels" after artillery attacks around the plant.

Energy

California governor performs volte-face and seeks to extend life of last atomic facility

CHRISTOPHER GRIMES — LOS ANGELES

After nearly 40 years of protesting against the Diablo Canyon nuclear power plant, Linda Seeley thought victory was finally at hand.

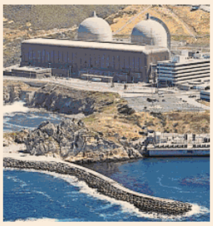
Seeley and other members of Mothers for Peace — an activist group with roots in the 1960s antiwar movement — cheered when Pacific Gas and Electric, the utility that operates California's last nuclear power station, announced in 2016 that it would close by 2025.

But governor Gavin Newsom, a longtime proponent of shutting down the plant, has reversed course and embarked on a last-minute effort to extend its operation by a decade. His administration has cited "unprecedented stress" on the state's energy system as a reason for keeping open Diablo Canyon, which accounts for 9 per cent of the state's generation and 17 per cent of its electricity from carbon-free sources. The California legislature will need to vote on whether to extend its operating life by Wednesday.

Seeley, who lives seven miles from the plant in San Luis Obispo county, is furious. "With this proposal, Gavin Newsom is keeping an asset that is antiquated, needs tons of upgrades [and] has a six-year history of deferred maintenance," she said. "It would be unconscionable to allow the plant to go on operating without doing the due diligence needed to make sure it is safe enough to work."

Diablo Canyon's coastal location sits on faultlines, prompting concerns that seismic activity could trigger a nuclear meltdown. Proponents of extending the plant's life note it has operated without incident since 1985. They argue its steady power output is crucial as the state reaches for a goal of carbon-free electricity by 2045. California is also phasing out sales of petrol-fuelled cars and some communities aim to electrify home heating and appliances, which will increase demand for power.

The grid is already straining to meet peak demand in the face of extreme weather fuelled by a changing climate. In 2020 a record heatwave and forest fires drove rolling blackouts for thousands of customers. This year drought has severely depleted the water that feeds California's hydroelectric dams.



Diablo Canyon nuclear power plant in California is due to close in 2025

California is a leader in renewable generation, with a quarter of its electricity powered by solar and wind resources in 2021 compared with 12 per cent for the US as a whole. But problems in the supply chain and cost inflation threaten to impede their expansion, claim state officials. The state's power system will hit a "critical inflection point after Diablo Canyon retires", the California Independent System Operator (Caiso), which manages most of the state's grid, warned in a filing last year.

Defenders of Diablo Canyon point to the consequences in other states that have closed nuclear power plants facilities. In New York state, wholesale electricity prices rose after the Indian Point nuclear plants closed in 2020 and 2021, while carbon emissions rose due to increased reliance on natural gas power.

The Biden administration is promoting nuclear energy as a way to reach clean energy goals. The energy department announced a $6bn plan to support nuclear power reactors at risk of shutting. If the California legislature gives Diablo Canyon a lifeline, it could apply for those funds.

"As a regulated utility, we follow the energy policies of the state," said San Francisco-based PG&E, adding it was "ready to support the state's goals to ensure statewide electric reliability and minimise greenhouse gas emissions".

A growing number of scientists and activists have embraced nuclear power as an important tool in reducing carbon emissions despite their high costs and safety concerns. Heather Hoff, who founded Mothers for Nuclear in 2016 to advocate for keeping Diablo Canyon open, said she felt vindicated by the volte-face by Newsom, a Democrat. "It feels rewarding," said Hoff, who is also a PG&E employee at the plant.

Success for Newsom would be a boost for nuclear plants in other states. "I'm confident we'll land this," he said.

See Lex

Devil in the detail There is still money to be made in Asia, but Prada is weighing a return to its roots with Milan listing ● LEX, PAGE 16

Companies & Markets

Energy crisis pushes bets against euro to two-year high

- Fears mount over recession threat
- Rate signals by Fed spur dollar bulls

MARTIN ARNOLD — FRANKFURT
NIKOU ASGARI — LONDON

Investor bets that the euro will fall in value have reached their highest level since the pandemic hit Europe more than two years ago, as the risk grows that record energy prices will drag the region into recession.

Rising wagers against the euro also reflect bullishness on the dollar, which has been boosted by signals from the Federal Reserve, reinforced by Jay Powell, its chair, on Friday that it will keep raising rates to tackle inflation even in a slowdown.

Europe is also grappling with steeply rising prices. At the annual gathering of central bankers at Jackson Hole this weekend, Isabel Schnabel, executive board member of the European Central Bank, and François Villeroy de Galhau, governor of the French central bank, warned that monetary policy would have to stay tight for an extended period in Europe.

44,100
Speculators' net short positions on euro, contracts in week to August 23

9%
Expected scale of rise in eurozone consumer prices, year to August

Speculators built up net short positions on the euro — a way to bet that the currency will drop in value — of 44,100 contracts in the week to August 23, up from 42,800 the previous week, according to data published by the Commodity Futures Trading Commission on Friday.

It marks the largest bearish position against the euro since the start of the pandemic in the first week of March 2020, when investors held net short positions of 86,700 contracts as the eurozone economy fell into a record postwar contraction.

The euro has already fallen 15 per cent, dropping below the value of the dollar in the past year. It hit a 20-year-low last week as wholesale gas and electricity prices surged to all-time highs in Europe on fears of Russia throttling crucial energy supplies.

"The euro right now is just purely a function of the European energy shock," said Mark McCormick, global head of FX strategy at TD Securities. "The biggest driver for the next couple of weeks involves what happens with Nord Stream 1 and heightened gas prices."

He said TD had entered a short euro trade when it was trading at $103.45 and took profit after it recently fell to parity against the dollar.

"There is some room that the euro could push lower . . . The short-term set-up's not great."

The weak euro is fuelling inflation, increasing the price of imports including energy. Economists expect eurozone consumer prices will have risen at a record rate of 9 per cent in the year to August when the latest data are published on Wednesday.

Some ECB policymakers have proposed stepping up the pace at which it raises rates to rein in inflation, saying it should consider a 0.75 percentage point rise at its meeting on September 8, while Schnabel told Jackson Hole that a larger "sacrifice" would be needed to tame inflation than during previous episodes of tightening.

One risk for investors betting against the euro was that the longstanding flow of money away from Europe to invest in the US and other regions could reverse over the next six to 12 months as the ECB raises rates, making eurozone bonds more attractive, said Adams.

"The relative attractiveness of holding European paper is going up," he said. For European investors, long-term returns from eurozone government bonds could soon exceed those from US equivalents after deducting the cost of hedging against currency moves.

Flight blight Inflation toll on personal income threatens to cancel airline sector recovery

Fine line: carriers struggle with high demand as they fret over a deteriorating economic outlook — Noel Bennett/Alamy

PHILIP GEORGIADIS — LONDON

Airlines are braced for a grim winter after struggling under the weight of booming demand for travel in the summer, as the economic slowdown threatens their recovery.

The dire outlook has prompted warnings that passenger numbers could fall as household disposable incomes come under pressure from high inflation and soaring energy bills.

Despite upgrading its passenger forecasts, Gatwick airport said uncertainty on the economy was a threat to an industry shaken by rising fuel costs and staff shortages. "It could impact the overall propensity for travel," said Jim Butler, Gatwick's finance chief.

Although airlines have not reported a significant hit to bookings, he was "cautious about what we might see in the winter or next year". While it might not hit many peoples' ability to take a big annual holiday, Butler said, it could weigh on demand for "the second or third trip".

One European airline executive said the "outlook is still very uncertain" for the winter, particularly as the end of the summer was never a strong booking period. He projected less demand for leisure travel in the fourth quarter, including a reduction in shorter city breaks.

It would mean a further blow to airlines and their shares, which have been under pressure even as demand surged in the summer with airports and carriers struggling. The MSCI index of European airline shares has lost 15 per cent this year, with groups including British Airways owner IAG, Ryanair and Air France-KLM down about 30 per cent. "There is a lot of negativity on airline stocks . . . People are saying you don't usually buy airlines into a recession," said Stephen Furlong, an analyst at Davy.

The revenue of the seven airlines covered by Moody's in 2009 fell about 20 per cent in the recession that followed the financial crisis, and operating profit fell 50 per cent.

Furlong said the industry was in an unusual position, with a weakening economic outlook coinciding with pent-up demand that has not shown any signs of slowing down following two years of travel curbs. No big airline has publicly reported a slowdown in bookings. "People are hugely worried about the macro, and yet the numbers are really good," he said.

Bjørn Tore Larsen, chief executive of new Norwegian long-haul airline Norse Atlantic, said a recession would "of course" hit demand, but travel was still "very high on people's lists". He said in August: "I think many people would go for that weekend away, rather than buy a new TV."

Moody's said in a report that there was scope for airlines to recover more of their pre-pandemic business.

Honda and LG to build $4.4bn US battery plant

KANA INAGAKI — TOKYO
CHRISTIAN DAVIES — SEOUL

Japanese carmaker Honda and South Korean battery maker LG Energy Solution will invest $4.4bn to build a battery plant in the US, amid increasing pressure from Washington to cut China out of supply chains for electric vehicles.

It will be the first manufacturing facility for EV batteries in the US for Honda, which has committed to ending fossil-fuelled vehicles by 2040.

The slew of recent investments in the US by Asian carmakers and battery manufacturers comes as the US tightens environmental regulations, with California last week enacting rules that will halt sales of new petrol-powered vehicles by 2035.

"Honda is committed to the local procurement of EV batteries which is a critical component of EVs," chief executive Toshihiro Mibe said.

LG Energy Solution said the two companies made the decision "based on the shared belief that expanding local electric vehicle production and ensuring the timely supply of batteries would put them in the best position to target the rapidly growing North American EV market".

The joint venture, where LG will hold 51 per cent and Honda 49 per cent, aims to begin construction next year. Mass production of lithium-ion battery cells is expected to start by the end of 2025.

Along with fellow leading battery makers SK On and Samsung SDI, LG Energy Solution is expected to be one of the main beneficiaries of the US Inflation Reduction Act, which was signed into law by president Joe Biden this month. The legislation aims to eliminate from the US supply chain battery components coming from "foreign entities of concern", most notably China.

South Korea's three leading battery companies enjoy more than a quarter of global market share, according to SNE Research, and are pushing into the US.

SK On recently finalised a $7.8bn joint venture with Ford to build three battery plants in the US, while LG Energy Solution and General Motors announced a $2.6bn investment earlier this year to build a third plant as part of their joint venture in Michigan. Samsung SDI is reported to be accelerating a similar partnership with Stellantis, the group behind Peugeot, Fiat Chrysler and Jeep.

Lex page 16

Student's winning meme-stock wager concentrates minds

INSIDE BUSINESS

TECHNOLOGY

Patrick Jenkins

When news emerged recently of the 20-year-old student who had made $110mn buying and selling shares in a tired homeware brand, there was an understandable uproar. The Financial Times revealed that Jake Freeman had invested $27mn in Bed Bath & Beyond in July, selling it only a few weeks later for nearly five times as much.

Social media exploded with snide commentary, most of it focused on how entitled Freeman was to have $27mn at his disposal in the first place. (Family and friends helped fund the trade, Freeman told the FT.) A few sniped, too, that the return was "not that impressive". (Really?)

Among the tide of Twitter criticism, though, no one thought to make the obvious critique: Freeman bet his whole $27mn on one historically volatile stock. (BB&B has gyrated between $4 and $28 over the past year, often moving wildly with no other impetus than social media hype). In doing so, he junked the old-school investment principle that no matter what your timeframe, a good investor will traditionally choose a broad balance of equities, bonds and other ideally non-correlated assets. In short, a good investor diversifies risk.

Or to quote Nobel laureate Harry Markowitz, who in 1952 coined the "modern portfolio theory" concept, "in choosing a portfolio, investors should seek broad diversification" and be "willing to ride out the bad as well as the good times". Markowitz couldn't have known quite how influential his thinking would prove. Among other things, he helped turbo-charge a previously modest mutual fund industry. By the end of last year, according to data provider Statista, $27tn was invested in mutual funds in the US alone, with a further $7tn in exchange traded funds.

Over the past decade, claims mutual fund giant Vanguard, you could have earned an annual 13.8 per cent tracking the S&P 500. That is impressive by most measures, but it is a long way from Freeman's 400 per cent in a month.

Though the scale and speed of the student's spoils attracted particular attention, he is really just a poster boy for the "meme stock" generation of investors, who have spent the past couple of years looking for big quick wins from buying and selling undervalued stocks or hyping and dumping crypto coins, often with borrowed money.

> Freeman junked the old-school principle that no matter what the timeframe, risk should be diversified

The grounds for criticism are obvious: this is gambling, not investing; crypto is a Ponzi scheme; the scope for financial misery is vast. Yet among the valid scepticism, there is a kernel of validity in what Freeman has spotlighted. Though he hails from a moneyed background, his is a generation that has felt deprived of the asset appreciation enjoyed by their parents and grandparents.

The resentment will have been sharpened by cost of living increases unseen for nearly half a century. For many, the hunt for high-risk, high-return gains may feel like an imperative — all the more so given the generally lacklustre returns in markets as a whole, and a daunting macro outlook, both economically and geopolitically. So far this year, the S&P 500 has lost 14 per cent.

Some of the world's wiliest investors might agree — at least up to a point. Equity long-short hedge funds typically have very concentrated portfolios. Warren Buffett now has three-quarters of his equity investments in five companies (Apple, Bank of America, Chevron, Coca-Cola and American Express).

In the UK, Baillie Gifford's Scottish Mortgage Investment Trust has prospered largely thanks to outsized bets on tech stocks such as Tesla (though predictably it's suffered this year).

There is academic research to support high-concentration investment. An influential 2006 paper led by Klaas Baks at Goizueta Business School found "a positive relation between mutual fund performance and managers' willingness to take big bets in a relatively small number of stocks". Outperformance amounted to as much as 4 per cent a year, Baks said.

This is not to dismiss the idea of diversification, says James Anderson, who recently stepped down at Scottish Mortgage; rather stockpickers should concentrate on a small number of "conviction" holdings, and an end investor should select a range of stockpickers.

But Anderson stresses that even big conviction investors are a long way from Freeman on the metric that arguably makes the biggest difference between punting and investing: timeframe. So a month is too short? "Even a 12-month horizon is very difficult," he says. "You have to invest for the really long-term: at least 10 years, preferably for ever."

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COMPANIES & MARKETS

Financials

Targeted groups attack Texas ESG blacklist

Banks and fund managers reject accusation that they are 'hostile to fossil fuel'

BROOKE MASTERS AND PATRICK TEMPLE-WEST — NEW YORK

Financial groups included on a blacklist of companies that Texas considers hostile to fossil fuels have attacked the process as politicised and arbitrary.

Texas comptroller Glenn Hegar is implementing a 2021 law that requires state pension and school funds to divest shares they hold in listed financial groups which, in the government's view, "boycott energy companies".

But critics complain that his office relied on a single ESG ranking to reduce the pool to 19 banks and asset managers. Meanwhile, targeted firms claim the state communicated with them so haphazardly that it was not clear that all companies knew that they were on the final list of 10, which was announced last week. BlackRock was the sole US entity on the list, which also included Credit Suisse, UBS and BNP Paribas.

A parallel list of nearly 350 investment funds that Texas has also targeted for divestment drew similar complaints from sponsors who said some of the products were standard money market funds.

The state sent letters in March asking companies about their corporate treatment of fossil fuel groups and whether they sponsored any funds that excluded them. Several recipients told the Financial Times that their letters were sent to out-of-date addresses or to retired executives and several European groups in the final list of 10 never responded to the state's inquiries.

> 'We do not believe this was a fact-based decision. We see this as the politicisation of pension funds'

The initial process that selected 19 financial groups for potential inclusion on the "hostile" list came in for particular criticism. The state included companies that were in the top half of corporate ESG-risk ratings compiled by MSCI.

That knocked out a number of very large banks and asset managers that have signed official commitments to reduce their carbon footprint, another criteria.

ESG risk ratings are not standardised and they measure the way a company is managing a range of issues. They are not "necessarily focused on climate change. It is not a good tool for what [Texas officials] are using it for," said Simon MacMahon, global head of ESG research at Sustainalytics, which produces a similar screening tool.

If Texas had used Sustainalytics' version, its list might have been quite different.

US fund managers Janus Henderson and Franklin Templeton come out with better scores than BlackRock on Sustainalytics' ranking. Similarly, Citigroup and Bank of America come above Credit Suisse.

Texas decided that if any of the 19 companies sponsored more than 10 funds on its "hostile to fossil fuel" list, it would be included in the final boycott list. BlackRock is the only company on the list with more than 10 such funds. "We do not believe this was a fact-based decision," said Mark McCombe, head of BlackRock in the US. "We see this as the politicisation of pension funds."

BNY Mellon said "we believe [our] funds were erroneously included". It added that seven Dreyfus branded funds on the list were government money market funds and six more "regularly invest in the energy sector".

Credit Suisse said "we look forward to engaging with the Texas Comptroller to resolve this matter . . . Credit Suisse is not boycotting the energy sector". UBS said, "we firmly disagree with the Comptroller's decision".

Even one of the targeted companies that convinced Texas not to include it in the final 10 said it did not understand why its argument succeeded while others' did not.

The Texas comptroller denied that the process was politicised or arbitrary.

"I wanted to make sure that the process that we follow in coming up with our list is one that is open, is transparent, and it is explainable to everybody," Hegar told the Financial Times.

He said BlackRock had not been singled out. His office has given companies and fund sponsors 90 days to offer new information.

Financials. Delisting threat

US audit deal with Beijing leaves investors wary

Analysts point to differing interpretations of agreement on regulatory inspections

TABBY KINDER, CHENG LENG AND HUDSON LOCKETT — HONG KONG

In 2013, after years of negotiations, China yielded to pressure and agreed to let US regulators inspect the audit work of Chinese companies whose securities traded in New York.

However, the historic breakthrough was shattered when US officials travelled to Beijing to check the audits of a large tech group and were stonewalled by regulators.

Almost 10 years later, US officials, as well as hundreds of Chinese companies and global investors that own about $1.4tn of their shares, are hoping that a new agreement will produce a very different outcome.

Last week, Washington and Beijing announced that they had reached another deal for US accounting regulators to inspect China-based audits, which could prevent about 200 Chinese companies being kicked off US exchanges.

Details are scant, but the agreement was a rare concession from Chinese authorities at a time when geopolitical tensions with the west are high.

The simultaneous announcements threw up new sticking points. There was a clear clash between the two sides' statements last week regarding the level of involvement that Chinese authorities will have in the US audit inspections.

The CSRC said that audit work papers "will be obtained by and transferred through the Chinese side" and that China would also "take part in and assist" PCAOB interviews of relevant personnel of audit firms. Yet the PCAOB said it had sole discretion to select firms "without consultation with, nor input from Chinese authorities".

"There have been so many head fakes on this subject that people are cautious regardless of the language disparity," said the portfolio manager.

The PCAOB has been unwavering in its demand for complete access to the work papers and personnel it needs to inspect a company's financial audit. Its chair Erica Williams said on Friday it would accept "no loopholes and no exceptions".

It is not yet known what company audits the US will choose to inspect, or whether its list will include the audits of the five state-owned energy, industrials and finance giants that delisted from New York this month. The move was widely seen as an attempt to exempt those groups from US inspections.

For the US, the credibility of its own capital markets relies on it forcing China

People close to the matter said that the new agreement was based on the same deal signed between the two superpowers in 2013. Because of China's strict coronavirus pandemic protocols, auditors — the bulk of which are the Chinese arms of Big Four accountants PwC, Deloitte, KPMG and EY — will transfer companies' financial working papers to Hong Kong and US officials will inspect them there.

Officials from the Public Company Accounting and Oversight Board (PCAOB), the US accounting watchdog, will travel to Hong Kong in mid-September to see if China keeps its word.

"This is different from 2013," said Jason Elder, a corporate finance partner at law firm Mayer Brown in Hong Kong. "The pressure and consequences of failure to deliver this time around are more acute."

Since the agreement was announced on Friday morning in New York, stakeholders in the debate around US access to Chinese audits have been resoundingly cautious.

Despite shares of US-listed China groups climbing last week on reports that a deal was close, by Friday afternoon investors were again shedding their holdings. Markets have shown little sign that the prolonged volatility around a countdown to Chinese delistings, which would take effect in 2024, has ended.

Markets have shown little sign that the prolonged volatility around a countdown to Chinese delistings, which would take effect in 2024, has ended Michael Nagle/Bloomberg

Goldman Sachs, which has been one of the biggest beneficiaries of Chinese companies listing in New York during the past two decades, thinks it is still a coin toss.

On Monday, the bank's analysts estimated that there was a 50 per cent chance that Chinese shares would be forced off Wall Street, down from around 95 per cent two months ago.

"My advice is don't count the chickens before they hatch," said Clement Chan, head of assurance at accounting firm BDO in Hong Kong. "This is a positive development. However, the devil is in the details."

The compliance of — and potential liability for — the auditors to Chinese companies will also be a crucial detail to define over the coming months as they face an unprecedented level of international scrutiny of their work.

US listings by Chinese companies are considered a barometer for the state of financial relations between the two largest superpowers.

Those relations were at a 30-year low when the US introduced the Holding Foreign Companies Accountable Act in 2020, amid a trade war with China and shortly after a scandal at Luckin Coffee, China's largest coffee chain, which defrauded Nasdaq investors in a $300mn accounting scandal.

The legislation required foreign companies traded on US markets to make their audit work available for inspection every three years, or face a trading ban.

Relations have since deteriorated further, weakening investor sentiment to the extent that the Golden Dragon index that tracks Chinese tech groups on the Nasdaq has lost almost a third of its value in the past 12 months, triple the loss of the S&P 500.

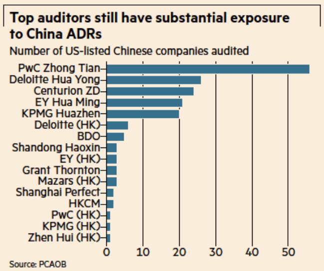
China has also been contending with significant domestic issues: its economy contracted sharply in the second quarter of this year and annual growth has slowed after widespread Covid-19 lockdowns.

"No one is confident but everyone understands that there is political willingness to make it work," said a portfolio manager at a major global asset manager that owns large US-listed Chinese tech companies. "It is not a coincidence that this has come out at the same time as China is rolling out measures to support its economy."

That willingness is so stark that China even appeared to have resolved a key sticking point that has held up years of negotiations. Its top securities regulator, the China Securities Regulatory Commission, said on Friday that the two sides had found a "feasible path" for the US to carry out audit inspections while maintaining China's national security over sensitive data.

But Chinese bureaucracy is vast and allows for a huge number of authorities to intervene on what they consider to be national security information.

"Only when a China auditor is handing over a lot of information to the PCAOB do we know that China has resolved this issue of what is and what is not sensitive data," said a person close to the US side of the talks.



Top auditors still have substantial exposure to China ADRs

Number of US-listed Chinese companies audited

Source: PCAOB

'My advice is don't count the chickens before they hatch. This is positive, but the devil is in the details'

to comply with its audit rules.

Chinese companies listing in New York via American depositary receipts under a "variable interest entity" structure, whereby investors already have fewer rights to the underlying assets and less information compared with other US equities, can pose a risk to its reputation.

Despite the economic importance of collaboration between American and Chinese regulators, several political and technical factors could still derail the next months of work in Hong Kong.

"The CSRC may want to be more than just a back-seat driver, and try to drive the bus itself," said Wang Qi, chief executive of fund manager MegaTrust Investment in Hong Kong. "This will be the first major collaboration between the financial regulators of the two countries . . . It will certainly take some time for the two parties to hammer out the execution details."

As inspections begin to be carried out next month, China will have to decide how it wants to strike the balance of maintaining US listings and safeguarding political and national security.

"The US is a big market that China cannot ignore," said a corporate lawyer in Shanghai who has worked on China-related deals. "There is no real alternative solution for Chinese companies . . . and financing offshore is needed."

Energy

Ambani aims to make India a 'credible alternative' to China in green power production

CHLOE CORNISH — MUMBAI

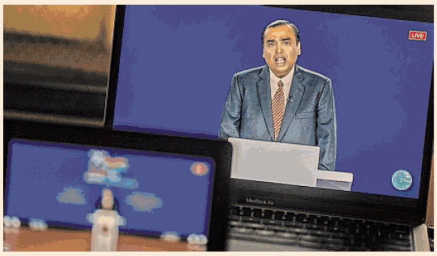
Billionaire Mukesh Ambani said India could become a "credible alternative" to China for green energy production, as he outlined details of a $10bn investment in renewables that the company made last year.

The chair of Reliance Industries, India's biggest listed company, said developing this part of the business would help the country become a net exporter of green energy and a world leader in clean energy manufacturing.

Ambani made the comment at the company's annual general meeting yesterday. It is the first time the tycoon, known for bringing cheap mobile data to India, has measured his vaulting green energy ambitions against India's bigger regional economic rival, China, which is a top exporter of cheap renewable energy technology, such as photovoltaic solar panels.

"China's capacity is huge," said Vibhuti Garg, India lead at the Institute for Energy Economics and Financial Analysis. Ambani is "not saying we're going to beat China", she added, but aiming for a "large scale which was missing in any other country other than China."

Supply chain problems during the pandemic have driven businesses that relied on China's manufacturing capacity to seek other options, in a "China plus one" strategy that India hopes to benefit from. Reliance's profitability is still driven by its fossil fuel intensive oil refining business, the world's biggest. But Ambani has been rapidly diversifying the conglomerate in recent years.



Mukesh Ambani revealing his green energy ambitions at AGM — Dhiraj Singh/Bloomberg

Renewable energy is his latest bet, and last year he unveiled plans to build four giant factories in Gujarat, for production of photovoltaic panels, energy storage, green hydrogen and fuel cell systems. Yesterday, Ambani announced a fifth plant would be built: a power electronics plant, to make the equipment used to link up new energy systems.

Ambani said the company's solar panel factory would also start production in 2024, and its energy storage plant would be making battery packs by next year. He pledged to transition from making hydrogen derived from natural gas to "green hydrogen" by 2025.

Ambani and Gautam Adani, a coal-to-airports tycoon, are emerging as the biggest new players in India's green energy race, after prime minister Narendra Modi set ambitious energy transition targets at last year's COP26.

The company made a slew of other announcements, including the rollout of subsidiary Reliance Jio's 5G services to major cities in October and a 5G smartphone tie-up with Google. It also announced the launch of a fast-moving consumer goods company this year, putting it in competition with giants such as Hindustan Unilever.

Chanos bets on demise of the data centre

Short seller says shift to cloud led by Big Tech will be decisive, but others believe there is life yet in bricks-and-mortar Reits

ANNA GROSS — LONDON

Short seller Jim Chanos has a new target: the humble data centre.

In June, Chanos — who won bets on the downfall of US energy group Enron and of German payments company Wirecard — said his eponymous investment firm was raising several hundred million dollars for a fund that would take short positions in US-listed data centre groups.

He argued that the move to the cloud, predominantly driven by big tech groups such as Microsoft, Amazon and Google, was the "enemy" of bricks-and-mortar real estate investment trusts such as Equinix and Digital Realty.

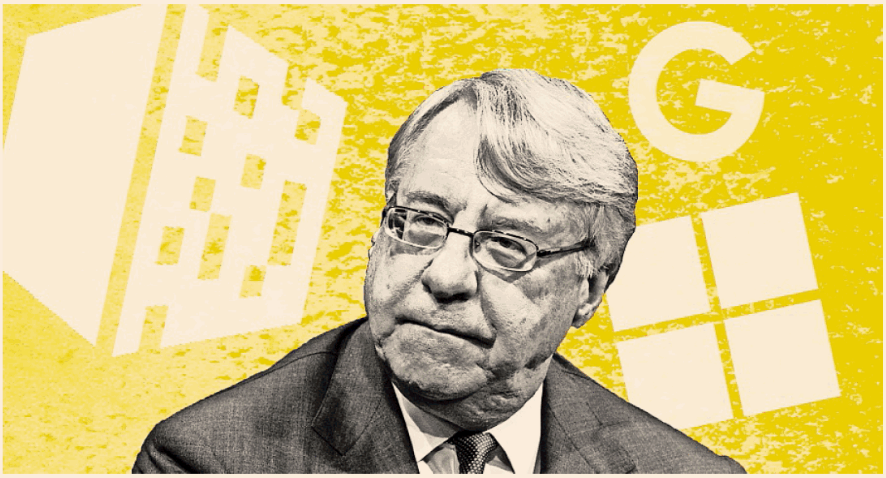
These participants buy land, build complexes, source energy contracts, and allow companies to lease space in their centres to process their data.

Big tech groups, by contrast, use their own equipment and process clients' data for them in the public cloud. Dubbed hyperscalers, they store hardware and server equipment in real estate investment trusts, such as Equinix, or increasingly build their own supersized centres to meet ballooning demand for their services. One Microsoft data centre in Chicago spans 700,000 sq ft, the size of 52 Olympic swimming pools.

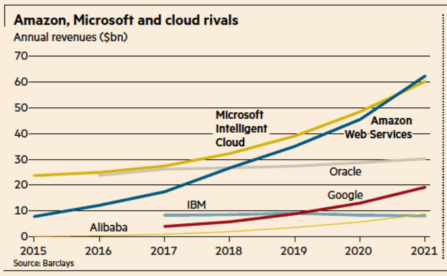
Chanos, who has been hurt by a longstanding bet against Tesla, believes Big Tech, which he says accounts for about two-thirds of data centre demand, will increasingly move to building and running its own real estate. He argues that they will do this because the technology used by legacy groups is becoming old and redundant and because cash-rich Big Tech can build more cheaply. This will render the independent Reits redundant.

Other investors argue that the data centre and specialist operators have life in them yet.

Nathan Luckey, senior managing director of digital infrastructure at Macquarie Asset Management, who has spearheaded several investments in data centre assets, said the best companies were those sitting on prime real estate in



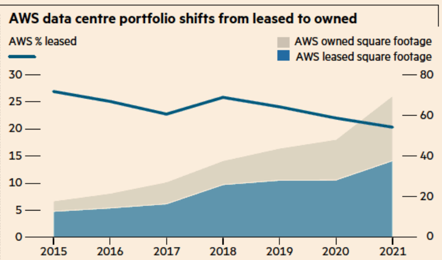
Jim Chanos argues that businesses such as Digital Realty are under threat from the drive to the cloud by the likes of Microsoft and Google — FT montage/Bloomberg



Amazon, Microsoft and cloud rivals

Annual revenues ($bn)

Source: Barclays



AWS data centre portfolio shifts from leased to owned

though we realise there are some risks to our thesis," he said.

One risk is that should the land, labour and energy supply crunches ease, large tech groups might shift to constructing more of their own data centres.

For independent operators to maintain their appeal, differentiation was vital, analysts said.

Most big businesses use a suite of different services, from Gmail to Workday, hosted on different clouds. For all of these software applications to run smoothly together, there need to be physical locations where data can pass quickly and seamlessly one to the other.

Equinix's "secret sauce" was this networking capability, according to Meyers, given it was nearly impossible for hyperscalers to replicate.

"Cloud service providers have spent billions building their own data centres," said Nick Del Deo, an analyst at MoffettNathanson. "They have not spent a single dollar trying to replicate what Equinix has built."

"Interconnection" constitutes about 35 per cent of Equinix's earnings, compared with 14 per cent of Digital Realty's, according to MoffettNathanson calculations — though the latter has sought to expand in this market.

Digital Realty and private groups CyrusOne and CloudHQ have focused heavily on the bricks-and-mortar business. This segment is more vulnerable to competition from the big cloud service providers and smaller data centre groups that are being pumped with billions of capital from private equity firms and infrastructure investment funds.

"I do think there may be a glut at some point, because everyone and their uncle is building data centres at the moment," said David Friend, chief executive of Wasabi, a cloud storage group.

"Right now there is an undersupply, but it's going to be like oil prices. Everyone is going to drill, drill, drill. And then it will force prices down until there's greater consolidation."

Additional reporting by Harriet Agnew

strategic locations.

"Hyperscalers are looking for trusted partners where they can house more and more compute power," he said. "If there is someone who already has land and a property in a market they want to expand into, that's a very relevant factor."

Billions of dollars in private equity capital have poured into the industry, with bulls arguing that traditional data centre groups will remain indispensable given their strong position in top sites and expertise in procuring resources such as power, land and labour. They cite their privileged position as "carrier hotels", meaning they connect lots of different businesses.

These groups and their PE cheerleaders are wagering that data demand will continue to grow and a wide range of customers — from cloud service providers to banks and government departments — will continue to store at least some of their workloads in traditional data centres.

Last year Blackstone, the biggest private equity firm, acquired Kansas-headquartered QTS Realty Trust for $10bn, while KKR and GI Partners purchased Texas-based CyrusOne for $15bn. Earlier this month, Macquarie bought a minority stake in British data centre provider Virtus for an undisclosed sum, betting that large tech groups will be forced to lease as they expand into Europe.

Chanos derided these transactions as "rash", with valuations that were "stretched by any measure". He projected a "post-takeover hangover".

Cloud business has been the engine of growth for groups such as Amazon, Microsoft and Google over the past year. In the first quarter of 2022, revenue at Amazon Web Services was up 37 per cent year on year to $18.4bn, while revenue at Microsoft's Azure platform rose 40 per cent.

Martijn Blanken, chief executive of EXA Infrastructure, which supplies networking infrastructure for the hyperscalers, called the compute workloads for Google and Meta "unimaginable. It's a scale game, and there's no enterprise that can compete with them".

'We still like Equinix even though we realise there are some risks to our thesis'

Brendan Lynch, Barclays

By contrast, listed US data centre groups have posted healthy — but less impressive — growth.

Yet those in the data centre industry said Chanos's thesis was dated, given that the same arguments have emerged several times over the past 15 years, including a highly publicised short position taken against Digital Realty by Highfields Capital Management in 2013. Highfields made money, but Digital Realty is still in business.

"There's a fallacy in the argument that we're not growing as fast as the cloud providers, which means we are threatened by them," said Andy Power, president and chief financial officer at Digital Realty.

He said "co-location" groups such as Digital Realty, where one party provides the real estate and customers provide the tech, "enable" the transition to the cloud, and had seen an increase in leasing from many hyperscalers in recent years rather than a dip.

Tech groups have made a shift towards greater leasing over the past six months driven by a handful of companies, including Meta, Microsoft, ByteDance and Twitter. This uptick has reversed a previous trend to greater in-house construction.

"I don't think [hyperscalers] can keep up with the pace of their business on their own," said Charles Meyers, chief executive officer of Equinix.

Power said: "These cloud service providers are blessed with lots of capital, yes, but they have better uses for it."

Brendan Lynch, an analyst at Barclays, pointed out that in many metropolitan areas of the US, Equinix was the first or second largest data centre provider, giving the company a higher degree of pricing power.

"That's why we still like Equinix even

Pharmaceuticals

Jakarta's dengue jab green light boosts Takeda

JAMIE SMYTH — NEW YORK
KANA INAGAKI — TOKYO

Takeda has said approval of its dengue fever vaccine in Indonesia marks a big step towards the company's goal of creating a global vaccine business that would compete with larger rivals such as GSK, Sanofi and Merck.

Gary Dubin, president of Takeda's global vaccine business, said the approval of Qdenga on August 22 was the first achieved outside Japan by the company for a vaccine and could generate up to $1.6bn in annual sales.

Anticipated approvals by regulators in Europe and elsewhere would make the vaccine a weapon in the global battle against the mosquito-borne disease that infects up to 400mn people and kills about 20,000 a year, he said.

"This is a very important milestone," Dubin said. "Takeda took the decision a number of years ago to globalise its vaccine business . . . Licensure of Qdenga in Indonesia is the first step in achieving that global ambition."

Analysts say Takeda faces a challenge to compete with more established rivals in the global vaccine market.

"Vaccines are a very tough business because you have such well-established incumbents such as GSK, Pfizer, Sanofi and the barriers to entry are high," said Roger Song, analyst at Jefferies.

The drugmaker 'took the decision a number of years ago to globalise its vaccine business'

Regulatory hurdles in the Japanese market have also dented innovation, according to analysts, who note that no homegrown coronavirus vaccines were approved in the country.

Takeda has adopted a cautious approach to investing in vaccines and has a limited pipeline of opportunities. Last year it spun out one of its late-stage prospects — a vaccine candidate targeting norovirus, which is a contagious disease often caught from contaminated food — into a separate company, HilleVax, to attract new investors to help bring it to market.

Dubin said one of the company's brightest prospects was for a vaccine targeting another mosquito-borne disease, the Zika virus. Takeda is collaborating with the US government, which has agreed to supply up to $312mn in funding to the development programme.

"Zika is another potentially very important vaccine to introduce from a public health perspective and because the same mosquito transmits both viruses there are some natural synergies there," said Dubin.

He said Takeda was investigating mRNA technology but had not made any commitment to invest in new-generation vaccine platforms.

Clinical trials show that four-and-a-half years after inoculation, Takeda's dengue vaccine is 84 per cent effective at preventing hospitalisation and 61 per cent effective at stopping symptomatic infection.

Equities. Political backlash

Wall St hunts for ways to skirt Biden's share buyback tax

Taking steps: bankers across Wall Street have sought legal advice on how a new tax will affect accelerated share repurchase programmes — Michael Nagle/Bloomberg

Efforts threaten valuable revenue source for president's

US stock buybacks hit record levels

Quarterly spending on share repurchases by S&P 500 constituents ($bn)

third consecutive quarter. Data are expected to show a slight dip in activity in the second quarter after companies,

Missed opportunity as Powell focuses too much on the present

MARKETS INSIGHT

Mohamed El-Erian

Over the years, the annual central bank confab at Jackson Hole has seen US Federal Reserve chairs address immediate policy issues as well as longer term and more academic ones, that involve the economic and institutional context for policymaking.

Present circumstances called for Jay Powell, the current chair, to do both — that is, address the policy errors of the last 18 months, try to realign monetary policy expectations and establish a path for the resetting of the guiding policy framework.

In the event, his brief speech (just under nine minutes) last Friday largely attempted just one of these three. By focusing on the present, he left much still to be said while less than fully exploiting a much-anticipated opportunity for enhancing policy effectiveness.

There are five reasons why Powell needed to deal with issues that relate to the past, present and future. First, time has not been kind to his presentation at last year's gathering.

His characterisation of inflation as transitory, his forecasts of the economy and his elucidation of the required policy responses have fallen short. for the past world of insufficient aggregate demand. As a result, it is somewhere between ineffective and counterproductive in the current and future world of challenged aggregate supply.

Finally, the Jackson Hole audience is dominated by economists, the majority of whom both understand the importance and urgency of a politically independent central bank and worry about the path this Fed has been on.

In this context, Powell correctly opted for a notably hawkish tone. He rightly stated that "high inflation has continued to spread through the economy", that "there is clearly a job to do" to bring inflation back into control, and that the Fed must "keep at it".

He also said this will entail "a sustained period of below-trend growth". In the process, he attempted to clean up his July remarks that former US Treasury secretary Larry Summers characterised as "analytically indefensible" and "inexplicable".

Illustrating a more general sensitivity to reputational risk and the political vulnerability that comes with that, Powell combined this hawkish tone with reference to several of his predecessors.

He is yet to take responsibility for the last 18 months of US Federal Reserve errors

The attempt to borrow from past credibility included quoting Paul Volcker, whose inflation-beating reputation is as

climate and health legislation

ERIC PLATT AND NICHOLAS MEGAW
NEW YORK

Bankers and lawyers on Wall Street are hunting for ways to help companies buy back shares next year without having to pay millions of dollars in extra tax, a move that risks blunting one of the main revenue generators in President Joe Biden's climate and health package.

At the centre of their efforts is the use of accelerated share repurchase (ASR) programmes, a commonly used mechanism allowing companies to complete buybacks that can be worth billions of dollars.

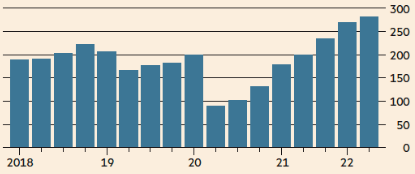
Although the programmes are recorded as having been executed on a single day, it often takes several months for banks to complete the trades.

The plans hinge on whether forthcoming Treasury guidance will count the day that the company hands over the cash and receives its shares as the date of the buyback or whether they will have to wait until investment banks actually buy the stock in the open market.

Bankers across Wall Street have sought advice from law firms including Davis Polk on how the Treasury might treat the accelerated schemes, according to several people briefed on the discussions.

Joe Kronsnoble, a partner at Latham & Watkins, said investment banks were "very interested" in the forthcoming Treasury guidance, although he cautioned that the department or the Internal Revenue Service might not provide a full answer before the 1 per cent tax goes into effect in a little over four months.

The new tax will generate $74bn in revenues over the next decade, according to official estimates, but bankers warn the number could balloon if the 1 per cent level is the thin end of the wedge and ends up being set higher in subsequent years.



Source: S&P Global

"The assumption, and it's still pretty early . . . is that a 1 per cent tax in and of itself is not enough to significantly change behaviour," said a New York-based banker who works on corporate share buybacks. "One per cent now is not a big deal but what if that 1 becomes 3 or 5 or 10 per cent to raise revenue or score political points?"

Banks and legal experts have been coalescing around the view that companies will not have to pay the tax on shares they receive through accelerated buybacks launched this year, said one person involved in the discussions.

If the Treasury adopts a similar view, the programmes would be particularly appealing for companies seeking to front-load buybacks in future years if Congress decides to raise the tax rate.

"Any time there is a new tax on the horizon and people know it's going to apply next year but not this year, it is not surprising that companies look for ways to try to do things sooner rather than later," said one person involved in the discussions. "ASRs are just one example."

Share buybacks have been targeted by politicians on both sides of the aisle, attracting criticism from Republicans including former president Donald Trump and Florida senator Marco Rubio as well as Democrats such as Senate majority leader Chuck Schumer and Massachusetts senator Elizabeth Warren.

Detractors accuse corporate boards of using share buybacks to artificially inflate their stock prices and benefit executives, who are often paid based on share price performance, instead of using their cash for long-term investments, job creation or wage increases for their employees.

Companies in the S&P 500 spent $281bn on share repurchases in the first three months of 2022, according to S&P Global, setting a new record high for the

including lenders JPMorgan Chase and Citigroup, paused their buyback programmes in response to tighter capital requirements and concerns over slower economic growth.

Traders on the Goldman Sachs trading desk responsible for executing buybacks estimated companies have authorised $856bn worth of repurchases so far this year but said their growth is trailing higher spending on capital expenditures and dividends.

Alice Bonaimé, an associate professor of finance at the University of Arizona, said there were some evidence that companies that were just short of meeting analyst forecasts were "willing to sacrifice investment and employment to repurchase stock and boost [earnings per share] by about a penny".

However, she added that the flexibility of buybacks gave them many advantages over dividends, which management teams are reluctant to cut if they discover new investment opportunities or encounter unexpected challenges.

Bonaimé said that, at its current level, the tax "may nudge companies a bit to shift some of their distributions away from buybacks and perhaps toward dividends but I don't think a 1 per cent tax will be enough to drastically alter corporate behaviour".

Equity trading desks have not yet seen a surge of interest in executing buybacks. However, bankers said they expected activity to increase in the final months of the year as companies planning buybacks in early 2023 move some purchases into 2022.

Accelerated share repurchases are not expected to be a panacea for companies hoping to avoid the tax, however, given the relatively short time they take to complete.

While banks can structure longer term programmes, including contracts with exotic derivatives to protect from share price moves, one dealer said they could "start to get expensive" quickly, making them less attractive.

Short story

Mechanics of an ASR look to the future

In a simplified accelerated share repurchase (ASR) programme, an investment bank agrees to buy a publicly traded company's outstanding stock in the future as part of a forward contract.

The bank is paid upfront by the company to buy the stock. It then borrows stock in the public market from security lenders, delivering the shares to the company.

The company can then treat those shares as retired, helping boost its earnings per share.

The bank, which is effectively shorting the stock, will spend several months buying back the shares in public markets, ultimately returning it to the security lenders.

They are now part of the four-element Fed policy mistake that involves inadequate analysis, bad forecasts, poor communication and belated policy responses.

Second, Fed slippages have robbed the country (and, therefore, the global economy) of a first best policy response and the soft landing that can come with that. If left uncorrected, this is a mistake that builds on itself, aggravating problems of low growth, high inflation, worsening inequality and future financial instability.

Third, markets went from following the central bank's guidance to sidestepping it. Indeed, this may well be the least credible Fed in the markets' estimation since the 1970s. Its quarterly forecasts have been repeatedly dismissed as fantasy and its communication is seen as lacking the consistency needed for effective policy guidance.

This is a combination that slows the necessary evolution in the market mindset from a mainly cyclical view, including romanticising an early policy pivot towards lower rates, to a more structural one.

Fourth, the Fed is encumbered with a policy architecture — the "new policy framework" — that is not fit for purpose. Adopted two years ago, it was designed

strong today as it was in the 1980s.

Equally important is what Powell did not do. He is yet to take responsibility for the last 18 months of Fed errors, including the mischaracterisation of economic and policy issues in last year's speech. He is also yet to provide a pathway for the much-needed revisions to the policy framework.

In a world of perfect foresight, Powell's 2021 speech would have focused on monetary policy at a time of sudden high inflation and, this year, on restoring the central bank's credibility and policy effectiveness in an even more challenging world of rapidly slowing global growth, worsening inequality and widespread high inflation.

Instead, his unusually short speech dealt well with the present but left out important past and future issues.

I suspect that we will look back on this year's Jackson Hole speech as a missed opportunity for the Fed to regain control over its policy narrative, as well as to outline what is needed to overcome the considerable policy challenge facing the world's most powerful and systemically important central bank.

Mohamed El-Erian is president of Queens' College, Cambridge, and an adviser to Allianz and Gramercy

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Crypto

Singapore to tighten retail access to digital currencies

MERCEDES RUEHL — SINGAPORE

Singapore's financial regulator has distanced itself from "heavily speculated" cryptocurrencies after a series of scandals this year that damaged the city state's aspirations to be seen as a safe hub for the volatile asset class.

Ravi Menon, managing director of the Monetary Authority of Singapore, said yesterday that the agency would take stronger measures to restrict retail access to cryptocurrencies and consider "further measures to reduce consumer harm".

But he added that MAS still believed in the "transformative" economic potential of the broader digital asset ecosystem including tokenised digital versions of existing assets.

His comments come after Singapore faced accusations that it had been sending mixed signals to the crypto market.

The city state has few natural resources and is more reliant on financial services. It wants a stake in the latest financial technology advances and last year began handing out licences to players in the crypto sector and allowing both retail and institutional trading of the asset class.

Investment in Singapore's crypto and blockchain companies surged to a record $1.48bn in 2021, according to a report by KPMG, 10 times the previous year's total and nearly half the Asia-Pacific total for 2021.

But the city's reputation as a safe hub has been dented as plummeting prices have exposed some of the industry's biggest names who had based themselves in Singapore.

South Korean prosecutors are investigating the $40bn implosion of the terraUSD stablecoin, created by Singapore-based founder Do Kwon.

The collapsed Three Arrows, one of the best-known crypto investors, was also based in Singapore, although registered in the British Virgin Islands.

Hodlnaut, a Singaporean crypto lender that received in principle licensing approval from MAS to offer token swaps in March, cut most of its workforce, stopped withdrawals and admitted to an investigation by the Singapore police this month. Hodlnaut had supported the luna cryptocurrency ecosystem on its platform.

Cryptocurrencies were not a "viable form of money or investment asset" due to their extreme price volatility, Menon said, while announcing that the regulator would further restrict retail investor access to digital currencies.

Some of the world's biggest crypto exchanges, including Binance, Gemini, Coinbase and Crypto.com, all applied for licences to operate, attracted by the low taxes and perceived friendly regulatory environment.

Some, including Binance, have since withdrawn their applications.

The regulator had already restricted crypto groups from promoting services in public. Bitcoin ATMs have been dismantled and public transport advertisements removed.

The day in the markets

What you need to know

- **Global equities slide as Powell's comments weigh on sentiment**
- **Wall Street's 'fear gauge' climbs to highest level since mid-July**
- **US Treasuries under pressure and currencies weaken against dollar**

Global stocks weakened, Treasury yields climbed and global currencies lost ground against the dollar yesterday as investors took fright from comments by central bankers that their long-term focus was on taming inflation.

Shares in the US, Europe and Asia were lower after policymakers used their annual meeting at Jackson Hole, Wyoming, to warn investors to be prepared for higher interest rates for a sustained period.

In the US, the S&P 500 fell 0.6 per cent and the Nasdaq Composite was down 1 per cent by lunchtime in New York, extending their declines after a punishing session on Friday. Indices had gone into reverse at the end of the trading week in the wake of hawkish comments from Federal Reserve chair Jay Powell.

In Europe, the main indices fell yesterday but were off their earlier lows.

The benchmark Stoxx Europe 600 retreated 0.8 per cent while Frankfurt's Xetra Dax dropped 0.6 per cent and the CAC 40 in Paris was down 0.8 per cent.

London was closed yesterday for a public holiday.

Japan's benchmark Topix led markets lower earlier in Asia with a drop of 1.8 per cent. The Hang Seng in Hong Kong fell 0.7 per cent.

Powell warned that the central bank would keep raising interest rates to tackle soaring inflation even in an economic slowdown.

He asserted that the Fed "must keep at it until the job is done" on taming surging inflation through repeated interest rate rises. Senior European policymakers also cautioned that monetary policy would have to stay tight in Europe for an extended period.

The impact of Powell's speech on Friday reverberated through global markets yesterday.

The Vix volatility index, a benchmark that serves as a measure of expected swings in US stocks, rose as high as 27, its highest point since mid-July. The index is commonly called Wall Street's "fear gauge".

Also illustrating selling pressure on assets, the yield on the policy-sensitive two-year US Treasury note rose to 3.48 per cent — the highest level since 2007 — on firmer expectations of higher rates to come.

The yield on the 10-year note rose 8 basis points to 3.11 per cent.

"Officials remain strongly committed to returning inflation to the central bank's 2 per cent target," said Mansoor Mohiuddin, chief economist at Bank of Singapore.

"We think the chances of a 0.75 percentage point move next month have risen and will watch August's US payrolls and consumer inflation data closely," he added.

Italian 10-year bond yields rose 11bp yesterday morning to 3.7 per cent, which is close to the 4 per cent threshold that is seen by many as the point where its debt starts to look unsustainable.

Japan's yen fell 0.8 per cent to ¥138.66 against the dollar.

Sterling slipped 0.8 per cent to $1.166 — its weakest level against the US currency since the early days of the pandemic — after Goldman Sachs cut its economic growth expectations for the UK to 3.5 per cent from 3.7 per cent previously. **Hudson Lockett, Philip Stafford and Martin Arnold**

MARKET DATA

WORLD MARKETS AT A GLANCE

FT.COM/MARKETSDATA

Change during previous day's trading (%)

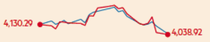
S&P 500	Nasdaq Composite	Dow Jones Ind	FTSE 100	FTSE Eurofirst 300	Nikkei	Hang Seng	FTSE All World $	$ per €	$ per £	¥ per $	£ per €	Oil Brent $ Sep	Gold $
-0.47%	-0.89%	-0.37%	-0.70%	-0.87%	-2.66%	-0.73%	-0.87%	-0.399%	-0.848%	1.067%	0.471%	1.23%	-0.13%

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

AMERICAS

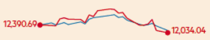
Jul 30 - -

S&P 500 New York



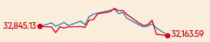
Day ↘ -0.47% Month ↘ -6.73% Year ↘ -11.45%

Nasdaq Composite New York



Day ↘ -0.89% Month ↘ -7.23% Year ↘ -23.37%

Dow Jones Industrial New York



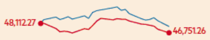
Day ↘ -0.37% Month ↘ -5.23% Year ↘ -10.21%

Jul 30 - Aug 29

S&P/TSX COMP Toronto

Day ↘ -0.21% Month ↘ -9.84% Year ↘ -6.47%

IPC Mexico City



Day ↘ -1.86% Month ↘ -7.31% Year ↘ -5.23%

Bovespa São Paulo

Day ↗ 0.35% Month ↘ -11.14% Year ↘ -21.26%

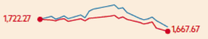
EUROPE

Jul 30 - Aug 26

FTSE 100 London

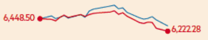
Day ↘ -0.70% Month ↘ -5.00% Year ↗ 0.44%

FTSE Eurofirst 300 Europe



Day ↘ -0.87% Month ↘ -6.91% Year ↘ -9.00%

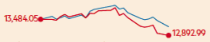
CAC 40 Paris



Day ↘ -0.83% Month ↘ -9.62% Year ↘ -8.86%

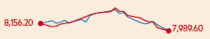
Jul 30 - Aug 29

Xetra Dax Frankfurt



Day ↘ -0.61% Month ↘ -0.77% Year NaN%

Ibex 35 Madrid



Day ↘ -0.92% Month ↘ -8.45% Year ↘ -7.31%

FTSE MIB Milan

Day ↘ -0.24% Month ↘ -13.95% Year ↘ -14.96%

ASIA

Jul 30 - Aug 29

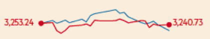
Nikkei 225 Tokyo

Day ↘ -2.66% Month ↘ -5.14% Year ↘ -9.83%

Hang Seng Hong Kong

Day ↘ -0.73% Month ↗ 5.78% Year ↘ -24.49%

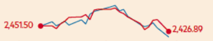
Shanghai Composite Shanghai



Day ↗ 0.14% Month ↗ 7.58% Year ↘ -5.67%

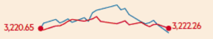
Jul 30 - Aug 29

Kospi Seoul



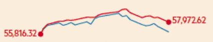
Day ↘ -2.18% Month ↘ -13.64% Year ↘ -30.07%

FTSE Straits Times Singapore



Day ↘ -0.84% Month ↘ -4.28% Year ↘ -0.96%

BSE Sensex Mumbai



Day ↘ -1.46% Month ↘ -5.30% Year ↗ 0.91%

Country	Index	Latest	Previous
Argentina	Merval	144253.41	141459.95
Australia	All Ordinaries	7193.40	7345.80
	S&P/ASX 200	6965.50	7104.10
	S&P/ASX 200 Res	5587.60	5713.70
Austria	ATX	2915.70	2949.73
Belgium	BEL 20	3641.91	3663.47
	BEL Mid	9689.23	9718.17
Brazil	IBovespa	112693.16	112298.86
Canada	S&P/TSX 60	1197.95	1200.71
	S&P/TSX Comp	19832.31	19873.29

Country	Index	Latest	Previous
Cyprus	CSE M&P Gen	68.46	68.68
Czech Republic	PX	1164.57	1187.37
Denmark	OMXC Copenahgen 20	1699.15	1738.26
Egypt	EGX 30	10178.15	10287.27
Estonia	OMX Tallinn	1792.40	1818.55
Finland	OMX Helsinki General	10689.79	10787.72
France	CAC 40	6222.28	6274.26
	SBF 120	4810.69	4850.08
Germany	M-DAX	25470.50	25523.69
	TecDAX	2935.20	2979.77

Country	Index	Latest	Previous
Italy	FTSE Italia All-Share	23872.32	23947.56
	FTSE Italia Mid Cap	38466.28	38744.41
	FTSE MIB	21841.88	21895.25
Japan	2nd Section	7228.27	7239.06
	Nikkei 225	27878.96	28641.38
	S&P Topix 150	1669.05	1701.31
	Topix	1944.10	1979.59
Jordan	Amman SE	2561.75	2563.17
Kenya	NSE 20	1749.16	1752.11
Kuwait	KSX Market Index	6633.44	6603.51

Country	Index	Latest	Previous
Philippines	Manila Comp	6752.50	6706.43
Poland	Wig	51438.92	52282.33
Portugal	PSI 20	6112.27	6203.84
	PSI General	4783.50	4889.67
Romania	BET Index	12190.46	12337.04
Russia	Micex Index	2436.57	2445.30
	RTX	1245.71	1212.57
Saudi-Arabia	TADAWUL All Share Index	12526.11	12591.74
Singapore	FTSE Straits Times	3222.26	3249.53
Slovakia	SAX	345.83	358.20

Country	Index	Latest	Previous
Taiwan	Weighted Pr	14926.19	15278.44
Thailand	Bangkok SET	1626.52	1644.78
Turkey	BIST 100	3168.12	3146.10
UAE	Abu Dhabi General Index	9222.93	9251.11
UK	FT 30	2453.50	2486.80
	FTSE 100	7427.31	7479.74
	FTSE 4Good UK	6709.47	6758.42
	FTSE All Share	4076.32	4103.35
	FTSE techMARK 100	6152.97	6020.90
USA	DJ Composite	11068.87	11100.75

Country	Index	Latest	Previous
Cross-Border	DJ Global Titans ($)	439.95	443.71
	Euro Stoxx 50 (Eur)	3569.45	3603.68
	Euronext 100 ID	1223.17	1234.99
	FTSE 4Good Global ($)	9712.19	9798.32
	FTSE All World ($)	410.42	414.03
	FTSE E300	1667.67	1682.38
	FTSE Eurotop 100	3268.62	3297.46
	FTSE Global 100 ($)	2566.72	2589.69
	FTSE Gold Min ($)	1514.14	1573.36
	FTSE Latibex Top (Eur)	4440.00	4432.20

	S&P/TSX Div Met & Min	1434.32	1436.14
Chile	S&P/CLX IGPA Gen	29199.59	29185.40
China	FTSE A200	10932.44	10981.33
	FTSE B35	9000.71	8988.96
	Shanghai A	3396.00	3391.19
	Shanghai B	310.84	309.40
	Shanghai Comp	3240.73	3236.22
	Shenzhen A	2246.84	2245.21
	Shenzhen B	1224.39	1227.08
Colombia	COLCAP	1261.61	1260.21
Croatia	CROBEX	2013.05	2011.29

	XETRA Dax	12892.99	12971.47
Greece	Athens Gen	868.00	893.74
	FTSE/ASE 20	2093.10	2158.35
Hong Kong	Hang Seng	20023.22	20170.04
	HS China Enterprise	6872.26	6920.99
	HSCC Red Chip	3721.59	3740.79
Hungary	Bux	42631.81	43343.38
India	BSE Sensex	57972.62	58833.87
	Nifty 500	14972.75	15147.55
Indonesia	Jakarta Comp	7132.05	7135.25
Ireland	ISEQ Overall	6950.84	6989.40
Israel	Tel Aviv 125	2112.94	2116.16

Latvia	OMX Riga	1133.10	1132.47
Lithuania	OMX Vilnius	934.97	936.91
Luxembourg	LuxX	1445.27	1446.18
Malaysia	FTSE Bursa KLCI	1501.57	1500.29
Mexico	IPC	46392.44	47272.11
Morocco	MASI	12177.18	12201.61
Netherlands	AEX	698.33	705.08
	AEX All Share	955.88	965.06
New Zealand	NZX 50	11506.94	11608.29
Nigeria	SE All Share	49682.15	49661.87
Norway	Oslo All Share	1017.37	1006.88
Pakistan	KSE 100	42504.34	42591.51

Slovenia	SBI TOP	-	-
South Africa	FTSE/JSE All Share	69207.02	70173.09
	FTSE/JSE Res 20	63105.64	64512.17
	FTSE/JSE Top 40	62546.78	63507.94
South Korea	Kospi	2426.89	2481.03
	Kospi 200	316.35	323.91
Spain	IBEX 35	7989.60	8063.90
Sri Lanka	CSE All Share	8732.47	8828.08
Sweden	OMX Stockholm 30	1940.13	1956.17
	OMX Stockholm AS	766.53	772.67
Switzerland	SMI Index	10896.74	10942.16

	DJ Industrial	32163.59	32283.40
	DJ Transport	14291.38	14380.23
	DJ Utilities	1033.08	1026.74
	Nasdaq 100	12500.41	12605.17
	Nasdaq Cmp	12034.04	12141.71
	NYSE Comp	15158.97	15178.21
	S&P 500	4038.73	4057.66
	Wilshire 5000	40401.72	40598.79
Venezuela	IBC	9701.14	9555.20
Vietnam	VNI	1270.80	1282.57

	FTSE Multinationals ($)	2702.33	2781.59
	FTSE World ($)	741.87	748.49
	FTSEurofirst 100 (Eur)	4364.64	4398.92
	FTSEurofirst 80 (Eur)	4899.79	4947.17
	MSCI ACWI Fr ($)	627.90	642.97
	MSCI All World ($)	2694.62	2768.48
	MSCI Europe (Eur)	1699.35	1723.79
	MSCI Pacific ($)	2656.84	2657.37
	S&P Euro (Eur)	1636.99	1651.61
	S&P Europe 350 (Eur)	1710.37	1725.57
	S&P Global 1200 ($)	2949.69	2969.88
	Stoxx 50 (Eur)	3584.07	3610.82

(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	64.0	282.65	-5.44
Apple	58.8	161.22	-2.40
Nvidia	41.6	158.43	-4.17
Amazon.com	30.4	129.60	-1.15
Advanced Micro Devices	28.3	88.76	-2.42
Microsoft	21.9	265.12	-2.97
3m	13.4	126.51	-2.63
Occidental Petroleum	13.4	76.02	2.47
Exxon Mobil	12.8	101.13	3.26
Alphabet	11.3	109.56	-0.78

BIGGEST MOVERS	Close price	Day's change	Day's chng%
Ups			
Diamondback Energy	139.61	5.68	4.24
Apa	41.72	1.54	3.83
Marathon Oil	27.13	0.97	3.69
Occidental Petroleum	76.02	2.47	3.36
Exxon Mobil	101.13	3.26	3.33
Downs			
Bristol-myers Squibb Co	67.55	-3.65	-5.12
Cf Industries Holding	114.85	-3.50	-2.96
Take-two Interactive Software	123.75	-3.72	-2.92
J.b. Hunt Transport Services	177.72	-4.87	-2.67
Advanced Micro Devices	88.76	-2.42	-2.65

Based on the constituents of the S&P500

LONDON

ACTIVE STOCKS	stock traded m's	close price	Day's change
Shell	942.5	2334.00	13.50
Gsk	322.4	1394.80	4.40
Anglo American	316.4	2922.50	3.00
British American Tobacco	237.3	3462.50	16.50
Astrazeneca	227.1	11364.00	-58.00
Diageo	215.6	3825.50	-27.50
Glencore	213.6	498.90	-6.10
Rio Tinto	186.9	4980.00	29.00
Compass	183.0	1876.00	-33.50
Hsbc Holdings	182.9	523.00	0.50

BIGGEST MOVERS	Close price	Day's change	Day's chng%
Ups			
Micro Focus Int	519.80	252.00	94.10
Ferrexpo	155.20	8.00	5.43
Harbour Energy	492.10	18.50	3.91
Tullow Oil	52.30	1.85	3.67
Currys	61.00	2.10	3.57
Downs			
Wood (john)	127.70	-7.55	-5.58
Ibstock	190.70	-9.20	-4.60
Tui Ag	127.45	-5.80	-4.35
Intercontinental Hotels	4750.00	-216.00	-4.35
Ocado	731.20	-32.60	-4.27

Based on the constituents of the FTSE 350 index

EURO MARKETS

ACTIVE STOCKS	stock traded m's	close price	Day's change
Novartis N	246.6	82.61	-0.41
Nestle N	243.3	119.28	-0.04
Asml Holding	193.4	503.50	-17.90
Roche Gs	192.2	324.79	-2.43
Lvmh	186.4	661.60	-7.40
Totalenergies	169.1	54.39	0.43
Bayer Ag Na O.n.	162.1	51.21	-2.49
Intesa Sanpaolo	161.3	1.70	0.02
Novo Nordisk B A/s	132.8	108.09	-2.08
Eni	120.2	12.50	0.18

BIGGEST MOVERS	Close price	Day's change	Day's chng%
Ups			
Basf Se Na O.n.	42.08	1.15	2.80
Unicredit	9.26	0.16	1.80
Eni	12.50	0.18	1.49
Orange	10.16	0.13	1.34
Ubs N	15.97	0.20	1.28
Downs			
Bayer Ag Na O.n.	51.21	-2.49	-4.64
Engie	12.22	-0.53	-4.16
Amadeus It	52.62	-2.18	-3.98
Vestas Wind Systems A/s	24.66	-0.92	-3.60
Asml Holding	503.50	-17.90	-3.43

Based on the constituents of the FTSEurofirst 300 Eurozone index

TOKYO

ACTIVE STOCKS	stock traded m's	close price	Day's change
Softbank .	797.0	5496.00	-209.00
Tokyo Electron	669.4	43530.00	-2340.00
Nippon Yusen Kabushiki Kaisha	520.6	10690.00	-220.00
Fast Retailing Co.,	499.3	82550.00	-2380.00
Toyota Motor	437.3	2090.00	-18.00
Sony	362.6	11295.00	-215.00
Keyence	355.2	52100.00	-2060.00
Recruit Hldgs Co Ltd	342.2	4397.00	-208.00
Mitsui O.s.k.lines,	341.5	3700.00	-70.00
Kawasaki Kisen Kaisha,	323.8	8940.00	-280.00

BIGGEST MOVERS	Close price	Day's change	Day's chng%
Ups			
Mitsui Chemicals,.	3140.00	85.00	2.78
Isuzu Motors	1731.00	38.00	2.24
Mazda Motor	1226.00	12.00	0.99
Mitsubishi Motors	538.00	5.00	0.94
Subaru	2448.00	19.00	0.78
Downs			
M3,.	4461.00	-271.00	-5.73
Tokyo Electric Power ,orporated	527.00	-29.00	-5.22
Omron	7225.00	-395.00	-5.18
Tokyo Electron	43530.00	-2340.00	-5.10
Dentsu .	4465.00	-240.00	-5.10

Based on the constituents of the Nikkei 225 index

UK MARKET WINNERS AND LOSERS

FTSE 100	Aug 26 price(p)	%Chg week	%Chg ytd
Winners			
Aveva	2790.00	22.0	-
Haleon	266.30	4.0	-
Antofagasta	1174.00	3.8	-
Shell	2334.00	3.8	45.3
Anglo American	2922.50	2.8	-6.6
Glencore	498.90	2.4	12.2
Bp	457.80	2.2	15.0
Endeavour Mining	1782.00	1.7	1.2
Rio Tinto	4980.00	1.4	-0.6
Bae Systems	813.00	1.2	52.7
Standard Chartered	589.60	1.2	37.6
Astrazeneca	11364.00	1.0	23.7
Losers			
Ocado	731.20	-16.6	-
Jd Sports Fashion	109.65	-11.6	-
Hargreaves Lansdown	848.40	-10.9	-
Persimmon	1497.50	-10.3	-34.3
Howden Joinery	574.40	-9.5	-34.5
B&m Eur Value Retail S.a.	369.80	-9.4	-
Phoenix Holdings	600.20	-9.2	-9.8
Wpp	743.60	-8.8	-
Smurfit Kappa	2802.00	-8.4	-33.4
Taylor Wimpey	109.50	-8.0	-
Land Securities	650.80	-8.0	-
St. James's Place	1125.50	-7.8	-

FTSE 250	Aug 26 price(p)	%Chg week	%Chg ytd
Winners			
Micro Focus Int	519.80	85.4	-
Harbour Energy	492.10	23.8	-5.0
Ferrexpo	155.20	8.6	-
Energean	1389.00	7.5	21.6
Blackrock World Mining Trust	646.00	6.3	-3.7
Tullow Oil	52.30	5.3	-4.2
Firstgroup	112.50	4.1	26.4
Nb Private Equity Partners	1600.00	3.6	-
Bh Macro	4685.00	3.3	15.8
Ruffer Investment Ltd	304.00	2.7	2.0
Jlen Environmental Assets	133.20	2.6	16.4
Vietnam Enterprise Investments	698.00	2.5	-
Losers			
Hammerson	21.16	-19.3	-
Wood (john)	127.70	-17.4	-
888 Holdings	128.60	-13.8	-
Chrysalis Investments	75.90	-13.1	-59.7
Essentra	204.50	-12.8	-25.0
Aston Martin Lagonda Global Holdings	428.60	-12.5	-
Ti Fluid Systems	143.00	-11.3	-
Greencore	86.35	-11.1	-
Marshalls	337.20	-11.0	-
Domino's Pizza	238.40	-10.7	-
Crest Nicholson Holdings	236.20	-10.2	-
Countryside Partnerships	241.60	-10.0	-

FTSE SmallCap	Aug 26 price(p)	%Chg week	%Chg ytd
Winners			
Hunting	277.00	23.4	37.1
Enquest	30.15	10.8	19.1
Lamprell	8.70	7.7	-
Pod Point Holdings	90.05	5.9	-
Blackrock Energy And Resources one Trust	131.00	5.2	4.8
Lookers	82.40	4.2	16.0
Hostelworld	85.15	3.6	34.4
Rps	211.00	3.4	-16.8
Bluefield Solar ome Fund	138.00	2.6	6.1
Ted Baker	111.00	2.2	-
Blackrock Frontiers Investment Trust	132.50	2.1	-8.3
W.a.g Payment Solutions	96.80	2.1	-0.6
Losers			
Cineworld	2.30	-43.5	-
Esken	4.83	-23.3	-
Halfords	124.70	-20.4	-
Made.com	7.90	-19.4	-
Hollywood Bowl	169.80	-17.6	-9.9
Trustpilot	67.30	-17.3	-
Bakkavor	85.00	-14.7	-
Luceco	83.60	-14.6	-
Saga	147.60	-12.2	-
Card Factory	41.25	-11.9	-
Reach	75.60	-11.4	-
Marston's	36.66	-11.2	-

Industry Sectors	Aug 26 price(p)	%Chg week	%Chg ytd
Winners			
Aerospace & Defense	4801.35	5.4	18.4
General Retailers	3291.00	1.9	4.7
Electricity	11154.72	1.6	3.1
Industrial Engineering	13303.30	1.2	-
Gas Water & Multiutilities index	6204.68	0.9	-0.7
Life Insurance	6354.24	0.6	-
Food & Drug Retailers	4155.58	0.5	-7.9
Health Care Equip.& Services	10912.27	0.3	24.2
Oil & Gas Producers	8103.15	0.3	24.4
Pharmaceuticals & Biotech.	20805.15	0.2	15.4
Tobacco	36496.95	0.0	26.2
Mobile Telecommunications	2842.84	-0.1	10.8
Losers			
Automobiles & Parts	1565.18	-12.7	-
Real Estate Investment Trusts	2663.17	-6.1	-
Mining	10268.23	-5.2	-50.7
Industrial Metals	6866.05	-4.9	-0.6
Travel & Leisure	6053.66	-4.6	-
Personal Goods	28013.71	-4.5	-
Beverages	29075.90	-4.0	-
Software & Computer Services	1897.44	-3.7	-
Real Estate & Investment Servic	2467.62	-3.2	-
Electronic & Electrical Equip.	8315.58	-2.4	-
Food Producers	5834.85	-2.1	-
Household Goods	10952.20	-1.4	-

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

CURRENCIES

Aug 29	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	138.2840	0.6495	138.0562	0.1942	161.6884	-0.6030
Australia	Australian Dollar	1.4521	0.0111	1.4497	0.0063	1.6979	-0.0013
Bahrain	Bahrainin Dinar	0.3770	-	0.3764	-0.0012	0.4408	-0.0037
Bolivia	Bolivian Boliviano	6.9100	-	6.8986	-0.0228	8.0795	-0.0684
Brazil	Brazilian Real	5.0428	-0.0360	5.0344	-0.0528	5.8962	-0.0924
Canada	Canadian Dollar	1.3026	0.0037	1.3004	-0.0006	1.5230	-0.0085
Chile	Chilean Peso	888.8000	-15.3300	887.3359	-18.2884	1039.2284	-26.8747
China	Chinese Yuan	6.9208	0.0583	6.9094	0.0355	8.0921	0.0002
Colombia	Colombian Peso	4401.3050	22.0300	4394.0554	7.5421	5146.2222	-17.5921
Costa Rica	Costa Rican Colon	640.1450	3.9600	639.0905	1.8541	748.4888	-1.6675
Czech Republic	Czech Koruna	24.6387	0.0537	24.5981	-0.0275	28.8087	-0.1806
Denmark	Danish Krone	7.4505	0.0248	7.4382	0.0003	8.7115	-0.0445
Egypt	Egyptian Pound	19.2049	-0.0130	19.1733	-0.0764	22.4553	-0.2054
Hong Kong	Hong Kong Dollar	7.8470	0.0003	7.8340	-0.0255	9.1750	-0.0773
Hungary	Hungarian Forint	409.7261	-2.3940	409.0512	-3.7500	479.0718	-6.8788
India	Indian Rupee	79.9588	0.0900	79.8270	-0.1737	93.4917	-0.6854

Aug 29	Currency	DOLLAR Closing Mid	DOLLAR Day's Change	EURO Closing Mid	EURO Day's Change	POUND Closing Mid	POUND Day's Change
Indonesia	Indonesian Rupiah	14897.0000	79.5000	14872.4760	30.4838	17418.3255	-53.7149
Israel	Israeli Shekel	3.3196	0.0663	3.3141	0.0555	3.8814	0.0453
Japan	Japanese Yen	138.7350	1.4650	138.5065	1.0096	162.2157	0.3541
..One Month		138.7347	1.4644	138.5064	1.0095	162.2154	0.3535
..Three Month		138.7338	1.4627	138.5062	1.0090	162.2146	0.3520
..One Year		138.7294	1.4538	138.5039	1.0047	162.2154	0.3476
Kenya	Kenyan Shilling	120.0000	0.1000	119.8023	-0.2958	140.3099	-1.0700
Kuwait	Kuwaiti Dinar	0.3083	0.0005	0.3077	-0.0006	0.3604	-0.0025
Malaysia	Malaysian Ringgit	4.4900	0.0225	4.4826	0.0077	5.2499	-0.0179
Mexico	Mexican Peso	20.0318	0.0932	19.9988	0.0273	23.4221	-0.0883
New Zealand	New Zealand Dollar	1.6275	0.0082	1.6248	0.0028	1.9029	-0.0065
Nigeria	Nigerian Naira	428.7500	3.0000	428.0437	1.5901	501.3154	-0.7068
Norway	Norwegian Krone	9.7772	0.0879	9.7610	0.0557	11.4319	0.0068
Pakistan	Pakistani Rupee	220.6500	0.1250	220.2865	-0.6029	257.9947	-2.0369
Peru	Peruvian Nuevo Sol	3.8328	-0.0204	3.8265	-0.0330	4.4815	-0.0619
Philippines	Philippine Peso	56.0225	-	55.9302	-0.1849	65.5042	-0.5546

Aug 29	Currency	DOLLAR Closing Mid	DOLLAR Day's Change	EURO Closing Mid	EURO Day's Change	POUND Closing Mid	POUND Day's Change
Poland	Polish Zloty	4.7430	0.0021	4.7352	-0.0135	5.5458	-0.0445
Romania	Romanian Leu	4.8747	0.0142	4.8666	-0.0019	5.6997	-0.0316
Russia	Russian Ruble	61.1250	0.4750	61.0243	0.2741	71.4703	-0.0450
Saudi Arabia	Saudi Riyal	3.7557	-0.0013	3.7495	-0.0137	4.3913	-0.0387
Singapore	Singapore Dollar	1.3963	0.0046	1.3940	0.0000	1.6326	-0.0084
South Africa	South African Rand	16.8400	0.0337	16.8123	-0.0218	19.6901	-0.1269
South Korea	South Korean Won	1350.3500	19.1500	1348.1257	14.7255	1578.8951	9.2133
Sweden	Swedish Krona	10.6811	0.0861	10.6635	0.0510	12.4889	-0.0042
Switzerland	Swiss Franc	0.9696	0.0064	0.9680	0.0033	1.1337	-0.0020
Taiwan	New Taiwan Dollar	30.3975	0.1715	30.3474	0.0715	35.5422	-0.0987
Thailand	Thai Baht	36.4600	0.4375	36.3999	0.3179	42.6308	0.1550
Tunisia	Tunisian Dinar	3.2091	0.0081	3.2038	-0.0025	3.7522	-0.0222
Turkey	Turkish Lira	18.1833	0.0047	18.1533	-0.0552	21.2607	-0.1744
United Arab Emirates	UAE Dirham	3.6730	0.0000	3.6669	-0.0122	4.2947	-0.0364
United Kingdom	Pound Sterling	0.8552	0.0072	0.8538	0.0044	-	-
..One Month		0.8553	0.0072	0.8537	0.0044	-	-

Aug 29	Currency	DOLLAR Closing Mid	DOLLAR Day's Change	EURO Closing Mid	EURO Day's Change	POUND Closing Mid	POUND Day's Change
..Three Month		0.8554	0.0072	0.8535	0.0044	-	-
..One Year		0.8555	0.0072	0.8521	0.0045	-	-
United States	United States Dollar	-	-	0.9984	-0.0033	1.1692	-0.0099
..One Month		-	-	0.9982	-0.1808	1.1693	-0.0099
..Three Month		-	-	0.9977	-0.1808	1.1694	-0.0099
..One Year		-	-	0.9961	-0.1807	1.1695	-0.0098
Vietnam	Vietnamese Dong	23435.0000	18.0000	23396.4101	-59.3231	27401.3893	-210.7921
European Union	Euro	1.0017	0.0033	-	-	1.1712	-0.0060
..One Month		1.0015	0.0033	-	-	1.1711	-0.0060
..Three Month		1.0010	0.0033	-	-	1.1708	-0.0060
..One Year		0.9994	0.0034	-	-	1.1694	-0.0059

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

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	£ Strlg Aug 29	Day's chge%	Euro Index	£ Strlg Aug 25	£ Strlg Aug 24	Year ago	Div yield%	Cover	P/E ratio	X/D adj	Total Return
FTSE 100 (100)	7427.31	-0.70	6816.38	7479.74	7471.51	7124.98	3.58	1.95	14.33	218.14	7575.00
FTSE 250 (250)	19169.72	-0.46	17592.94	19257.87	19305.23	23952.39	2.91	1.32	25.99	381.37	15813.47
FTSE 250 ex Inv Co (176)	19413.94	-0.58	17817.07	19527.63	19616.96	25193.89	3.03	1.54	21.42	412.73	16341.85
FTSE 350 (350)	4112.34	-0.66	3774.09	4139.86	4137.50	4121.23	3.48	1.87	15.36	114.95	8320.51
FTSE 350 ex Investment Trusts (274)	4042.82	-0.69	3710.28	4070.95	4069.23	4017.18	3.54	1.93	14.65	115.78	4227.65
FTSE 350 Higher Yield (129)	3537.56	-0.15	3246.58	3543.01	3541.40	3212.34	4.98	1.87	10.72	129.66	8051.27
FTSE 350 Lower Yield (221)	4268.69	-1.19	3917.57	4320.02	4317.05	4810.33	1.93	1.86	27.82	76.46	5236.38
FTSE SmallCap (247)	6389.75	-0.44	5864.17	6418.19	6404.31	7564.91	3.18	1.40	22.50	143.87	10641.14
FTSE SmallCap ex Inv Co (130)	5135.79	-0.64	4713.35	5168.81	5169.84	6491.56	3.10	1.75	18.43	110.24	8894.04
FTSE All-Share (597)	4076.32	-0.66	3741.03	4103.35	4100.82	4106.66	3.47	1.86	15.49	113.31	8327.87
FTSE All-Share ex Inv Co (404)	3971.54	-0.69	3644.86	3999.14	3997.49	3962.34	3.54	1.92	14.69	113.32	4216.53
FTSE All-Share ex Multinationals (529)	1109.62	-0.86	844.68	1119.19	1122.87	1360.27	3.66	1.95	14.00	30.77	2342.69
FTSE Fledgling (83)	12170.72	-0.15	11169.63	12188.49	12206.90	13185.06	3.45	5.79	5.01	231.30	26084.47
FTSE Fledgling ex Inv Co (32)	15542.17	0.10	14263.76	15527.14	15603.69	18170.24	3.09	7.85	4.12	284.79	32314.25
FTSE All-Small (330)	4461.45	-0.43	4094.48	4480.60	4471.78	5256.64	3.20	1.65	18.98	99.63	9529.07
FTSE All-Small ex Inv Co (162)	3864.31	-0.61	3546.45	3888.13	3889.56	4870.38	3.10	1.97	16.39	82.52	8474.66
FTSE AIM All-Share (767)	896.78	-0.44	823.02	900.76	898.62	1279.52	1.43	1.43	48.68	8.36	1048.01
FTSE All-Share Technology (22)	2015.87	1.75	1635.38	1981.11	1979.38	2492.44	1.83	0.90	60.37	34.01	2911.42
FTSE All-Share Telecommunications (6)	1832.59	-1.11	1486.69	1853.16	1855.82	1950.10	5.78	1.02	16.98	57.66	2727.32
FTSE All-Share Health Care (14)	14454.81	-0.35	11726.45	14504.90	14478.04	12892.60	2.72	1.14	32.37	334.88	13349.67
FTSE All-Share Financials (258)	4551.64	-0.65	3692.51	4581.21	4578.70	4856.85	3.70	2.46	11.01	146.42	5043.27
FTSE All-Share Real Estate (53)	971.84	-0.75	824.76	979.17	982.79	1191.26	3.52	4.52	6.29	24.40	1013.79
FTSE All-Share Consumer Discretionary (89)	4406.85	-2.11	3575.05	4501.85	4519.19	5587.18	2.29	0.86	50.60	81.84	4646.21
FTSE All-Share Consumer Staples (24)	19825.93	-0.55	16083.76	19934.79	20077.95	18907.56	3.85	1.21	21.47	532.54	18029.22
FTSE All-Share Industrials (85)	6054.79	-1.28	4911.94	6133.39	6128.26	7229.23	2.26	1.36	32.70	99.19	6966.34
FTSE All-Share Basic Materials (22)	8295.28	-0.46	6729.54	8333.47	8257.15	8277.18	6.04	2.17	7.64	461.41	11198.54
FTSE All-Share Energy (14)	8383.58	0.29	6801.17	8359.27	8247.49	5292.28	3.30	2.82	10.76	216.17	10098.11
FTSE All-Share Utilities (10)	9216.48	-0.36	7476.86	9249.62	9350.52	7974.61	4.07	0.67	36.43	286.01	13910.97
FTSE All-Share Software and Computer Services (19)	2176.56	1.80	1765.73	2138.02	2136.92	2677.75	1.84	0.90	60.36	36.99	3326.05
FTSE All-Share Technology Hardware and Equipment (3)	5032.59	0.37	4082.68	5013.95	4957.36	6941.91	1.74	0.95	60.52	63.01	6483.66
FTSE All-Share Telecommunications Equipment (1)	582.09	-0.91	472.22	587.46	594.61	700.77	2.11	2.31	20.51	11.51	832.05
FTSE All-Share Telecommunications Service Providers (5)	2838.53	-1.12	2302.76	2870.58	2873.67	3003.52	5.91	1.00	16.89	90.35	3845.28
FTSE All-Share Health Care Providers (3)	11063.59	0.00	8975.32	11063.59	11122.30	8100.64	0.53	3.58	53.16	54.55	10265.24
FTSE All-Share Medical Equipment and Services (2)	5127.91	-1.40	4160.01	5200.53	5187.86	6643.53	2.60	1.04	37.21	94.26	4905.92
FTSE All-Share Pharmaceuticals and Biotechnology (9)	20743.47	-0.30	16828.11	20805.38	20765.85	18130.16	2.75	1.13	32.04	489.47	17256.13
FTSE All-Share Banks (12)	3209.45	-0.47	2603.66	3224.46	3214.71	2783.26	4.03	4.25	5.85	126.59	2838.40
FTSE All-Share Finance and Credit Services (8)	11353.11	-1.56	9210.19	11533.28	11540.33	11178.05	1.84	2.13	25.51	205.01	15249.20
FTSE All-Share Investment Banking and Brokerage Services (32)	8220.84	-1.72	6669.14	8364.67	8390.16	10912.74	5.30	1.86	10.12	335.10	11469.42
FTSE All-Share Closed End Investments (193)	12079.47	-0.20	9799.45	12103.27	12060.04	13962.88	2.54	0.53	74.86	204.54	7506.63
FTSE All-Share Life Insurance (6)	6473.53	-0.59	5251.64	6511.75	6582.33	8210.07	4.74	1.11	19.05	293.23	7920.31
FTSE All-Share Nonlife Insurance (7)	3423.71	-1.23	2777.48	3466.44	3470.80	4014.78	4.73	1.08	19.52	112.01	7252.43
FTSE All-Share Real Estate Investment and Services (11)	2392.38	-1.52	1940.81	2429.42	2443.57	2953.59	2.10	3.87	12.31	30.73	7098.52
FTSE All-Share Real Estate Investment Trusts (42)	2427.25	-0.60	1969.11	2441.98	2450.02	2965.64	3.78	4.59	5.76	66.92	3647.49
FTSE All-Share Automobiles and Parts (2)	1573.20	-2.73	1276.25	1617.32	1647.71	4775.91	0.89	-17.18	-6.54	14.02	1636.66
FTSE All-Share Consumer Services (2)	3091.49	-1.75	2507.96	3146.69	3154.13	2500.86	1.24	1.95	41.29	38.43	3921.54
FTSE All-Share Household Goods and Home Construction (14)	9146.40	-0.03	7420.01	9149.57	9307.89	15430.96	7.38	1.79	7.57	459.82	7967.68
FTSE All-Share Leisure Goods (2)	19303.96	-2.30	15660.31	19757.46	20046.03	30393.25	3.57	1.56	17.93	600.05	21274.61
FTSE All-Share Personal Goods (5)	24155.91	-2.47	19596.45	24768.63	24619.70	29059.21	2.12	2.58	18.31	402.68	18893.67
FTSE All-Share Media (11)	9023.99	-2.67	7320.70	9271.24	9243.14	9606.43	2.33	1.52	28.19	192.67	6328.47
FTSE All-Share Retailers (22)	1801.58	-1.86	1461.53	1835.68	1866.13	2783.91	2.79	3.69	9.70	37.28	2328.44
FTSE All-Share Travel and Leisure (31)	5935.11	-2.52	4814.85	6088.57	6099.18	8438.22	0.54	-17.31	-10.67	28.61	6126.31
FTSE All-Share Beverages (5)	29186.16	-0.68	23677.24	29386.82	29755.66	27411.08	2.05	1.99	24.52	583.84	23389.78
FTSE All-Share Food Producers (10)	6005.95	-0.95	4872.32	6063.39	6091.32	7069.61	2.46	2.19	18.51	81.34	5779.90
FTSE All-Share Tobacco (2)	36497.01	0.38	29608.15	36360.61	36419.35	28668.23	6.48	0.92	16.83	1261.21	33668.29
FTSE All-Share Construction and Materials (15)	7256.67	-0.90	5886.96	7322.89	7139.25	9262.36	3.03	0.66	50.30	173.93	8783.26
FTSE All-Share Aerospace and Defense (8)	5041.13	-0.15	4089.61	5048.92	5041.34	4624.02	1.96	-0.30	-168.21	59.71	6093.64
FTSE All-Share Electronic and Electrical Equipment (10)	9782.99	-1.49	7936.43	9930.82	10019.85	14208.74	1.76	2.01	28.28	127.40	9642.92
FTSE All-Share General Industrials (8)	4856.56	-0.93	3939.88	4902.36	4953.28	5820.18	2.81	1.46	24.48	93.07	6346.34
FTSE All-Share Industrial Engineering (5)	14702.07	-1.74	11927.03	14962.28	14969.80	20451.31	1.70	2.09	28.04	179.60	19637.53
FTSE All-Share Industrial Support Services (31)	9578.60	-2.16	7770.62	9790.36	9808.20	11321.08	1.98	1.73	29.20	157.93	10987.85
FTSE All-Share Industrial Transportation (8)	4902.60	-1.20	3977.23	4961.93	4947.13	6562.42	2.35	3.27	13.03	89.06	5127.06
FTSE All-Share Industrial Materials (1)	15502.89	0.65	477.79	15402.87	15377.87	22254.15	2.10	1.83	26.06	220.04	19435.26
FTSE All-Share Industrial Metals and Mining (9)	7395.48	-0.27	5999.57	7415.41	7336.27	6821.11	6.47	2.18	7.10	447.61	11239.73
FTSE All-Share Precious Metals and Mining (5)	9758.03	-1.07	7916.19	9863.68	9882.08	20507.43	3.36	2.03	14.67	209.71	6769.21
FTSE All-Share Chemicals (7)	13194.09	-2.07	10703.69	13472.42	13490.56	19326.72	2.86	1.99	17.61	273.79	13172.08
FTSE All-Share Oil. Gas and Coal (13)	8138.19	0.29	6602.10	8114.68	8006.16	5136.11	3.30	2.82	10.76	209.85	10166.07
FTSE Sector Indices											
Non Financials (339)	**4978.95**	**-0.66**	**4569.41**	**5012.15**	**5008.97**	**4932.38**	**3.41**	**1.67**	**17.52**	**132.27**	**8943.15**

Hourly movements	8.00	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.00	High/day	Low/day
FTSE 100	7518.13	7512.91	7491.13	7484.64	7482.10	7489.19	7491.19	7476.83	7444.89	7530.16	7422.31
FTSE 250	19307.36	19375.50	19351.75	19314.52	19325.40	19346.48	19380.88	19321.33	19204.33	19416.29	19167.10
FTSE SmallCap	6416.37	6423.97	6420.71	6421.15	6416.97	6416.63	6418.12	6419.46	6390.43	6425.78	6383.67
FTSE All-Share	4122.27	4122.14	4111.46	4107.37	4106.48	4110.34	4112.34	4104.01	4085.38	4128.72	4074.75

Time of FTSE 100 Day's high:07:07:15 Day's Low14:39:30 FTSE 100 2010/11 High: 7672.40(10/02/2022) Low: 6959.48(07/03/2022)
Time of FTSE All-Share Day's high:07:07:00 Day's Low15:23:00 FTSE 100 2010/11 High: 4296.96(10/02/2022) Low: 3862.39(07/03/2022)

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FT 30 INDEX

	Aug 26	Aug 25	Aug 24	Aug 23	Aug 22	Yr Ago	High	Low
FT 30	2453.50	2486.80	2498.50	2504.10	2533.40	0.00	2880.10	2300.60
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
2486.8	2496.3	2490.6	2579	2579.7	2581.8	2588.4	2479.2	2464	2502.1	2453.5

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

FT WILSHIRE 5000 INDEX SERIES

	Aug 26		Aug 26
FT Wilshire 5000	41361.35	FT Wilshire Mid Cap	5527.85
FT Wilshire 2500	5293.57	FT Wilshire Small Cap	5055.68
FT Wilshire Mega Cap	5283.24	FT Wilshire Micro Cap	5074.01
FT Wilshire Large Cap	5324.13		

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FTSE SECTORS: LEADERS & LAGGARDS

Year to date percentage changes

Oil & Gas Producers	42.00	Consumer Goods	-2.22	Life Insurance	-16.79
Oil & Gas	41.35	Personal Goods	-2.79	Household Goods & Ho	-17.67
Tobacco	24.61	FTSE All{HY-}Share Index	-3.13	Industrials	-18.15
Aerospace & Defense	14.12	Beverages	-6.50	Consumer Services	-18.18
Pharmace & Biotech	10.89	Fixed Line Telecomms	-7.56	FTSE 250 Index	-18.36
Electricity	10.58	Health Care Eq & Srv	-8.76	Construct & Material	-19.53
Health Care	9.57	Financials	-9.57	Real Est Invest & Tr	-21.30
Mining	7.55	Media	-11.09	Support Services	-22.57
Banks	6.63	Software & Comp Serv	-11.28	Leisure Goods	-23.97
Utilities	5.80	Technology	-11.59	Real Est Invest & Se	-24.55
Gas Water & Multi	4.20	Travel & Leisure	-11.83	Food & Drug Retailer	-26.74
Mobile Telecomms	1.30	Financial Services	-12.91	Chemicals	-28.38
Basic Materials	1.03	Food Producers	-13.13	Industrial Eng	-29.35
FTSE 100 Index	0.58	Nonlife Insurance	-13.97	Electronic & Elec Eq	-31.49
Beverages	31.66	FTSE SmallCap Index	-14.34	General Retailers	-34.76
Telecommunications	-1.23	Tech Hardware & Eq	-14.36	Industrial Transport	-35.35
NON FINANCIALS Index	-1.83	Equity Invest Instr	-15.32	Automobiles & Parts	-56.86
		Oil Equipment & Serv	-15.71	Industrial Metals &	-79.58

FTSE GLOBAL EQUITY INDEX SERIES

Aug 29 Regions & countries	No of stocks	US $ indices	Day %	Mth %	YTD %	Total retn	YTD %	Gr Div Yield
FTSE Global All Cap	9372	705.11	-2.3	2.6	-16.8	1124.13	-15.5	2.2
FTSE Global All Cap	9372	705.11	-2.3	2.6	-16.8	1124.13	-15.5	2.2
FTSE Global Large Cap	1868	630.78	-2.3	2.4	-16.9	1036.63	-15.6	2.3
FTSE Global Mid Cap	2246	906.38	-2.3	3.3	-15.5	1358.82	-14.3	2.3
FTSE Global Small Cap	5258	945.07	-2.3	3.6	-17.4	1355.64	-16.3	2.0
FTSE All-World	4114	414.03	-2.3	2.5	-16.7	699.01	-15.4	2.3
FTSE World	2667	748.49	-2.5	2.7	-16.6	1695.50	-15.4	2.3
FTSE Global All Cap ex UNITED KINGDOM In	9079	745.75	-2.3	2.8	-16.8	1166.13	-15.6	2.2
FTSE Global All Cap ex USA	7550	489.69	-0.6	0.9	-18.4	865.16	-16.4	3.3
FTSE Global All Cap ex JAPAN	7977	736.05	-2.4	2.7	-16.8	1184.27	-15.5	2.2
FTSE Global All Cap ex Eurozone	8706	752.96	-2.3	2.9	-15.9	1174.03	-14.6	2.2
FTSE Developed	2222	686.71	-2.6	2.6	-16.8	1102.06	-15.6	2.1
FTSE Developed All Cap	5854	716.42	-2.6	2.7	-16.8	1132.80	-15.7	2.1
FTSE Developed Large Cap	862	643.67	-2.6	2.4	-17.0	1051.47	-15.8	2.1
FTSE Developed Europe Large Cap	230	355.69	-1.3	-0.9	-20.9	702.75	-18.6	3.2
FTSE Developed Europe Mid Cap	358	539.54	-1.6	-2.7	-30.0	924.09	-28.4	3.1
FTSE Dev Europe Small Cap	740	770.89	-1.4	-2.8	-30.2	1268.20	-28.5	3.0
FTSE North America Large Cap	243	874.18	-3.4	3.5	-16.2	1307.55	-15.3	1.6
FTSE North America Mid Cap	428	1143.79	-3.0	4.6	-12.5	1580.78	-11.6	1.9
FTSE North America Small Cap	1333	1132.13	-3.1	4.8	-14.2	1501.36	-13.4	1.5
FTSE North America	671	572.54	-3.3	3.7	-15.5	875.39	-14.6	1.7
FTSE Developed ex North America	1551	253.34	-0.8	-0.1	-19.7	481.84	-17.8	3.2
FTSE Japan Large Cap	165	376.70	-0.2	1.4	-17.4	547.45	-16.3	2.6
FTSE Japan Mid Cap	342	528.73	-0.4	1.3	-13.9	730.93	-12.5	2.5
FTSE Global wi JAPAN Small Cap	888	584.54	-0.3	2.1	-16.0	838.50	-14.6	2.6
FTSE Japan	507	154.96	-0.2	1.4	-16.7	252.24	-15.5	2.6
FTSE Asia Pacific Large Cap ex Japan	1074	698.95	0.4	0.8	-16.2	1265.50	-14.3	3.1
FTSE Asia Pacific Mid Cap ex Japan	850	981.25	0.4	2.9	-13.4	1714.34	-11.3	3.4
FTSE Asia Pacific Small Cap ex Japan	2006	566.47	0.2	3.1	-22.2	962.63	-20.4	3.0
FTSE Asia Pacific Ex Japan	1924	555.96	0.4	1.0	-15.9	1069.88	-14.0	3.1
FTSE Emerging All Cap	3518	739.82	0.3	2.6	-16.0	1283.91	-13.6	3.6
FTSE Emerging Large Cap	1006	687.05	0.3	2.0	-16.5	1199.38	-14.1	3.6
FTSE Emerging Mid Cap	886	1032.21	0.2	5.2	-10.2	1799.84	-7.6	3.9
FTSE Emerging Small Cap	1626	790.77	0.2	4.3	-18.4	1312.99	-16.1	3.3
FTSE Emerging Europe	49	97.45	0.3	10.3	-76.5	203.58	-75.5	3.6
FTSE Latin America All Cap	260	738.28	-0.6	10.9	4.1	1439.38	11.4	11.3
FTSE Middle East and Africa All Cap	332	818.81	0.1	5.8	2.8	1488.15	5.0	3.0
FTSE Global wi UNITED KINGDOM All Cap In	293	306.78	-1.0	-1.1	-14.7	623.57	-12.3	3.5
FTSE Global wi USA All Cap	1822	983.12	-3.4	3.8	-15.7	1417.58	-14.8	1.6
FTSE Europe All Cap	1451	403.68	-1.3	-1.2	-24.6	765.45	-22.5	3.2
FTSE Eurozone All Cap	666	377.58	-1.5	-1.1	-27.2	711.15	-25.1	3.3
FTSE EDHEC-Risk Efficient All-World	4114	469.32	-2.0	2.4	-14.0	734.73	-12.6	2.6
FTSE EDHEC-Risk Efficient Developed Europe	588	299.98	-1.5	-1.6	-27.4	525.82	-25.5	3.3
Oil & Gas	126	402.03	-0.7	10.9	22.6	814.64	26.9	4.5
Oil & Gas Producers	83	397.41	-0.5	12.0	25.1	826.46	29.8	4.8

Aug 29 Sectors	No of stocks	US $ indices	Day %	Mth %	YTD %	Total retn	YTD %	Gr Div Yield
Oil Equipment & Services	23	277.64	-1.5	4.2	18.6	509.42	22.1	4.2
Basic Materials	373	585.32	-1.2	6.2	-13.0	1065.50	-10.3	5.0
Chemicals	182	803.61	-1.7	4.1	-17.0	1411.88	-15.3	3.0
Forestry & Paper	20	264.81	-1.3	6.1	-13.2	531.94	-10.9	3.7
Industrial Metals & Mining	94	463.57	-0.7	8.3	-16.2	878.82	-12.7	8.7
Mining	77	899.32	-0.7	8.4	-3.4	1716.63	0.4	6.3
Industrials	781	487.24	-2.3	3.4	-18.9	773.55	-17.7	2.0
Construction & Materials	146	557.13	-1.5	1.5	-24.6	934.53	-23.3	2.3
Aerospace & Defense	34	829.93	-2.0	4.2	3.3	1290.76	4.5	1.6
General Industrials	72	224.83	-3.1	0.9	-19.0	394.95	-17.5	2.6
Electronic & Electrical Equipment	158	604.30	-1.9	2.2	-24.8	865.46	-23.9	1.5
Industrial Engineering	151	919.01	-2.0	3.6	-20.5	1454.06	-19.4	2.0
Industrial Transportation	129	974.54	-2.3	3.8	-12.3	1573.11	-10.2	3.0
Support Services	91	543.97	-2.9	6.1	-23.4	805.79	-22.8	1.4
Consumer Goods	562	580.33	-1.6	1.3	-15.8	970.97	-14.5	2.3
Automobiles & Parts	132	611.07	-1.8	4.9	-21.0	985.24	-20.0	2.0
Beverages	71	765.04	-1.7	0.0	-5.1	1292.26	-3.8	2.2
Food Producers	134	731.38	-1.3	0.6	-6.9	1256.37	-5.1	2.4
Household Goods & Home Construction	63	521.00	-2.1	-2.0	-20.4	872.56	-18.8	2.7
Leisure Goods	52	252.67	0.0	-1.7	-20.7	355.92	-20.0	1.4
Personal Goods	96	886.35	-2.3	1.4	-23.2	1358.53	-22.3	1.8
Tobacco	14	967.34	-0.9	-0.3	0.6	2698.65	3.8	5.9
Health Care	346	688.51	-2.1	-3.7	-12.8	1093.63	-11.7	1.8
Health Care Equipment & Services	134	1358.81	-3.1	-1.8	-18.3	1662.33	-17.8	1.0
Pharmaceuticals & Biotechnology	212	454.84	-1.3	-5.0	-8.5	776.48	-6.8	2.3
Consumer Services	431	551.55	-2.8	4.1	-21.7	785.10	-21.1	1.2
Food & Drug Retailers	66	319.20	-1.6	1.3	-7.3	504.54	-5.8	2.4
General Retailers	148	1003.78	-3.2	5.7	-21.5	1368.17	-21.0	0.9
Media	78	309.78	-2.6	0.0	-34.0	443.83	-33.5	1.3
Travel & Leisure	139	429.62	-2.4	4.2	-16.2	625.30	-15.6	1.2
Telecommunication	87	135.14	-1.0	-1.6	-8.8	315.33	-6.3	4.1
Fixed Line Telecommuniations	32	105.36	-0.9	-1.7	-6.5	282.13	-3.2	5.0
Mobile Telecommunications	55	159.92	-1.0	-1.5	-10.0	321.65	-7.9	3.6
Utilities	195	337.23	-1.2	5.1	-1.7	783.68	0.5	3.1
Electricity	139	385.94	-1.2	6.5	0.1	883.01	2.3	3.0
Gas Water & Multiutilities	56	323.75	-1.2	1.6	-6.1	779.17	-3.7	3.4
Financials	848	257.27	-1.8	1.7	-14.3	491.43	-12.3	3.2
Banks	266	194.02	-1.3	1.9	-14.3	412.64	-11.7	4.2
Nonlife Insurance	71	330.22	-1.3	3.3	-5.8	548.92	-3.5	3.0
Life Insurance	51	212.40	-0.9	0.5	-12.1	406.83	-9.3	4.0
Financial Services	211	422.65	-2.9	1.9	-15.3	639.18	-14.3	1.8
Technology	365	503.71	-3.7	3.7	-25.8	655.80	-25.3	1.0
Software & Computer Services	192	767.38	-3.8	4.3	-28.3	927.04	-28.0	0.6
Technology Hardware & Equipment	173	442.26	-3.6	3.2	-22.8	618.92	-22.1	1.4
Alternative Energy	20	201.88	-2.2	17.2	-3.1	289.67	-2.8	0.4
Real Estate Investment & Services	148	262.02	-0.6	-0.3	-20.4	507.04	-18.7	3.2
Real Estate Investment Trusts	101	493.77	-2.0	0.8	-17.2	1144.12	-15.6	3.4
FTSE Global Large Cap	1868	630.78	-2.3	2.4	-16.9	1036.63	-15.6	2.3

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

FTSE 100 SUMMARY

FTSE 100	Closing Price	Day's Change
3I Group PLC	1193	-31.00
Abrdn PLC	147.05	-2.30
Admiral Group PLC	2192	-26.00
Airtel Africa PLC	135.50	-0.90
Anglo American PLC	2922.5	3.00
Antofagasta PLC	1174	7.00
Ashtead Group PLC	4298	-61.00
Associated British Foods PLC	1515.5	-33.00
Astrazeneca PLC	11364	-58.00
Auto Trader Group PLC	650.60	-12.60
Avast PLC	699.80	3.60
Aveva Group PLC	2790	21.00
Aviva PLC	420.50	-4.50
B&M European Value Retail S.A.	369.80	-5.50
Bae Systems PLC	813.00	3.20
Barclays PLC	162.10	-2.06
Barratt Developments PLC	429.90	-0.20
Berkeley Group Holdings (The) PLC	3710	-30.00
BP PLC	457.80	-1.65
British American Tobacco PLC	3462.5	16.50
British Land Company PLC	431.70	-1.30
Bt Group PLC	151.45	-1.25
Bunzl PLC	3115	-21.00
Burberry Group PLC	1735	-41.50
Centrica PLC	81.96	0.52
Coca-Cola Hbc AG	1980	4.50
Compass Group PLC	1876	-33.50
Crh PLC	3215.5	-21.00
Croda International PLC	6842	-176.00
Dcc PLC	5066	-74.00
Dechra Pharmaceuticals PLC	3440	-66.00
Diageo PLC	3825.5	-27.50
Endeavour Mining PLC	1782	-27.00
Entain PLC	1246.5	-34.50
Experian PLC	2683	-92.00
Flutter Entertainment PLC	10685	-255.00
Fresnillo PLC	728.20	-3.80
Glaxosmithkline PLC	1394.8	4.40
Glencore PLC	498.90	-6.10
Haleon PLC	266.30	2.70
Halma PLC	2121	-40.00
Hargreaves Lansdown PLC	848.40	-21.60
Hikma Pharmaceuticals PLC	1336	-18.00
Howden Joinery Group PLC	574.40	-13.60
HSBC Holdings PLC	523.00	0.50
Imperial Brands PLC	1877	-1.50
Informa PLC	548.80	-11.20
Intercontinental Hotels Group PLC	4750	-216.00
Intermediate Capital Group PLC	1371	-45.00
International Consolidated Airlines Group S.A.	105.62	-3.28

FTSE 100	Closing Price	Day's Change
Intertek Group PLC	4021	-97.00
Jd Sports Fashion PLC	109.65	-4.25
Kingfisher PLC	230.20	-2.70
Land Securities Group PLC	650.80	-5.40
Legal & General Group PLC	255.50	-2.90
Lloyds Banking Group PLC	43.67	-0.65
London Stock Exchange Group PLC	8268	-142.00
M&G PLC	196.05	-1.95
Meggitt PLC	798.00	6.00
Melrose Industries PLC	139.35	-1.55
Mondi PLC	1460	5.50
National Grid PLC	1137.5	1.50
Natwest Group PLC	250.90	-2.00
Next PLC	5732	-158.00
Ocado Group PLC	731.20	-32.60
Pearson PLC	868.20	-4.20
Pershing Square Holdings LTD	2755	-55.00
Persimmon PLC	1497.5	12.50
Phoenix Group Holdings PLC	600.20	-2.40
Prudential PLC	915.00	-1.40
Reckitt Benckiser Group PLC	6580	-40.00
Relx PLC	2303	-81.00
Rentokil Initial PLC	533.00	-13.20
Rightmove PLC	601.20	-14.00
Rio Tinto PLC	4980	29.00
Rolls-Royce Holdings PLC	78.48	-2.05
Rs Group PLC	1098	-31.00
Sage Group PLC	725.60	-0.40
Sainsbury (J) PLC	202.70	-5.80
Schroders PLC	2722	-66.00
Scottish Mortgage Investment Trust PLC	832.60	2.80
Segro PLC	966.60	-14.00
Severn Trent PLC	2850	-31.00
Shell PLC	2334	13.50
Smith & Nephew PLC	1008	-11.50
Smith (Ds) PLC	260.70	-6.10
Smiths Group PLC	1515	-14.00
Smurfit Kappa Group PLC	2802	-61.00
Spirax-Sarco Engineering PLC	10620	-240.00
Sse PLC	1802.5	-20.00
St. James's Place PLC	1125.5	-21.50
Standard Chartered PLC	589.60	-2.40
Taylor Wimpey PLC	109.50	-0.35
Tesco PLC	252.70	-3.80
Unilever PLC	3935	-32.00
Unite Group PLC	1064	-12.00
United Utilities Group PLC	1086	-5.00
Vodafone Group PLC	115.08	-1.48
Whitbread PLC	2507	-47.00
Wpp PLC	743.60	-17.20

UK STOCK MARKET TRADING DATA

	Aug 26	Aug 25	Aug 24	Aug 23	Aug 22	Yr Ago
Order Book Turnover (m)	525.04	453.00	453.00	83.14	50.66	49.70
Order Book Bargains	619696.00	619406.00	619406.00	585611.00	627739.00	679921.00
Order Book Shares Traded (m)	1713.00	1275.00	1275.00	1224.00	1397.00	1431.00
Total Equity Turnover (£m)	7742.01	5027.43	5027.43	5542.20	4937.36	5408.81
Total Mkt Bargains	803096.00	788256.00	788256.00	753003.00	772907.00	842002.00
Total Shares Traded (m)	4633.00	4007.00	4007.00	4257.00	4134.00	3748.00

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

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UK RIGHTS OFFERS

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

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

UK COMPANY RESULTS

Company		Turnover		Pre-tax		EPS(p)		Div(p)		Pay day	Total	
CT Private Equity Trust	Int			**18.048**	55.040	**24.440**	74.440	**6.31000**	4.77000	Oct 31	**23.280**	17.270
Great Southern Copper	Pre	**0.000**	-	**1.037L**	-	**0.938L**	-	**0.00000**	-	-	**0.000**	-
Holders Technology	Int	**3.454**	5.789	**0.226L**	0.104	**5.350L**	2.460	**0.50000**	0.50000	Oct 4	**1.000**	0.750
Logistics Development Group	Int	**0.000**	0.000	**0.786L**	21.608	**0.120L**	4.200	**0.00000**	0.00000	-	**0.000**	0.000

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

UK RECENT EQUITY ISSUES

Issue date	Issue price(p)	Sector	Stock code	Stock	Close price(p)	+/-	High	Low	Mkt Cap (£m)
07/29	10.00		FCM	First Class Metals PLC	9.63	0.08	11.00	9.00	632.1

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

MARKET DATA

FT500: THE WORLD'S LARGEST COMPANIES

Stock	Price	Day Chg	52 Week High	52 Week Low	Yld	P/E	MCap m
Australia (A$)							
ANZ Bank	22.44	-0.52	28.75	20.78	6.13	10.32	46204.1
BHP Group	42.19	-0.62	53.72	35.56	8.88	10.87	147081.09
CmwBkAu	96.28	-2.03	110.19	86.98	3.31	19.86	112817.2
CSL	294.24	-1.26	319.78	240.10	0.94	46.21	97607.12
NatAusBk	29.84	-0.77	33.75	25.43	2.74	17.43	65108.68
Telstra	3.99	-0.04	4.20	3.62	2.28	35.59	31748.22
Wesfarmers	47.40	-0.55	62.05	40.03	3.42	26.73	37010.73
Westpac Bank	21.27	-0.41	26.44	18.80	3.81	16.97	51282.94
Woolworths	36.53	-0.23	41.91	32.62	2.69	45.69	30537.32
Belgium (€)							
AnBshInBv	49.50	-0.79	58.72	46.66	1.06	25.11	85840.6
KBC Grp	46.29	-0.03	86.50	45.53	7.31	7.65	19265.75
Brazil (R$)							
Ambev	15.63	-0.04	18.12	12.81	3.40	25.03	48817.8
Bradesco	16.21	0.12	18.40	13.53	4.83	7.95	15656.57
Cielo	5.73	-0.19	6.22	2.01	2.39	20.56	3087.06
ItauHldFin	22.69	-0.05	29.21	18.86	3.22	9.52	22309.98
Petrobras	38.29	0.83	40.51	24.50	11.81	5.79	56511.15
Vale	67.19	-1.04	107.11	61.85	18.22	3.18	63674.3
Canada (C$)							
Bausch Hlth	6.58	-0.16	37.42	5.10	-	-2.22	1823.59
BCE	64.65	-	74.09	61.42	4.82	24.29	45262.18
BkMontrl	127.43	-1.10	154.47	118.79	3.16	11.00	65989.06
BkNvaS	74.09	-0.71	95.00	71.21	4.46	10.40	67853.44
Brookfield	64.17	0.06	79.04	55.51	0.91	23.88	80873.48
CanadPcR	102.53	-1.04	106.93	82.12	0.66	27.55	73198.53
CanImp	64.17	-0.77	167.50	59.03	8.33	4.99	44569.58
CanNatRs	75.36	1.20	88.18	40.69	2.36	13.10	65007.99
CanNatRy	160.39	-0.60	171.48	137.26	1.37	26.15	84285.91
Enbridge	57.07	0.27	59.69	46.88	5.21	22.34	88714.29

Stock	Price	Day Chg	52 Week High	52 Week Low	Yld	P/E	MCap m
Finland (€)							
Nokia	4.80	-0.14	5.71	4.12	-	16.85	27322.63
SampoA	44.52	-0.47	48.74	35.85	3.78	9.63	23692.8
France (€)							
Airbus Grpe	100.38	-1.54	120.36	88.91	-	18.71	78982.79
AirLiquide	128.24	-1.40	153.40	122.42	2.11	24.06	66998.37
AXA	23.30	-0.14	29.09	20.34	6.04	7.98	54334.69
BNP Parib	45.76	-0.09	68.07	40.67	5.75	6.70	56389.97
ChristianDior	632.00	-9.00	733.50	513.00	1.09	23.46	113892.83
Cred Agr	9.11	0.00	14.27	8.09	8.63	5.06	27532.66
Danone	52.37	-0.05	62.85	46.48	3.64	18.11	35332.7
EDF	11.95	0.01	12.67	6.64	4.01	9.35	46368.12
Engie SA	12.20	-0.55	14.61	9.79	4.27	8.74	29661.53
EssilorLuxottica	150.45	-1.45	195.00	132.70	0.71	46.65	67202.93
Hermes Intl	1320.5	-16.00	1678	957.60	0.34	57.63	139174.77
LOreal	346.85	-5.90	433.65	300.45	1.13	42.96	185857.75
LVMH	662.90	-6.10	741.60	535.00	1.04	28.22	333059.74
Orange	10.20	0.17	11.94	8.93	5.78	3442.36	27087.89
PernodRic	185.40	-2.45	214.50	166.60	1.65	28.46	47744.66
Renault	27.99	0.58	38.07	20.47	-	-21.25	8262.16
Safran	103.40	-1.40	123.12	87.85	0.41	1051.54	44104.1
Sanofi	81.41	-0.48	106.08	76.45	3.87	16.73	103015.49
Sant Gbn	40.56	-0.24	64.82	39.19	3.30	9.86	21058.97
Schneider	122.24	-2.46	173.78	110.02	2.09	21.92	69695.4
SocGen	21.77	0.18	37.68	18.34	2.50	3.74	18471.49
Total	54.40	0.44	57.41	36.51	4.88	10.63	142246.04
UnibailR	52.09	0.52	75.98	45.69	-	-7.55	7216.08
Vinci	91.78	-0.17	103.74	80.74	2.88	20.70	54753.85
Vivendi	9.02	-0.02	12.16	6.22	6.54	-16.38	9982.75
Germany (€)							
Allianz	169.42	-1.16	232.50	167.60	5.57	10.88	69086.94

Stock	Price	Day Chg	52 Week High	52 Week Low	Yld	P/E	MCap m
Denso	7555	-188.00	9575	6584	1.93	20.39	42908.6
EastJpRwy	6940	-116.00	7938	6373	1.50	-6.86	18905.47
Fanuc	22445	-800.00	27060	18740	2.10	26.29	32665.56
FastRetail	82550	-2380.00	88230	54310	0.66	38.16	63115.87
Fuji Hvy Ind	2448	19.00	2611	1664.5	2.38	27.70	13572.22
Hitachi	6881	-179.00	7460	4750	1.74	9.93	48039.37
HondaMtr	3669	15.00	3737	3043	3.66	7.64	47905.22
JapanTob	2364	-	2441	2000	6.01	11.85	34079.36
KDDI	4214	-60.00	4636	3237	2.96	13.91	69988.19
Keyence	52100	-2060.00	76210	44880	0.40	42.88	91333.26
MitsbCp	4528	-20.00	4845	3275	3.17	9.95	48490.68
MitsubEst	1866.5	-34.50	2043	1546	1.62	17.89	18720.55
MitsubishiEle	1392.5	-34.00	1629	1225.5	2.99	12.26	21551.72
MitsuiFud	2798.5	-36.00	3023	2211	1.64	16.79	19240.7
MitUFJFin	725.10	-6.90	828.30	586.90	3.73	7.24	69418.48
Mizuho Fin	1584.5	-3.00	1675	1397	5.12	7.46	29000.9
Murata Mfg	7468	-217.00	10535	7008	1.67	14.76	36377.3
Nippon T&T	3753	-12.00	4055	2928	2.91	11.63	97981.13
NipponTT	3753	-12.00	4055	2928	2.91	11.63	97981.13
Nissan Mt	531.70	-3.70	654.30	436.50	-	16.63	16175.85
Nomura	501.20	-2.80	586.00	460.30	4.77	-33.19	11681.7
Nppn Stl	2182	8.50	2381	1690.5	3.81	3.32	14946.49
Panasonic	1110	-17.00	1541	1018.5	2.34	10.81	19634.56
Seven & I	5621	-84.00	6083	4552	1.90	20.60	35915.16
ShnEtsuCh	16435	-540.00	21480	14360	1.84	15.16	49359.23
Softbank	5496	-209.00	7680	4210	0.83	4.55	68254.97
Sony	11295	-215.00	14745	10220	0.55	13.89	102669.98
SumitomoF	4189	-13.00	4461	3672	4.97	7.85	41507.78
Takeda Ph	3821	7.00	4063	2993	4.90	13.20	43578.25
TokioMarine	7550	-156.00	8362	5309	3.03	11.82	37005.8
Toyota	2090	-18.00	2375.5	1805	2.54	9.08	245780.23

Stock	Price	Day Chg	52 Week High	52 Week Low	Yld	P/E	MCap m
Novartis	79.97	-0.40	88.42	72.84	3.47	8.99	198252.46
Richemont	111.10	-0.30	146.10	90.28	1.62	27.41	59812.5
Roche	314.40	-2.35	404.20	298.30	2.57	21.79	227811.18
Swiss Re	73.76	-0.22	102.20	70.18	7.37	18.44	24152.85
Swisscom	514.00	9.00	590.40	491.10	3.93	15.82	27461.01
UBS	15.46	0.20	19.90	13.10	2.06	8.24	56199.33
Zurich Fin	430.90	-3.20	461.70	374.60	4.27	14.85	66866.01
Taiwan (NT$)							
Chunghwa Telecom	123.00	1.00	132.50	110.00	3.30	28.26	31389.66
Formosa PetChem	83.70	-2.70	106.00	81.30	0.67	17.02	26229.92
HonHaiPrc	108.00	-2.50	116.00	99.50	3.51	11.49	49254.1
MediaTek	653.00	-25.00	1200	597.00	5.37	9.80	34351.74
TaiwanSem	498.50	-13.50	655.00	433.00	2.03	20.94	425241.9
Thailand (THB)							
PTT Explor	37.50	-0.50	41.25	32.75	5.08	10.50	29377.61
United Arab Emirates (Dhs)							
Emirtestele	26.08	0.30	37.84	11.22	2.67	28.00	61750.16
United Kingdom (p)							
Anglo American	2922.5	3.00	4996.8	2350	6.10	5.79	48403.88
AscBrFd	1515.5	-33.00	2066	1462.5	0.41	25.05	14147.21
AstraZen	11364	-58.00	11540	8029	1.82	1924.14	169702.08
Aviva	420.50	-4.50	606.58	341.92	5.08	55.33	19898.93
Barclays	162.10	-2.06	209.45	140.06	1.85	3.93	32615.68
BP	457.80	-1.65	464.10	291.30	3.44	16.61	107588.47
BrAmTob	3462.5	16.50	3645	2507.5	6.23	11.71	76121.78
BT	151.45	-1.25	201.40	134.85	-	14.70	17718.73
Compass	1876	-33.50	1970.5	1408.5	0.75	45.64	36379.67
Diageo	3825.5	-27.50	4364.1	3282.5	1.90	29.43	113557.68
GlaxoSmh	1394.8	4.40	2753.96	1371	5.74	16.11	80882.79
Glencore	498.90	-6.10	548.30	305.07	1.78	18.26	84857.43
HSBC	523.00	0.50	567.20	329.55	3.09	11.43	123647.96

Stock	Price	Day Chg	52 Week High	52 Week Low	Yld	P/E	MCap m
Boeing	165.60	1.07	233.94	113.02	-	-26.83	98335.13
Booking Holdings	1904.52	-6.45	2715.66	1669.34	-	78.32	75621.14
Bristol-Myers	67.55	-3.65	80.59	53.22	2.57	25.08	144225.81
Broadcom	516.62	-4.24	677.76	463.91	2.51	33.80	208620.3
Cadence Design	175.42	-2.41	194.97	132.32	-	81.28	48042.28
CapOne	107.90	-1.92	175.98	98.54	1.60	4.64	41412.13
CardinalHlth	68.96	1.36	71.45	45.85	2.45	41.39	18792.45
Carnival	9.87	-0.10	27.39	8.10	-	-1.36	9816.86
Caterpillar	192.27	0.35	237.90	167.08	1.92	18.83	101501.09
Centene Corp	91.50	1.56	98.53	59.67	-	46.49	52299.65
CharlesSch	72.26	0.37	96.24	59.35	0.86	29.58	131353.8
Charter Comms	423.87	-1.91	825.62	407.75	-	20.07	68095.92
Chevron Corp	165.60	2.19	182.40	93.31	2.77	23.57	325373.11
Chipotle Mexic.	1635.75	7.89	1958.55	1196.28	-	82.74	45415.88
Chubb	191.47	-2.04	218.99	171.96	1.43	11.51	79965.8
Cigna	287.24	2.37	293.96	191.74	1.20	21.15	87641.58
Cintas Corp	417.43	-2.60	461.44	343.86	0.75	42.39	42238.44
Cisco	45.78	-0.11	64.29	40.82	2.82	18.83	189573.33
Citigroup	49.55	-0.23	73.73	43.44	3.55	5.66	95963.96
CME Grp	196.12	-0.23	256.94	185.79	1.58	31.16	70492.06
Coca-Cola	62.87	-0.24	67.20	52.28	2.31	32.37	271889.44
Cognizant	64.59	-0.11	93.47	63.26	1.28	18.47	33443.73
ColgtPlm	79.55	0.34	85.18	72.20	1.94	36.14	66354.26
Comcast	36.71	-0.09	61.80	36.41	2.35	13.99	161662.84
ConocPhil	114.53	2.41	124.08	54.42	1.47	21.86	148138.78
Constellation	251.07	-0.83	261.53	207.35	1.06	-109.55	40004.15
Corning	34.47	-0.18	43.47	30.63	2.40	31.19	29133.89
Corteva	62.26	-0.06	64.03	40.72	0.74	30.42	45057.56
Corteva	62.26	-0.06	64.03	40.72	0.74	30.42	45057.56
Costco	531.32	-0.50	612.27	406.51	0.52	49.13	235355.69
CrownCstl	174.78	1.37	209.49	153.70	2.70	75.83	75684.44
CSX	32.81	0.18	38.63	27.60	1.03	20.99	70254.12

Stock	Price	Day Chg	52 Week High	52 Week Low	Yld	P/E	MCap m
Lilly (E)	311.80	-3.76	335.33	220.20	0.94	59.02	296264.51
Linde	287.58	1.33	346.50	265.12	1.27	45.51	143319.98
Lockheed	432.11	0.98	479.99	324.23	2.22	21.49	114574.92
Lowes	202.33	1.34	263.31	170.12	1.29	19.28	125586.35
Lyondell	86.02	-0.85	117.22	82.14	4.46	5.94	28059.2
Marathon Ptl	106.45	2.11	114.35	56.08	1.88	61.04	53078.53
Marsh&M	164.54	-1.42	183.14	142.80	1.41	29.32	82584.88
MasterCard	330.71	-1.25	399.92	303.65	0.59	43.73	317043.7
McDonald's	255.78	-1.17	270.17	217.68	1.77	29.51	188181.76
McKesson	360.22	3.43	375.23	193.89	0.43	47.26	51774.58
Medtronic	89.07	-0.36	135.89	86.70	2.42	28.16	118434.87
Merck	88.34	-0.92	95.72	70.89	2.58	21.06	223789.94
Meta	196.64	0.99	384.33	169.00	-	15.41	450997.53
Metlife	65.40	-0.28	73.18	57.05	2.51	10.36	53183.67
Microsoft	265.12	-2.97	349.67	241.51	0.75	32.71	1977236.29
Mnstr Bvrg	88.85	-0.30	99.81	71.78	-	40.05	46813.78
MondelezInt	62.59	-0.15	69.47	57.63	1.83	23.85	85776.88
Monsanto	9.85	-0.02	9.95	9.64	-	52.30	246.25
MorganStly	86.07	-0.75	109.73	72.05	2.11	12.42	147758.66
Netflix	225.86	2.58	700.99	162.71	-	23.28	100441.2
NextEraE	87.64	0.01	93.47	67.22	1.60	133.37	172198.16
Nike	108.06	-0.23	179.10	99.53	0.94	32.72	136543.99
NorfolkS	253.66	0.67	298.75	217.00	1.42	24.26	59578.05
Northrop	485.13	-	497.20	344.89	1.10	12.91	75055.09
NXP	166.28	-1.84	239.91	140.33	1.17	28.37	43664.87
Occid Pet	76.02	2.47	77.13	24.39	0.05	42.75	71245.35
Oracle	74.50	-0.15	106.34	63.76	1.50	32.63	198536.99
Pepsico	174.57	-0.47	181.07	149.48	2.10	36.83	240890.27
Perrigo	38.92	-0.25	50.90	31.32	2.13	-46.00	5238.66
Pfizer	46.51	-0.31	61.71	40.94	2.90	13.71	261030.48
Phillips66	93.81	1.63	111.28	63.19	3.33	36.59	45128.89
PhilMorris	96.37	-0.18	112.48	85.64	4.39	19.15	149389.24

GtWesLif	31.94	-0.86	41.50	29.93	5.38	10.07	22848.21
ImpOil	67.82	2.16	72.96	32.94	1.35	21.89	32885.24
Manulife	23.07	-0.19	28.09	21.28	4.51	7.32	33768.54
Nutrien	129.31	-1.57	147.93	75.43	1.60	20.83	53537.24
RylBkC	124.77	-0.20	149.60	118.24	3.18	12.44	133417.41
SHOP	41.74	-0.49	222.87	38.63	-	1.62	37823.46
Suncor En	45.44	0.71	53.62	22.86	2.06	18.43	47669.19
ThmReut	144.40	0.13	156.62	119.23	1.26	11.17	53601.61
TntoDom	85.60	-1.27	109.08	77.27	3.40	12.03	119232.14
TrnCan	66.12	0.38	74.44	57.71	4.69	39.93	51367.92
China (HK$)							
AgricBkCh	2.58	-	3.15	2.50	7.96	3.51	10106.62
Bk China	2.74	-	3.20	2.67	7.82	3.51	29199.23
BkofComm	4.53	-0.08	5.74	4.35	7.44	3.87	20212
BOE Tech	0.75	0.05	1.21	0.57	-	12.52	19.02
Ch Coms Cons	3.70	-0.01	5.17	3.60	5.30	3.18	2083.4
Ch Evrbrght	2.41	0.02	3.11	2.32	9.57	3.37	3894.02
Ch Rail Cons	4.43	-0.02	5.99	4.32	5.70	2.44	1172.17
Ch Rail Gp	4.48	0.04	5.88	3.58	4.42	3.73	2402.08
ChConstBk	4.86	-0.03	6.23	4.80	7.36	3.66	148902.47
China Vanke	14.36	-0.44	22.75	13.06	9.55	6.70	3479.19
ChinaCitic	3.34	0.02	4.08	3.20	8.09	3.21	6334.44
ChinaLife	11.22	-0.16	15.04	10.86	5.86	5.08	10639.76
ChinaMBank	39.85	-0.75	70.80	38.35	3.45	7.60	23314.48
ChinaMob	52.45	-0.15	58.65	45.90	5.91	8.38	136757.69
ChinaPcIns	16.32	-0.08	26.20	15.46	7.75	5.50	5772.04
ChMinsheng	2.51	-0.05	3.40	2.50	9.43	3.36	2661.41
ChMrchSecs	13.14	0.03	20.62	12.06	3.22	12.11	14091.57
Chna Utd Coms	3.52	-0.01	4.40	3.30	3.08	18.23	15747.79
ChShenEgy	25.55	-	27.65	15.74	7.72	8.02	10997.22
ChShpbldng	3.82	0.05	5.08	3.36	-	-293.20	12189.38
ChStConEng	5.04	0.03	6.40	4.52	4.13	4.03	29737.95
ChUncHK	3.88	-0.01	4.43	3.60	3.90	8.85	15129.55
CNNC Intl	6.63	0.07	8.92	5.19	1.82	17.89	18058.31
CSR	2.87	0.01	4.04	2.77	6.94	8.16	1598.72
Daqin	6.39	0.03	7.25	5.95	7.28	9.99	13726.63
GuosenSec	9.16	-0.08	13.29	8.83	2.43	10.87	11683.13
HaitongSecs	5.23	-0.07	7.81	5.05	5.30	5.88	2272.48
Hngzh HikVDT	29.95	0.02	58.45	29.26	2.59	16.99	39708.96
Hunng Pwr	4.19	-0.04	5.74	3.08	4.54	-4.87	2509.86
IM Baotou Stl	2.07	-0.02	4.14	1.75	-	36.39	9474.65
In&CmBkCh	4.01	-0.03	4.94	3.95	7.30	3.80	44354.36
IndstrlBk	16.93	-0.95	23.22	16.88	4.44	4.79	50818.98
Kweichow	1878.82	-19.18	2216.96	1531.1	0.99	43.69	341025.6
Midea	0.42	-0.01	0.70	0.42	-	-4.72	16.11
New Ch Life Ins	18.38	-0.14	25.15	17.82	8.03	3.61	2422.2
PetroChina	3.79	0.02	4.49	3.19	6.07	7.91	10190.56
PingAnIns	46.35	-0.30	69.40	42.55	5.21	7.62	43990.98
PngAnBnk	12.42	-0.19	20.99	11.94	1.36	7.66	34824.96
Pwr Cons Corp	7.96	0.23	9.96	5.77	1.08	17.08	12641.87
SaicMtr	15.50	-0.38	23.45	14.63	3.72	8.01	26166.63
ShenwanHong	0.16	0.00	0.18	0.05	-	4.81	176.27
ShgPdgBk	7.15	-0.07	9.48	7.06	6.23	4.72	30324.32
Sinopec Corp	3.76	-0.06	4.28	3.25	3.57	4.69	12225.27
Sinopec Oil	1.97	0.03	2.90	1.70	-	676.25	3862.52
Denmark (kr)							
DanskeBk	96.32	-1.50	133.25	93.56	2.04	6.71	11146.31
MollerMrsk	18170	-205.00	24070	15965	1.84	3.01	20419.09
NovoB	804.00	-15.50	863.60	604.50	1.14	39.42	188043.95

BASF	42.24	1.30	69.15	39.33	7.68	7.11	38732.63
Bayer	51.07	-2.63	67.99	43.91	3.85	50.92	50089.75
BMW	73.51	0.39	97.60	67.58	2.54	3.98	44179.77
Continental	57.50	1.12	116.14	55.56	-	9.01	11481.4
Deut Bank	8.24	0.07	14.64	7.53	-	8.25	17006.28
Deut Tlkm	18.77	0.10	19.39	14.47	3.14	21.94	93451.62
DeutsPost	36.42	-0.45	61.38	33.44	3.73	9.37	45052.21
E.ON	8.58	0.07	12.54	7.72	5.39	4.85	22625.19
Fresenius Med	34.13	-0.22	67.12	33.77	3.86	10.49	9983.77
Fresenius SE	24.55	-0.25	45.09	23.40	3.61	7.89	13688.64
HenkelKgaA	63.25	-0.30	77.65	56.55	2.85	17.11	16405.02
Linde	287.00	-2.30	315.35	244.00	1.28	45.34	142795.31
Mercedes-Benz	56.18	1.18	77.90	50.19	2.36	5.71	60004.47
MuenchRkv	234.40	-0.90	282.25	205.15	4.11	11.39	32785.09
SAP	84.57	-0.72	129.74	83.84	2.15	19.28	103723.46
Siemens	102.22	-0.68	156.98	93.67	3.37	15.63	86743.87
Volkswgn	185.25	0.45	301.40	162.40	2.55	6.37	54575.34
Hong Kong (HK$)							
AIA	77.55	-0.65	95.80	70.15	1.49	20.48	117949.62
BOC Hold	27.40	0.15	32.75	22.20	3.94	14.51	36918.03
Ch OSLnd&Inv	21.05	-0.30	27.35	15.42	4.96	5.40	29360.42
ChngKng	53.80	-0.15	57.00	41.35	2.86	12.71	24981.03
Citic Ltd	8.09	-0.12	10.24	6.96	5.78	3.86	29991.19
Citic Secs	16.06	-0.20	21.32	15.32	2.59	8.54	5362.41
CK Hutchison	51.00	-1.20	60.45	48.80	3.88	6.67	24921.62
CNOOC	10.86	0.16	12.54	7.55	3.62	9.78	61791.19
HangSeng	123.60	-0.80	169.50	122.30	4.29	20.53	30114.09
HK Exc&Clr	321.20	-7.60	515.00	314.00	2.48	37.38	51896.5
MTR	40.00	-0.35	45.00	39.35	2.67	29.89	31600.72
SandsCh	16.96	-0.08	27.95	13.52	-	-19.33	17492.21
SHK Props	93.50	-0.55	111.80	87.15	4.60	11.03	34528.38
Tencent	323.00	-1.20	529.00	288.00	0.43	13.12	395910.05
India (Rs)							
Bhartiartl	720.60	-10.25	781.80	579.22	-	165.90	53672.03
HDFC Bk	1439.4	-25.70	1725	1271.6	-	26.31	100127
Hind Unilevr	2575.8	4.25	2859.3	1901.55	1.15	74.41	75689.99
HsngDevFin	2366	-30.70	3021.1	2026	0.90	21.72	53706.11
ICICI Bk	855.85	-15.00	887.65	642.15	0.22	29.28	74516.66
Infosys	1461.75	-59.80	1923.3	1367.15	1.93	31.14	76922.56
ITC	313.55	0.65	319.45	206.00	3.18	28.09	48564.94
L&T	1881.5	-23.90	2008	1456.35	0.89	33.65	33063.05
OilNatGas	135.90	-0.75	194.95	116.75	6.22	4.15	21381.82
RelianceIn	2597.65	-20.35	2856.15	2180	0.25	32.05	219809.42
SBI NewA	514.85	-8.95	549.00	413.50	0.72	15.48	57465.13
SunPhrmInds	879.25	-0.90	967.05	733.70	0.79	35.33	26383.79
Tata Cons	3132.55	-89.65	3989.9	2953	1.08	32.26	143350.95
Israel (ILS)							
TevaPha	32.39	-0.65	37.23	23.83	-	29.86	11000.24
Italy (€)							
Enel	4.80	-0.03	7.93	4.61	7.50	22.72	48755.23
ENI	12.50	0.18	14.85	10.32	5.30	5.35	44995.7
Generali	14.65	-0.08	21.55	13.80	9.87	8.37	23116.62
IntSPaolo	1.70	0.02	2.92	1.58	2.11	53.63	33004.58
Unicred	9.26	0.16	15.93	7.75	1.27	13.99	20691.85
Japan (¥)							
AstellasPh	1973	-24.50	2205	1739	2.42	29.25	26108.31
Bridgestne	5380	-105.00	5509	4042	3.21	12.05	27676.48
Canon	3386	-50.00	3516	2467	3.00	16.13	32552.15
CntJpRwy	15875	-145.00	18110	14660	0.85	-29.32	23571.92

AmerMvl	17.99	-0.06	22.49	17.26	1.83	14.38	38352.09
FEMSA UBD	127.54	-2.01	180.66	120.63	1.61	103.03	13759.98
WalMrtMex	68.29	0.19	82.93	65.31	0.75	33.62	59527.49
Netherlands (€)							
ASML Hld	503.30	-18.10	777.50	403.45	0.66	39.51	204241.6
Heineken	90.74	-0.82	100.95	77.50	1.06	15.99	52180.38
ING	8.71	-0.02	14.00	7.90	6.77	7.20	32754.84
Unilever	46.15	-0.23	48.81	39.36	3.11	23.69	137332.89
Norway (Kr)							
DNB	185.55	-4.30	220.50	168.40	8.98	12.39	29593.24
Equinor	402.95	-3.20	410.95	184.74	1.17	18.15	130872.05
Telenor	108.90	-0.75	156.00	108.10	7.91	19.22	15587.47
Qatar (QR)							
QatarNtBk	20.80	-0.30	27.00	18.40	2.37	17.20	52754.23
Saudi Arabia (SR)							
AlRajhiBnk	90.70	-1.30	117.40	74.63	2.31	17.65	96566.4
Natnlcombnk	70.50	-0.90	82.00	58.60	1.79	27.16	84029.54
SaudiBasic	103.20	-0.60	141.40	93.50	2.74	15.40	82406.19
SaudiTelec	105.80	1.20	136.60	95.20	3.29	21.46	56321.54
Singapore (S$)							
DBS	32.55	-0.29	37.49	29.18	3.38	14.09	59992.48
JardnMt US$	52.02	0.19	62.10	49.50	2.85	10.03	15056.41
OCBC	11.96	-0.18	13.54	10.98	3.13	12.60	38497.28
SingTel	2.64	-0.01	2.88	2.31	2.53	47.06	31217.23
UOB	27.19	-0.28	33.33	25.28	3.26	12.78	32609.48
South Africa (R)							
Firstrand	67.04	-1.91	73.61	53.25	3.57	13.13	22331.37
MTN Grp	130.78	-1.67	211.49	119.63	-	19.30	14633.3
Naspers N	2520	-31.89	2853.25	1421.74	0.22	14.67	65171.49
South Korea (KRW)							
HyundMobis	206500	-6000.00	281500	190000	1.90	8.21	14462.43
KoreaElePwr	20600	-250.00	25500	20050	5.84	-12.27	9793.35
SK Hynix	92500	-2600.00	134000	86300	1.63	6.75	49868.72
SmsungEl	58600	-1400.00	80800	55700	2.42	10.34	259065.64
Spain (€)							
BBVA	4.43	-0.02	6.29	3.97	8.24	6.14	28268.67
BcoSantdr	2.41	0.00	3.48	2.32	3.13	4.90	40349.22
CaixaBnk	2.89	0.01	3.64	2.22	0.92	19.32	23256.9
Iberdrola	10.78	-0.15	11.49	8.47	3.85	18.80	68438.64
Inditex	22.02	-0.25	32.63	18.55	0.99	23.62	68515.64
Repsol	13.63	0.20	16.23	9.29	4.33	8.45	19763.55
Telefonica	4.14	0.00	5.06	3.61	8.21	3.07	23881.65
Sweden (SKr)							
AtlasCpcoB	99.08	-0.09	133.60	22.08	7.50	6.55	14479
Ericsson	76.64	-0.99	117.32	70.05	2.99	11.19	22045.33
H & M	112.76	1.58	191.86	107.74	5.68	15.39	15420.27
Investor	173.46	-0.76	228.75	162.62	2.05	7.39	29588.07
Nordea Bk	98.75	-2.03	114.64	85.25	15.07	11.41	34698.19
SEB	105.40	-1.70	141.85	91.64	9.75	8.72	21261.08
SvnskaHn	86.98	-1.46	108.15	80.88	5.85	8.45	15837.02
Swedbank	133.20	-2.55	196.70	124.50	11.12	7.05	14116.82
Telia Co	37.91	-0.08	41.70	33.61	5.37	13.25	14515.17
Volvo	170.60	-0.70	218.65	148.24	3.88	11.01	25371.17
Switzerland (SFr)							
ABB	27.43	-0.10	35.30	24.85	2.79	13.61	55582.68
CredSuisse	5.11	-0.01	10.18	4.96	1.80	-8.30	13964.54
Nestle	115.46	-0.04	128.90	105.64	2.19	20.74	327470.08

Imperial Brands	1877	-1.50	1945.84	1434.23	7.36	6.28	21108.69
Jardine Mathes.	62.50	-	60.50	50.06	2.39	11.95	18089.69
LlydsBkg	43.67	-0.65	54.50	38.10	5.89	6.07	37111.11
LSE Group	8268	-142.00	8612	5995.57	0.93	84.54	33732.21
Natl Grid	1137.5	1.50	1271.45	880.60	4.32	26.52	45021.01
Natwest Group	250.90	-2.00	264.10	182.85	4.18	9.88	35401.14
Prudential	915.00	-1.40	1566	881.00	1.29	14.86	27914.72
ReckittB	6580	-40.00	6824	4905.16	2.65	-28.47	54637.8
RELX	2303	-81.00	2634.82	2056	2.07	30.38	52138.93
RioTinto	4980	29.00	6343	4354	10.09	5.21	78758.38
RollsRoyce	78.48	-2.05	161.91	77.87	-	53.39	1721.1
Shell PLC	2334	13.50	2459.23	1282.78	2.59	12.30	126519.21
StandCh	589.60	-2.40	641.00	406.20	1.50	13.22	22920.09
Tesco	252.70	-3.80	304.10	242.30	3.62	12.87	24397.02
Unilever	3935	-32.00	4109.5	3267.5	3.68	20.20	57153.34
Vodafone	115.08	-1.48	141.60	106.30	6.72	-257.45	36195.29
WPP	743.60	-17.20	1231.5	743.60	3.56	14.16	11101.44
United States of America ($)							
21stC Fox A	34.33	0.09	44.95	31.33	1.18	16.10	10521.37
3M	126.51	-2.63	197.29	125.27	4.04	14.48	72060.59
AbbottLb	101.71	-0.20	142.60	101.21	1.53	29.90	178107.8
Abbvie	136.15	-0.20	175.91	105.56	3.30	24.45	240726.34
Accenture	295.90	-2.23	417.37	261.77	1.08	34.80	196533.32
Activision Bli.	78.87	0.24	83.38	56.40	0.51	26.56	61700.52
Adobe	376.60	-4.43	699.54	338.00	-	42.91	176246.46
Advanced Micro	88.76	-2.42	164.46	71.60	-	40.01	143287.12
AEP	102.80	0.98	105.48	80.22	2.52	24.01	52811.85
Aflac	60.63	-0.24	67.20	51.28	1.88	10.99	38313.1
AirProd	262.15	-0.08	316.39	216.24	1.98	31.90	58144.6
Allstate	124.11	-0.94	144.46	106.11	2.25	8.47	33546.39
Alphabet	109.56	-0.78	151.55	101.88	-	1.13	656921.76
Altria	45.94	0.06	57.05	41.00	6.61	39.71	82729.83
Amazon	129.60	-1.15	188.11	101.26	-	2.32	1320307.1
AmerAir	13.60	-0.14	22.35	11.93	-	-4.21	8836.73
AmerExpr	155.55	-1.76	199.55	134.12	1.03	17.50	116623.27
AmerIntGrp	52.78	-0.22	65.73	48.40	2.09	5.65	40134.76
AmerTower	260.99	-0.20	303.72	220.00	1.72	53.41	121513.53
Amgen	239.94	-0.71	258.45	198.64	2.53	27.04	128351.31
Amphenol Corp	75.10	-0.38	88.45	61.67	0.90	34.66	44668.62
Analog Devices	154.78	-3.89	191.95	138.50	1.55	60.20	79609.78
Anthem	482.58	12.71	-	-	-	-	-
Aon Cp	282.90	-2.97	341.98	246.21	0.61	59.05	59670.31
Apple	161.22	-2.40	182.13	129.04	0.46	30.97	2590926.64
Applied Materi.	97.23	-1.57	167.06	82.67	0.84	15.54	83647.88
Aptiv	94.28	-0.27	180.81	84.14	-	56.30	25543.37
ArcherDan	90.17	0.61	98.88	58.44	1.42	21.81	50545.84
AT&T	17.87	-0.03	21.53	16.62	10.05	7.50	127305.99
Autodesk	205.18	-2.59	335.48	163.20	-	105.10	44579.91
AutomData	249.03	-1.46	261.59	192.26	1.33	44.65	103474.12
AutoZone	2169.8	6.78	2362.24	1503.3	-	22.71	42284.19
Avago Tech	516.62	-4.24	677.76	463.91	2.51	33.80	208620.3
BakerHu	26.28	0.15	39.78	22.30	2.43	70.46	26588.9
Bank of NY	41.93	-0.07	64.63	39.78	2.68	11.73	33883.77
BankAm	33.92	-0.11	50.11	29.67	1.99	11.00	272516.74
Baxter	56.71	-0.46	89.70	56.40	1.65	25.97	28559.76
BectonDick	254.64	0.91	277.29	229.24	1.14	51.03	72622.08
BerkshHat	433144.41	-3056.59	544389.26	396500	-	8.44	259853.73
Biogen	197.02	-1.57	347.74	187.16	-	21.94	28590.17
BlackRock	675.49	-0.95	973.16	575.60	2.11	20.47	101842.78

CVS	100.22	0.16	111.25	81.78	1.72	19.51	131565.14
Danaher	276.83	-3.50	333.96	233.71	0.28	36.59	201378.7
Deere	383.07	3.69	446.76	283.81	0.89	24.37	117079.86
Delta	32.08	-0.60	46.27	28.10	-	44.60	20569.63
Devon Energy	74.69	1.92	79.40	27.40	2.28	20.65	48907.01
Digital Realty	125.03	-0.24	177.43	119.63	3.20	24.38	35934.6
DiscFinServ	101.43	-1.27	133.78	88.02	1.60	6.59	27707.38
Disney	113.71	-0.37	187.58	90.23	-	76.58	207290.78
Dollar General	238.34	2.02	262.21	183.25	0.61	26.89	53762.77
DominRes	83.67	0.59	88.78	70.37	2.60	30.38	69655.51
DukeEner	109.38	0.65	116.33	95.48	3.08	25.70	84211.71
DuPont	57.89	0.07	84.08	52.57	1.79	20.76	28997.21
Eaton	141.25	0.17	175.72	122.50	1.86	30.64	56259.88
eBay	44.61	0.08	81.19	40.52	1.39	135.97	24504.55
Ecolab	165.47	0.21	238.93	143.82	1.02	49.02	47156.48
Edwards Lifesc.	89.88	-1.36	131.73	85.58	-	43.75	55720.48
Eli Lilly	311.80	-3.76	335.33	220.20	0.94	59.02	296264.51
Emerson	84.80	0.14	105.99	76.16	2.07	21.45	50142.24
EOG Res	127.78	3.21	147.99	66.05	1.09	18.53	74884.77
Equinix	665.20	-5.54	885.26	606.12	1.49	139.34	60583.21
EquityResTP	75.14	-0.89	94.32	67.48	2.77	25.40	28261.53
Exelon	44.91	0.20	50.71	29.10	2.94	29.90	44028.11
ExxonMb	101.13	3.26	105.57	52.96	2.98	21.73	421473.06
Fedex	216.56	-1.61	269.25	192.82	1.14	13.49	56284.3
Fidelity NIS	93.26	0.17	130.55	85.00	1.44	161.23	56697.04
Fiserv	103.50	-0.33	118.99	87.03	-	60.25	66196.98
FordMtr	15.47	0.06	25.87	10.61	0.56	4.03	61098.97
Franklin	26.43	-0.06	38.27	22.61	3.69	8.10	13171.58
GenDyn	232.85	0.26	254.99	188.64	1.73	23.35	63858.23
GenElectric	76.36	1.09	116.17	59.93	0.36	-27.22	83733.23
GenMills	77.62	1.30	78.54	56.67	2.29	23.75	46236.05
GenMotors	39.60	0.37	67.21	30.33	-	6.85	57731.45
GileadSci	62.28	-0.09	74.12	57.17	3.94	14.63	78059.72
GoldmSchs	335.14	-1.26	426.16	277.84	1.67	6.53	114402.03
Halliburton	31.73	0.63	43.99	19.09	0.71	20.65	28772.81
HCA Hold	203.74	-1.24	279.02	164.47	0.81	11.15	58478.43
Hew-Pack	31.75	0.36	41.47	26.11	2.28	6.63	32828.72
Hilton Worldwi.	130.24	-0.86	167.99	108.41	-	103.33	35721.82
HiltonWwde	130.24	-0.86	167.99	108.41	-	103.33	35721.82
HomeDep	297.63	-0.48	420.61	264.51	1.93	21.99	304686.58
Honywell	192.72	-0.34	233.56	167.35	1.69	28.22	129830.95
HumanaInc	484.75	-1.97	504.99	365.34	0.50	24.77	61346.27
IBM	130.75	0.37	146.00	114.56	4.32	29.07	118086.95
IDEXX Laborato.	347.04	-2.87	695.18	318.50	-	46.74	28891.95
IllinoisTool	197.15	-2.32	248.11	173.52	2.07	26.84	61041.92
Illumina	206.57	1.20	477.16	173.45	-	47.48	32451.36
Intcntl Exch	102.34	-1.26	139.79	90.05	1.11	16.51	57149.82
Intel	32.97	-0.40	56.07	32.81	3.64	7.86	135354.29
Intuit	439.61	-8.85	716.86	339.36	0.50	63.77	124003.88
John&John	163.43	-0.84	186.69	155.72	2.21	24.24	429686.87
JohnsonCn	54.72	0.11	81.69	45.52	1.81	28.94	37691.7
JPMrgnCh	114.15	-0.52	172.96	106.06	2.87	8.61	334753.14
Kimb-Clark	130.29	0.77	144.53	117.32	3.12	28.32	43988.81
KinderM	18.99	-0.01	20.20	15.01	5.05	47.51	42773.22
KLA Corp	353.35	-5.83	442.44	282.83	0.95	21.07	50106.36
Kraft Heinz	38.20	0.09	44.87	32.79	3.62	53.96	46805.67
Kroger	48.16	-0.22	62.78	38.22	1.41	25.47	34461.39
LasVegasSd	38.00	0.07	48.27	28.88	-	-29.15	29037.93
LibertyGbl	20.15	0.02	30.58	19.89	-	1.00	3493.25

PNCFin	160.32	-1.87	224.52	146.39	2.58	14.62	65751.08
PPG Inds	125.86	-0.19	172.78	107.06	1.63	31.99	29575.59
ProctGmbl	142.03	-0.27	165.35	129.50	2.18	27.96	339376.39
Prudntl	97.87	-0.65	124.22	89.73	4.06	5.81	36407.64
PublStor	342.77	-1.75	421.76	292.32	2.01	40.23	60166.05
Qualcomm	137.09	-1.29	192.68	118.23	1.69	18.19	153952.07
Raytheon	92.36	-1.17	106.02	79.00	1.87	41.47	136363.45
Regen Pharm	593.70	-2.49	747.42	538.01	-	9.56	63638.27
S&P Global	363.31	-0.75	484.21	311.87	0.73	33.64	121163.89
Salesforce	162.79	-2.44	311.75	154.55	-	126.21	162790
Schlmbrg	40.10	0.68	49.83	26.44	1.08	35.19	56716.97
Sempra Energy	168.11	1.57	173.28	119.56	2.26	48.56	52838.71
Shrwin-Will	235.39	-0.31	354.15	214.22	0.81	39.06	61009.1
SimonProp	104.40	-0.45	171.12	93.06	5.91	17.68	34175.52
SouthCpr	49.92	-1.45	79.32	44.70	5.53	13.17	38592.78
Starbucks	84.19	0.13	120.76	68.39	1.89	26.36	96599.61
StateSt	69.05	-0.08	103.76	58.80	2.73	11.12	25384.12
Stryker	206.02	-0.98	281.16	188.84	1.08	45.81	77907.3
Sychrony Fin	33.11	-0.55	52.49	27.22	2.36	5.05	15948.63
T-MobileUS	145.33	2.31	148.04	101.51	-	69.86	182254.7
Target	159.02	-1.60	268.98	137.16	1.73	12.94	73737
TE Connect	126.87	0.10	166.44	107.12	1.35	19.97	40577.97
Tesla Mtrs	282.65	-5.44	414.50	206.86	-	66.82	295222.39
TexasInstr	169.16	-0.33	202.26	144.46	2.15	23.72	154562.74
TheTrvelers	165.24	-1.60	187.98	145.40	1.89	11.80	39213.62
ThrmoFshr	558.61	-5.10	668.94	497.83	0.16	33.25	218857.23
TJX Cos	63.61	0.72	76.94	53.69	1.42	27.03	74527.76
Truist Financial Corp	48.09	-0.11	66.10	44.68	3.34	12.46	63779.63
Twitter	40.49	0.03	68.41	31.30	-	-167.51	30984.82
UnionPac	232.16	0.89	278.94	195.68	1.72	24.85	144978.95
UPS	198.49	-0.44	232.31	165.34	1.77	15.66	145266.98
USBancorp	46.21	-0.28	63.01	43.75	3.29	10.50	68658.08
UtdHlthcre	528.32	-0.93	553.29	383.12	0.92	33.85	494181.39
ValeroEngy	124.48	2.60	146.81	61.86	2.72	63.52	49041.43
Verizon	43.41	0.16	55.51	43.02	5.04	9.45	182309.61
VertexPharm	283.04	1.36	305.95	176.36	-	36.39	72588.29
VF Cp	41.16	-	78.91	40.69	4.13	15.63	15990.43
Visa Inc	202.76	-0.13	236.96	185.91	0.57	38.89	331515.57
Walgreen	36.04	0.04	54.15	35.64	4.59	6.05	31147.81
WalMartSto	132.95	1.35	160.77	117.27	1.44	31.32	364422.19
Walt Disney	113.71	-0.37	187.58	90.23	-	76.58	207290.78
Waste Manage.	171.95	0.44	175.98	138.58	1.15	46.43	71073.08
WellsFargo	44.05	0.08	60.30	36.54	1.51	10.31	167083.83
Williams Cos	35.31	0.28	37.97	23.98	4.01	32.98	43020.21
Workday	161.50	-4.96	307.81	134.10	-	1544.31	32461.5
Yum!Brnds	111.84	-0.32	139.85	108.37	1.54	24.87	31823.23
Zoetis	158.29	-1.60	249.27	154.18	0.55	42.94	74101.65
Zoom	82.09	0.68	348.30	79.03	-	20.93	20602.55
Venezuela (VEF)							
Bco de Vnzla	1.10	0.06	594.00	0.32	137.41	-	511.66
Bco Provncl	3.25	-0.05	798000	1.70	-	0.00	155.43

Closing prices and highs & lows are in traded currency (with variations for that country indicated by stock), market capitalisation is in USD. Highs & lows are based on intraday trading over a rolling 52 week period.

♦ ex-dividend

■ ex-capital redistribution

♯ price at time of suspension

FT 500: TOP 20

	Close price	Prev price	Day change	Day change %	Week change	Week change %	Month change %
CNOOC	10.86	10.70	0.16	1.50	1.18	12.2	-13.50
PetroChina	3.79	3.77	0.02	0.53	0.36	10.5	-9.44
Occid Pet	76.02	73.55	2.47	3.36	6.99	10.1	-14.17
Nutrien	128.58	130.88	-2.30	-1.76	11.17	9.5	-14.14
Devon Energy	74.69	72.77	1.92	2.64	6.27	9.2	-27.94
ConocPhil	114.53	112.12	2.41	2.15	9.29	8.8	-21.40
ChShenEgy	25.55	25.55	0.00	0.00	2.05	8.7	-14.80
Halliburton	31.73	31.10	0.63	2.01	2.54	8.7	-24.08
Schlmbrg	40.10	39.42	0.68	1.73	3.18	8.6	-23.63
Pwr Cons Corp	7.96	7.73	0.23	2.98	0.60	8.2	-0.25
ExxonMb	101.13	97.87	3.26	3.33	7.12	7.6	-10.52
EOG Res	127.78	124.57	3.21	2.58	8.88	7.5	-20.23
ImpOil	66.01	65.66	0.35	0.53	4.47	7.3	-16.04
Petrobras	37.87	37.46	0.41	1.09	2.56	7.3	-6.38
Cielo	5.84	5.92	-0.08	-1.35	0.37	6.8	-1.26
PingAnIns	46.35	46.65	-0.30	-0.64	2.80	6.4	10.64
Phillips66	93.81	92.18	1.63	1.77	5.58	6.3	-18.23
Ch OSLnd&Inv	21.05	21.35	-0.30	-1.41	1.25	6.3	7.79
Marathon Ptl	106.45	104.34	2.11	2.02	6.03	6.0	-18.70
Illumina	206.57	205.37	1.20	0.58	10.99	5.6	-18.78

Based on the FT Global 500 companies in local currency

FT 500: BOTTOM 20

	Close price	Prev price	Day change	Day change %	Week change	Week change %	Month change %
Tesla Mtrs	282.65	288.09	-5.44	-1.89	-587.09	-67.5	-7.91
Zoom	82.09	81.41	0.68	0.84	-15.35	-15.8	3.08
3M	126.51	129.14	-2.63	-2.04	-15.08	-10.7	-12.25
Bristol-Myers	67.55	71.19	-3.65	-5.12	-7.01	-9.4	2.51
Continental	57.28	56.38	0.90	1.60	-5.78	-9.2	-1.51
Inditex	22.02	22.27	-0.25	-1.12	-2.13	-8.8	-2.31
WPP	743.60	760.80	-17.20	-2.26	-71.80	-8.8	-10.68
Keyence	52100.00	54160.00	-2060.00	-3.80	-4920.00	-8.6	-11.72
BkNvaS	74.34	74.80	-0.46	-0.61	-6.90	-8.5	-10.83
H & M	112.76	111.18	1.58	1.42	-10.46	-8.5	-7.63
Infosys	1461.75	1521.55	-59.80	-3.93	-135.35	-8.5	-3.10
Adobe	376.60	381.02	-4.43	-1.16	-34.76	-8.4	-11.88
Salesforce	162.79	165.23	-2.44	-1.48	-14.19	-8.0	-4.47
DeutsPost	36.47	36.87	-0.41	-1.10	-2.99	-7.6	2.43
SAP	84.40	85.29	-0.89	-1.04	-6.90	-7.6	-3.00
Tata Cons	3132.55	3222.20	-89.65	-2.78	-253.20	-7.5	-1.78
E.ON	8.54	8.51	0.02	0.28	-0.66	-7.2	-6.22
Woolworths	36.53	36.76	-0.23	-0.63	-2.81	-7.1	2.29
AmerMvl	17.94	18.05	-0.11	-0.61	-1.35	-7.0	-0.57
Bausch Hlth	6.60	6.74	-0.14	-2.08	-0.48	-6.8	-17.10

Based on the FT Global 500 companies in local currency

BONDS: HIGH YIELD & EMERGING MARKET

Aug 26	Red date	Coupon	Ratings S*	Ratings M*	Ratings F*	Bid price	Bid yield	Day's chge yield	Mth's chge yield	Spread vs US
High Yield US$										
HCA Inc.	04/24	8.36	BB-	Ba2	BB	113.75	4.24	0.00	0.12	-
High Yield Euro										
Aldesa Financial Services S.A.	04/21	7.25	-	-	B	71.10	28.23	0.00	0.64	25.98
Emerging US$										
Peru	03/19	7.13	BBB+	A3	BBB+	104.40	2.60	-	-	0.34
Colombia	01/26	4.50	-	Baa2	BBB-	109.50	2.33	0.16	0.52	1.28
Brazil	04/26	6.00	-	Ba2	BB-	115.15	2.78	-0.01	0.65	1.73
Poland	04/26	3.25	-	A2	A-	111.22	0.98	0.03	0.16	-0.07
Mexico	05/26	11.50	-	Baa1	BBB-	149.00	1.61	0.00	-0.12	0.56
Turkey	03/27	6.00	-	Ba2	BB+	101.26	5.82	0.00	0.17	3.07
Turkey	03/27	6.00	-	B2	BB-	102.88	5.43	0.14	0.83	4.38
Peru	08/27	4.13	BBB+	A3	BBB+	103.50	3.66	0.01	-0.02	0.80
Russia	06/28	12.75	-	Baa3	BBB	168.12	2.48	0.07	0.05	-
Brazil	02/47	5.63	-	Ba2	BB-	101.48	5.52	0.08	0.80	-
Emerging Euro										
Brazil	04/21	2.88	BB-	Ba2	BB-	103.09	0.05	0.01	-0.09	-1.19
Mexico	04/23	2.75	BBB+	A3	BBB+	107.76	0.76	0.00	-0.07	-1.56
Mexico	04/23	2.75	-	Baa1	BBB-	106.48	-0.26	-	-	-0.36
Bulgaria	03/28	3.00	BBB-	Baa2	BBB	117.04	1.00	0.02	-0.15	-1.42

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

BONDS: GLOBAL INVESTMENT GRADE

Aug 26	Red date	Coupon	Ratings S*	Ratings M*	Ratings F*	Bid price	Bid yield	Day's chge yield	Mth's chge yield	Spread vs US
US$										
FleetBoston Financial Corp.	01/28	6.88	BBB+	Baa1	A-	129.00	2.54	-0.01	-0.05	-
The Goldman Sachs Group, Inc.	02/28	5.00	BBB+	A3	A	117.21	2.47	0.00	0.32	-
NationsBank Corp.	03/28	6.80	BBB+	Baa1	A-	127.69	2.72	-0.01	0.06	-
GTE LLC	04/28	6.94	BBB+	Baa2	A-	128.27	2.80	0.00	-0.11	-
United Utilities PLC	08/28	6.88	BBB	Baa1	A-	130.43	2.62	-0.07	-0.22	-
Barclays Bank plc	01/29	4.50	A	A1	A+	96.46	5.02	0.00	0.02	-
Euro										
Electricite de France (EDF)	04/30	4.63	A-	A3	A-	137.45	0.82	-0.01	0.10	-
The Goldman Sachs Group, Inc.	02/31	3.00	BBB+	A3	A	124.42	0.68	0.00	-0.11	-
The Goldman Sachs Group, Inc.	02/31	3.00	BBB+	A3	A	121.70	0.93	0.00	0.02	-
Finland	04/31	0.75	AA+	Aa1	AA+	111.08	-0.27	0.00	-0.05	-0.87
Yen										
Mexico	06/26	1.09	-	Baa1	BBB-	98.73	1.34	-0.02	-0.14	0.27
£ Sterling										
innogy Fin B.V.	06/30	6.25	BBB	Baa2	A-	137.45	2.19	-0.03	0.02	-
innogy Fin B.V.	06/30	6.25	BBB	Baa2	A-	128.68	3.20	0.00	-0.01	0.40

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

INTEREST RATES: OFFICIAL

Aug 26	Rate	Current	Since	Last
US	Fed Funds	1.5-1.75	15-06-2022	0.83
US	Prime	4.75	15-06-2022	4.00
US	Discount	1.00	05-05-2022	0.50
Euro	Repo	-0.64	19-05-2022	0.00
UK	Repo	1.75	04-08-2022	1.25
Japan	O'night Call	0.00-0.10	01-02-2016	0.00
Switzerland	Libor Target	-1.25-0.25	15-01-2015	-0.75--0.25

INTEREST RATES: MARKET

Aug 26 (Libor: Aug 25)	Over night	Change Day	Change Week	Change Month	One month	Three month	Six month	One year
US$ Libor	2.30914	-0.011	1.384	0.030	2.52386	3.06957	3.56643	4.12329
Euro Libor	-0.64957	-0.064	-0.224	0.001	-0.61943	-0.58057	-0.55600	-0.48571
£ Libor	0.18063	-0.005	-0.043	0.005	1.92220	2.41560	3.10750	0.81363
Swiss Fr Libor				-0.002	-0.77540	-0.75300	-0.70280	-0.55320
Yen Libor				0.000	-0.04632	-0.01661	0.04330	0.04867
Euro Euribor				0.009	0.09400	0.54200	0.98300	1.48200
Sterling CDs				0.000	0.50000	0.63000	0.78500	
US$ CDs				0.000	2.51000	3.01000	3.43000	
Euro CDs				0.000	0.22000	0.50000	0.89000	

Aug 26	Short term		7 Days notice		One month		Three month		Six month		One year	
Euro	-0.22	0.08	-0.23	0.07	0.07	0.37	0.35	0.65	0.74	1.04	1.19	1.49
Sterling					0.45	0.55	0.58	0.68	0.71	0.86	0.90	1.05
US Dollar	2.15	2.35	2.19	2.39	2.41	2.61	2.91	3.11	3.33	3.53	3.68	3.88
Japanese Yen	-0.20	0.00	-0.20	0.00	-0.20	0.00	-0.15	0.05	-0.10	0.20	-0.05	0.25

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

BOND INDICES

	Index	Day's change	Month's change	Year change	Return 1 month	Return 1 year
Markit IBoxx						
ABF Pan-Asia unhedged	200.19	-0.09	-1.04	-8.92	-0.27	-9.21
Corporates(£)	336.08	0.03	-4.70	-15.09	-3.98	-16.85
Corporates(€)	214.82	-0.36	-3.06	-11.06	-2.39	-12.37
Eurozone Sov(€)	222.66	-0.63	-4.14	-12.48	-2.99	-14.20
Gilts(£)	295.76	0.04	-6.14	-17.72	-5.27	-19.31
Overall(£)	301.38	0.04	-5.69	-16.74	-4.89	-18.36
Overall(€)	216.84	-0.54	-3.83	-12.09	-2.87	-13.72
FTSE						
Sterling Corporate (£)	-	-	-	-	-	-
Euro Corporate (€)	104.47	-0.05	-	-	0.54	-1.73
Euro Emerging Mkts (€)	718.96	-1.39	-	-	-4.57	-12.91
Eurozone Govt Bond	110.04	-0.19	-	-	-0.34	-0.64

CREDIT INDICES	Index	Day's change	Week's change	Month's change	Series high	Series low
Markit iTraxx						
Crossover 5Y	557.97	0.00	5.34	48.26	630.88	330.24
Europe 5Y	112.77	0.00	2.60	12.61	127.35	70.55
Japan 5Y	85.17	5.14	3.91	1.13	115.50	57.71
Senior Financials 5Y	121.11	0.00	2.13	11.65	139.21	79.74
Markit CDX						
Emerging Markets 5Y	322.90	16.03	0.08	-2.91	387.80	219.01
Nth Amer High Yld 5Y	498.73	29.07	27.81	27.64	589.25	421.25
Nth Amer Inv Grade 5Y	86.02	5.18	5.07	5.67	102.64	63.80

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

VOLATILITY INDICES

	Aug 29	Day Chng	Prev	52 wk high	52 wk low
VIX	25.98	0.42	25.56	38.94	14.73
VXD	22.72	0.36	22.36	45.37	3.27
VXN	32.37	0.65	31.72	44.05	18.01
VDAX	29.39	1.57	27.82	93.30	-

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

BONDS: BENCHMARK GOVERNMENT

	Red Date	Coupon	Bid Price	Bid Yield	Day chg yield	Wk chg yield	Month chg yld	Year chg yld
Australia	11/22	2.25	99.97	2.38	-0.01	0.08	-0.05	2.37
	05/32	1.25	80.97	3.59	-0.10	0.17	0.24	-
	02/50	1.00	95.54	1.57	-0.10	0.10	0.03	1.54
Austria	02/29	0.50	92.59	1.72	0.10	0.23	0.59	2.07
	02/47	1.50	86.17	2.24	0.07	0.20	0.42	1.89
Belgium	06/27	0.80	97.08	1.43	0.09	0.17	0.57	1.95
	06/47	1.60	82.26	2.58	0.05	0.20	0.34	1.94
Canada	03/25	1.25	94.72	3.47	0.04	0.13	0.42	2.76
	06/30	1.25	87.78	3.03	0.02	0.08	0.22	1.86
	12/48	2.75	95.61	2.99	-0.02	0.03	0.16	1.24
Denmark	11/29	0.50	91.93	1.70	0.09	0.21	0.55	1.97
	11/52	0.25	63.99	1.81	0.03	0.12	0.26	1.51
Finland	09/24	0.00	97.86	1.06	0.12	0.18	0.58	1.76
	09/29	0.50	92.19	1.68	0.09	0.19	0.54	2.03
France	05/28	0.75	95.64	1.55	0.10	0.19	0.55	1.95
	05/48	2.00	91.32	2.46	0.05	0.19	0.36	1.85
Germany	08/29	0.00	92.06	1.20	0.08	0.17	0.49	1.76
	08/50	0.00	65.43	1.53	0.03	0.13	0.35	1.48
Greece	01/23	3.50	101.24	0.54	0.00	-0.04	-0.53	0.91
	01/28	3.75	102.23	3.29	0.04	0.26	0.89	3.11
Ireland	10/22	0.00	99.94	0.47	0.03	0.01	0.40	1.07
	05/26	1.00	98.87	1.31	0.09	0.17	0.53	1.85
	02/45	2.00	92.44	2.44	0.05	0.19	0.40	1.91
Italy	02/25	0.35	95.89	2.10	0.16	0.17	0.28	2.31
	05/30	0.40	95.83	0.96	0.14	0.22	-0.03	1.71
	03/48	3.45	94.37	3.80	0.09	0.15	0.31	2.20
Japan	04/25	0.05	100.12	0.01	0.00	0.00	-0.01	-0.05
	12/29	0.10	99.59	0.16	-0.02	0.06	0.06	0.23
	12/49	0.40	83.32	1.11	0.00	0.06	-0.02	0.50
Netherlands	07/27	0.75	97.20	1.35	0.10	0.19	0.53	1.94
	01/47	2.75	117.10	1.87	0.04	0.16	0.38	1.84
New Zealand	05/31	1.50	82.81	3.84	-0.02	0.30	0.24	2.17
	09/40	2.50	117.84	2.33	-0.04	0.33	0.33	1.52
Norway	08/30	1.38	86.59	3.32	0.04	0.24	0.49	2.05
Poland	01/23	2.50	98.30	6.84	0.03	0.20	0.46	6.58
	07/27	2.50	83.02	6.67	0.05	0.32	0.58	5.37
	04/47	4.00	74.69	5.99	0.04	0.04	-0.56	3.84
Portugal	04/27	4.13	110.89	1.66	0.11	0.19	0.48	2.06
Spain	10/22	0.45	99.98	0.56	0.09	0.05	0.56	1.20
	10/29	0.60	89.96	2.12	0.09	0.19	0.50	2.08
	10/46	2.90	98.07	3.01	0.07	0.18	0.39	1.95
Sweden	06/30	0.13	120.00	-0.97	0.05	0.14	0.33	0.79
	03/39	3.50	123.74	1.83	0.01	0.26	0.37	1.35
Switzerland	04/28	4.00	118.18	0.68	0.06	0.18	0.37	1.22
	06/29	0.00	95.51	0.68	0.04	0.13	0.32	1.14
United Kingdom	07/23	0.75	98.42	2.54	-0.06	-0.07	0.57	2.41
	07/27	1.25	94.01	2.56	-0.02	0.28	0.89	2.18
	07/47	1.50	74.85	2.93	-0.02	0.16	0.40	1.90
United States	-	-	-	-	-	-	-	-
	03/25	0.50	92.85	3.41	0.03	0.10	0.37	2.82
	02/30	1.50	89.63	3.07	0.03	0.09	0.26	1.82
	02/50	0.25	82.65	0.97	-0.02	-0.02	0.02	-

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

GILTS: UK CASH MARKET

Aug 26	Price £	Red Yield	Change in Yield Day	Change in Yield Week	Change in Yield Month	Change in Yield Year	52 Week High	52 Week Low	Amnt £m
Tr 1.75pc '22	100.00	1.70	1.80	-0.58	22.30	4150.00	102.06	100.00	29.68
Tr 0.75pc '23	98.45	2.51	-0.40	-1.18	51.20	1830.77	101.08	98.35	34.36
Tr 0.125pc '24	96.11	2.95	1.03	9.26	57.75	1304.76	99.89	95.94	34.76
Tr 2pc '25	98.19	2.63	1.15	10.50	60.37	911.54	106.59	97.91	39.04
Tr 0.125pc '26	91.94	2.61	-0.38	9.21	66.24	770.00	99.34	91.51	34.53
Tr 1.25pc '27	94.03	2.56	0.00	8.47	63.06	573.68	105.20	93.47	40.07
Tr 0.875pc '29	89.48	2.49	-0.80	5.51	50.00	361.11	102.79	88.87	42.65
Tr 4.25pc '32	114.21	2.59	-0.77	3.60	40.00	270.00	136.90	113.42	39.43
Tr 4.25pc '36	115.10	2.89	-0.34	4.33	29.02	240.00	146.47	114.64	30.97
Tr 4.5pc '42	123.02	2.98	-0.33	2.76	21.14	201.01	169.96	122.16	27.72
Tr 3.75pc '52	118.09	2.85	-1.04	1.42	17.77	185.00	180.27	116.60	24.55
Tr 4pc '60	129.81	2.72	-1.45	0.00	15.74	192.47	213.01	127.66	24.57

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

GILTS: UK FTSE ACTUARIES INDICES

Price Indices

Fixed Coupon	Aug 26	Day's chg %	Total Return	Return 1 month	Return 1 year	Yield
1 Up to 5 Years	82.26	0.02	2364.34	-1.88	-4.47	2.66
2 5 - 10 Years	157.56	0.12	3317.61	-4.82	-11.35	2.55
3 10 - 15 Years	171.59	0.13	3942.53	-6.11	-17.52	2.86
4 5 - 15 Years	159.94	0.12	3466.83	-5.14	-13.35	2.65
5 Over 15 Years	258.25	0.49	4411.50	-6.92	-30.01	2.84
7 All stocks	148.50	0.23	3298.59	-4.81	-18.30	2.79

Index Linked	Aug 26	Day's chg %	Month chg %	Year's chg %	Total Return	Return 1 month	Return 1 year
1 Up to 5 Years	330.12	0.11	1.86	7.06	2783.36	1.86	8.26
2 Over 5 years	668.81	1.32	2.19	-25.35	5088.14	2.19	-25.07
3 5-15 years	503.33	0.71	1.86	-4.33	4062.40	1.87	-3.63
4 Over 15 years	801.90	1.65	2.36	-33.31	5923.30	2.37	-33.17
5 All stocks	615.76	1.15	2.14	-22.12	4778.24	2.15	-21.76

Yield Indices	Aug 26	Aug 25	Yr ago		Aug 26	Aug 25	Yr ago
5 Yrs	2.45	2.46	0.30	20 Yrs	2.98	2.99	1.03
10 Yrs	2.70	2.71	0.68	45 Yrs	2.65	2.69	0.87
15 Yrs	2.94	2.94	0.93				

Real yield	inflation 0% Aug 26	inflation 0% Dur yrs	inflation 0% Previous	inflation 0% Yr ago	inflation 5% Aug 26	inflation 5% Dur yrs	inflation 5% Previous	inflation 5% Yr ago
Up to 5 yrs	-2.68	1.68	-2.60	-3.02	-3.29	1.69	-3.24	-3.42
Over 5 yrs	-0.79	20.89	-0.72	-2.49	-0.81	20.94	-0.75	-2.52
5-15 yrs	-1.43	8.87	-1.35	-2.83	-1.53	8.88	-1.46	-2.94
Over 15 yrs	-0.67	26.80	-0.61	-2.46	-0.69	26.81	-0.63	-2.47
All stocks	-0.81	18.38	-0.75	-2.50	-0.84	18.47	-0.78	-2.53

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

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

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COMMODITIES

www.ft.com/commodities

Energy		Price*	Change	Agricultural & Cattle Futures		Price*	Change
Crude Oil†	Oct	94.20	1.14	Corn♦	Sep	672.25	3.50
Brent Crude Oil‡		104.13	4.41	Wheat♦	Sep	782.25	-2.50
RBOB Gasoline†	Oct	2.81	-0.04	Soybeans♦	Sep	1602.50	-2.75
Natural Gas†	Oct	9.36	0.09	Soybeans Meal♦	Sep	484.90	6.80
Base Metals (♠ LME 3 Months)				Cocoa (ICE Liffe)⊕	Sep	1780.00	8.00
Aluminium		2490.00	54.50	Cocoa (ICE US)♥	Sep	2408.00	-10.00
Aluminium Alloy		1675.00	-905.00	Coffee(Robusta)⊕	Sep	2285.00	-30.00
Copper		8129.00	-14.00	Coffee (Arabica)♥	Sep	243.00	-0.40
Lead		2000.00	27.00	White Sugar⊕		559.80	11.90
Nickel		21710.00	-240.00	Sugar 11♥		18.33	-0.14
Tin		24505.00	5.00	Cotton♥	Oct	120.84	-1.28
Zinc		3558.00	-7.00	Orange Juice♥	Sep	176.65	2.05
Precious Metals (PM London Fix)				Live Cattle♣	Oct	143.05	-0.60
Gold		1751.25	-2.30	Feeder Cattle♣	May	134.88	-
Silver (US cents)		1921.50	-11.00	Lean Hogs♣	Oct	90.85	-0.25
Platinum		877.00	-7.00				
Palladium		2153.00	60.00		Aug 25	% Chg Month	% Chg Year
Bulk Commodities							
Iron Ore		106.18	2.88	S&P GSCI Spt	699.65	-9.37	33.04
Baltic Dry Index		1082.00	-41.00	DJ UBS Spot	125.51	-11.80	23.70
Richards Bay ICE Futures		348.50	17.50	TR/CC CRB TR	320.24	-8.70	36.52
				LEBA EUA Carbon	58.91	-1.98	129.94
				LEBA UK Power	1048.00	-37.43	-39.60

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

BONDS: INDEX-LINKED

	Price Aug 26	Yield Aug 26	Yield Prev	Month return	Value stock	Market	No of stocks
Can 4.25%' 26	112.89	1.138	1.013	-2.06	5.25	73598.17	8
Fr 0.25%' 24	108.47	-3.933	-4.035	1.00	17.92	257966.44	17
Swe 1.00%' 25	125.25	-1.224	-1.273	0.09	35.15	218638.39	6
UK 0.125%' 24	107.91	-4.670	-4.674	2.19	15.24	673687.92	31
UK 2.50%' 24	385.69	-3.749	-3.765	1.56	6.82	673687.92	31
UK 2.00%' 35	278.66	-1.286	-1.218	-2.24	9.08	673687.92	31
US 0.625%' 24	99.73	0.824	0.613	-0.43	40.98	1667234.85	46
US 3.625%' 28	117.14	0.532	0.470	-1.19	16.78	1667234.85	46

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

BONDS: TEN YEAR GOVT SPREADS

	Bid Yield	Spread vs Bund	Spread vs T-Bonds		Bid Yield	Spread vs Bund	Spread vs T-Bonds
Australia	3.59	2.39	0.52	Netherlands	1.35	0.15	-1.72
Austria	1.72	0.52	-1.35	New Zealand	3.84	2.64	0.77
Canada	3.03	1.83	-0.04	Norway	3.32	2.12	0.25
Denmark	1.70	0.50	-1.37	Portugal	1.66	0.46	-1.41
Finland	1.68	0.49	-1.39	Spain	2.12	0.93	-0.95
Germany	1.20	0.00	-1.87	Sweden	-0.97	-2.17	-4.04
Italy	0.96	-0.23	-2.11	Switzerland	0.68	-0.52	-2.39
Japan	0.16	-1.04	-2.91	United States	3.07	1.87	0.00

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

ARTS

Soul survivors from Motown's golden age

As The Temptations and The Four Tops prepare to go

motor industry (“That was the one place you could get equal pay, no matter what colour you were,” Fakir says). But *on tour, original members Otis Williams and Duke Fakir talk to Michael Hann*

In the beginning, there was the church. For 80-year-old Otis Williams, the sole surviving original member of The Temptations, the church was in Texas. "I'm a little country guy from Texarkana, Texas that used to run up and down the gravel roads with coveralls on and hot water cornbread in my hand, barefooted at times," he remembers. But even before he moved from Texas to Detroit ("I was, like, 11 or 12 years old"), he had been steeped in gospel music: The Dixie Hummingbirds, The Soul Stirrers, Mahalia Jackson.

It was the same for Detroit native Duke Fakir, six years his senior, and the last of the original Four Tops standing. "My whole family and all my cousins sang in church. We were in the choir, a little baby choir. And we sang at least two or three times a week. We were in that choir from the time I was five right through high school. In fact, my mother is the one that prompted me to start to try to sing the solo. I told her I never wanted to, that I liked the choir sound. But she said I had a lovely voice and I should. And that's how life really started for me in the music world."

Between them, as Motown recording artists, Williams and Fakir went on to sing on some of pop's greatest records — songs you can still hear wherever radios are turned on, or at wedding receptions (albeit neither were the lead soloists in their respective groups). The Temps gave the world "My Girl", "Get Ready", "Ain't Too Proud to Beg", "I Wish It Would Rain", "Papa Was a Rollin' Stone" and scores more. The Four Tops' singles included the peerless "I Can't Help Myself (Sugar Pie Honey Bunch)", "Reach Out I'll Be There", "Standing in the Shadows of Love" and "Bernadette".

Above: Otis Williams of The Temptations, left, and Duke Fakir of The Four Tops. Below left: Fakir, far left, with the Tops in 1966 — Shahar Azran/Getty Images; ADW/GoffPhotos.com

Nearly 60 years on from those halcyon days, both are still working — the two groups tour the UK together in September and October — and both had hits across multiple decades. But their legends are founded on those glorious songs from the 1960s. For each group, the breakthrough came when great writers presented them with a great track.

"When Smokey Robinson and Bob Rogers first came up with 'The Way You Do the Things You Do', I thought it was tomfoolery," Williams says. "When I read the lyrics, I would say, 'Wow, this is some hokey stuff — "You got a smile so bright / You know you could have been a candle."' But little did I know. It was a cold January night and Smokey called. The Temps was to come to the studio, to Motown. And as we were walking, I had a very special feeling. At that time it was David Ruffin, Eddie Kendricks, Paul Williams, Melvin Franklin and myself. And it was like something said, 'Oh, these are the guys that's gonna make history.' Once we started doing it [live], and saw the reaction from the crowd, I said, 'Wow, Smokey is a bad young man to come up with stuff that didn't make sense but made sense.'"

The Tops had been traversing the country for years — playing supper clubs, Borscht Belt hotels, the Chitlin' Circuit of black-only venues — before Berry Gordy signed them to Motown. At first they tried recording standards, but Gordy shelved the tracks, wanting something suitable for the R&B market. "We was disappointed," Fakir says. "And we let him know. He says, 'Well, don't give up on me. I got something to show you guys. There's three writers, Eddie Holland, Lamont Dozier, Brian Holland, and I think they can make some hits for you."

That first song was "Baby I Need Your Loving", showcasing the incredible voice of Levi Stubbs. "Eddie Holland and Levi were in the engineering room, working on the melody. We went up there after we finished learning the song," says Fakir. "And we saw Levi, he was looking at the paper with the lyrics on it. And he says, 'Eddie, give me a piece of paper and a pen.' 'For what?' 'I need to write these words out.' Eddie says, 'The words are right there, right in front of you.' Levi says, 'No, no, I need to write 'em so I can feel these words.'

"And once Levi did that, he started singing his ass off. And that was the beginning of a wonderful, wonderful relationship with three of the greatest writers at that time."

While The Tops remained associated with Holland-Dozier-Holland, The Temps came into the orbit of another brilliant writer-producer, Norman Whitfield. "Smoke is known as a lyricist and melody man," Williams says of Robinson. "Norman was smacking you across the face with that raw energy, the funky tracks. It worked out real well because it gave us a balance in the way we performed, with 'Ain't Too Proud to Beg', 'Ball of Confusion', 'Papa Was a Rollin' Stone', 'I Can't Get Next to You'. So him and Barrett Strong was turning out some great songs. We had an eight- or nine-year run with Norman and Barrett. So it was great to be associated with such wonderful producers and songwriters."

The optimism of early Motown was built on the prosperity of Detroit's

beneath the surface, resentments were rumbling in the city's black population, culminating in the Detroit Rebellion of 1967, in which 43 people were killed.

"That was a heck of a night," Williams says. "That particular night I started to go to this noted club, called the Chit Chat Lounge. But something said, 'Otis, you better go home.' So I went to my apartment. As soon as I got home, everything erupted right down 12th Street. I had never heard a 50-caliber machine gun fire. To hear a 50-caliber machine gun outside my apartment, it was really thunderous. And after they opened the city up for us to travel, the first place I wanted to go, to see if it was still standing, was Motown Records. They did not touch Motown, throughout all that was going on. It was like a divine hand to say you can destroy everything except Motown."

By the mid-1970s the golden age had passed for both groups, but the work never dried up and hits still came along from time to time (The Temptations released a new album earlier this year, *Temptations 60*). And here Williams and Fakir are, at a combined age of 166, still singing the songs that make you want to hug someone and never let go.

> 'Norman Whitfield was smacking you across the face with that raw energy, the funky tracks'

"We live in a world that seems like it's so chaotic: all kinds of craziness is going on," Williams says. "And if we can bring any kind of happiness and enjoyment, and hopefully let them forget that, let's try and find as much enjoyment as we can in this world that has gone crazy."

Tour begins on September 30 at Manchester AO Arena, and ends on October 11 at London O2 Arena

Otis Williams, seated, with The Temptations in 1967
CSU Archives/Everett Collection

Arctic Monkeys are back with a swagger

POP

Arctic Monkeys
Leeds Festival
★★★★☆

Neil O'Sullivan

The excited reaction to the announcement late last year that Arctic Monkeys would headline this year's Reading and Leeds music festivals was a rare outbreak of unity on social media. In the real world too, the sense that this was a major event was palpable — tickets for the band's first UK shows in four years sold out almost immediately.

Sunday's performance at Leeds followed another big announcement: the Sheffield group's long-awaited seventh album, *The Car*, will be released in October. But the gig itself was all about the ride so far, which has seen Arctic Monkeys become the biggest and arguably best-loved of current British bands. The crowd was vaster than anything I had witnessed in Leeds in recent times, with 16-year-olds who weren't born when the band released their celebrated 2006 debut *Whatever People Say I am, That's What I'm Not*, as giddy as older fans.

It started with a swagger. The giant buzzsaw riff of "Do I Wanna Know?" heralded one of the hit singles from 2013's album *AM*, which brought the band, who began as the defining indie rock group of their generation, mainstream stadium-sized success on both sides of the Atlantic. These two faces of the group dominated the set early on, as frenetically arch earlier singles such as "Teddy Picker" and "Brianstorm" ("Brian, top marks for not tryin'") alternated with the slicker strut of more recent songs such as "Snap Out of It".

For half an hour, there was no let-up. It was frontman Alex Turner's show, and he was in excellent voice, switching from nimble wordplay to world-weariness without missing a beat. Turner is not one for much small talk between songs, but when he put on a pair of shades it was the signal to slow things down a touch. The next section showcased two albums that tend to command less attention — "Cornerstone" and "Pretty Visitors" (from 2009's *Humbug*) and "That's Where You're Wrong" (from 2011's *Suck It and See*) — all excellent.

They were also a reminder that the band's sound has rarely settled in one place for long, another reason why they are still going strong and reaching new audiences. The only new song debuted here, "I Ain't Quite Where I Think I Am", had a laid-back 1970s funk feel, which suggests the new record will be another change of direction. Overall, the fact that the set was so strong, despite leaving out a number of old favourites, showed just how good Arctic Monkeys' songwriting is.

By the time they get to the lounge pop of "Tranquility Base Hotel & Casino", Turner had gone full crooner. Realising that, to quote one of his most famous lyrics, some banging tunes were in order, the pace was cranked up again. In the home straight, the band reached for old favourites including "I Bet You Look Good on the Dancefloor" and the highly popular "505" before ending with a suitably huge "R U Mine?" and disappearing with minimal fuss.

arcticmonkeys.com

Alex Turner of Arctic Monkeys on stage at Leeds Festival
Katja Ogrin/Redferns/Getty Images

FT BIG READ. DIGITAL TOKENS

New tech ventures linked to climate change are gaining traction as companies seek to offset emissions. But critics fear that using blockchain to clean up carbon markets could lead to more greenwashing.

By Camilla Hodgson and Siddharth Venkataramakrishnan

One of the risks of introducing green tokens in the carbon market is the temptation to use the tokenised credits for financial speculation

FT montage

Crypto dreams green

Last year, a British oil exploration company and a tech start-up joined forces on a project to lock away untapped fossil fuel reserves in Greenland permanently.

The idea was simple: the energy company, Greenland Gas and Oil, would not extract oil from an area on the east coast for which it had exploration licences. Instead it would monetise keeping the oil in the ground via a partnership with the tech company Carbonbase, which works on offsetting carbon emissions.

The mechanics were more complex. The partnership aimed to sell NFTs, digital collectibles that come with ownership certificates, linked to the unexplored land. The profits would then be used in part to compensate the energy company and the oil would stay underground. And, since the Greenland government had stopped issuing new exploration licences, the energy company would not be able simply to apply for another and tap a different part of the country.

The pitch to buyers was that they could be sure their NFT investment was doing some environmental good. The tokens would also be paired with a new type of "non-production" carbon credit the venture hoped to develop, which owners could use to compensate for their own emissions.

But after months of discussions the partnership ran into problems. Carbonbase and Greenland Gas and Oil did not agree on how to structure the joint venture. Carbonbase also discovered that the country of Greenland had never successfully produced any oil, a fact that they said undermined the whole idea. Pursuing the project "would have destroyed our public reputation" and looked like "greenwashing", says Max Song, founder of Carbonbase.

Eric Sondergaard, chief operating officer at Greenland Gas and Oil, concedes the scheme was not "perfect" and that it would have been better if an oil producing company was "turning off the flow of oil or gas from a wellhead". But, he says, it was easier for a group not yet tapping reserves to win investor backing for such a proposal: "once the [oil] development wheels are in motion, it is harder to convince shareholders to opt for a blockchain alternative."

Max Song, founder of Carbonbase, said pursuing the Greenland project would have looked like 'greenwashing'

The attempt is just one example in a mass of tech ventures that hope to fuse concerns about global warming with the public's interest in Web3 technology. A surfeit of start-ups have burst on to the scene this year, variously promising to "green" bitcoin, make NFTs sustainable and solve niggling problems in carbon markets once and for all.

These projects range from the relatively mundane to the outlandish and wacky, with interest coming from major corporations as well as fringe groups. One River Digital Asset Management launched "the world's first carbon-neutral crypto asset fund" last year, while the world's largest meatpacking group, JBS, has developed a blockchain platform to trace its cattle supply chain, in an effort to combat deforestation. Diamond miner De Beers is using blockchain technology to track the provenance of its gems.

Many new initiatives focus on the booming market for carbon offsets — each of which is supposed to represent a tonne of carbon permanently removed or avoided from the atmosphere. They have soared in popularity in the past 18 months as companies seek to compensate for their emissions. WeWork founder Adam Neumann's venture Flowcarbon, which received funding from Andreessen Horowitz earlier this year, is one of a range of efforts to produce carbon tokens, which can either be used to compensate for emissions like traditional carbon credits or traded on certain crypto exchanges.

The trend for "tokenising" carbon offsets, or converting them into the sort of fungible, digital tokens familiar to crypto traders has been notable: millions of credits have been digitised since late 2021.

Used well, analysts say Web3 technologies could bring greater integrity to the carbon market and help verify the credentials of products labelled as "sustainable". But critics say complicated new initiatives could just as easily exacerbate existing problems in two unregulated markets (offsets and crypto finance), lure more people into a space with its own big emissions problem, and contribute to more greenwashing.

William Pazos, cofounder of AirCarbon Exchange, says some new groups are not displaying "the level of rigour that's necessary" to come up with credible climate solutions. "They are ticking the boxes: the climate box, the blockchain box — all these buzzwords that potentially could make them very wealthy."

A messy market

It was only a matter of time before advocates of blockchain — the distributed digital ledgers on which cryptocurrencies run — turned to climate change.

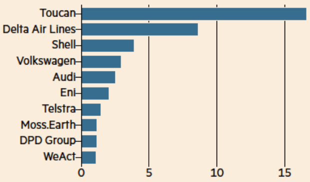
These supporters say the technology, which keeps an unchangeable record of transactions, can bring greater clarity to the messy market for carbon offsets. "Distributed ledgers are going to help with transparency" and with tracking the purchase and use of credits, says James Cameron, policy adviser at Systemiq, the advisory group. Carbon-crypto initiatives might also be a way for retail buyers, who have found it difficult to buy offsets, to access the market.

But Pete Howson, who researches environmental technologies at the UK's Northumbria University, says he fears some tech pioneers "don't understand the way the carbon market works".

The sector is notoriously complicated, with its own well-rehearsed problems: a lack of liquidity, opaque pricing and concerns about the quality of credits. Since the late 1990s the decentralised market has only become more complicated as it has grown. Thousands of projects that generate offsets exist, such as tree planting schemes that can sell credits either directly to end users or via middlemen. Different project types are governed by various complex rules, set by one of a number of third-party carbon offset standard setters such as Verra.

Toucan and Moss.Earth were big users of carbon offsets last year

Top users of credits on the Verra registry* in 2021 (millions of credits)



*130mn credits were used in total

Source: BloombergNEF

Some offsets are of a reliable quality, but others may not deliver the climate benefits they promise. That makes it hard for non-experts to know what to buy, who to buy from and what to pay.

The blockchain community is the latest to take up the gauntlet. Tokenising credits has become a popular starting point. The process can involve some mystifying jargon, but the goal tends to be the same: the creation of digital versions of existing offsets that are simpler for people to understand, more liquid and transparently priced.

Carbon tokens have been launched by companies including Toucan, JustCarbon and Moss.Earth. Hype about the prospect of the tokens has bubbled up on social media. But the tokens have also drawn the attention of corporate investors: last year Anthony Scaramucci's alternative investment firm SkyBridge Capital bought nearly 40,000 of Moss.Earth's tokens to offset the "historic carbon footprint" of its bitcoin holdings.

Adrian Rimmer, cofounder of JustCarbon, says the design of carbon tokens is easier for non-expert buyers to understand than the traditional offset market, which he describes as "horrible". "It requires an unfeasibly large amount of knowledge," he says.

And while traditional offsets can come from thousands of different environmental projects and are difficult to compare, each of the new digital tokens on offer — JustCarbon's JCRs or Moss.Earth's MCO2s, for example — are uniform and trade at the same price. Each company decides on a range of offsets, such as any from forestry schemes, that can be converted into its standardised token.

'No idea what you're buying'

Not everyone is convinced. Louis Redshaw, managing director of carbon consultancy Redshaw Advisors, says adding another layer of complexity to the already confusing carbon market is probably "not making it better". Blockchain may be no more useful for elucidating the process than "a good spreadsheet", he says. Redshaw insists the complicated nature of many projects is reason enough to be wary: "If you can't understand what it is you're getting into, you shouldn't get into it," he says.

Steve Zwick, a senior media relations manager for Verra, the offsets registry, says creating standardised tokens from a broad category of offsets masks key information, such as which project a credit came from. Such details are important, since some offsets are of dubious quality. "That transparency element is critical, especially with new buyers coming in. You've got to make sure the labelling is right," says Zwick.

While buyers of Moss.Earth's tokens know they are underpinned by credits from a list of forest protection schemes published by the company, they do not know which specific project a given token is linked to. The group said its design ensured token fungibility.

Last year Vaughan Lindsay, chief executive of offset seller Climate Impact Partners, told the Financial Times that efforts to make credits fungible "remind me of collateralised debt instruments . . . If you keep rolling stuff up, you have no idea what you're buying."

Another risk is the temptation to use the tokens for financial speculation. Offsets are supposed to be bought to compensate for specific emissions, rather than endlessly traded. But the owners of tokenised credits can easily be swept up in the powerful currents of decentralised finance.

Verra banned the tokenisation of certain credits in May. In August it launched a consultation about designing "anti-fraud measures" for crypto-carbon — new rules that could allow tokenisation to resume.

Toucan's tokens soared in popularity at the end of last year, largely because buyers can convert them into a new cryptocurrency, Klima. Yet experts pointed out that many of the millions of credits underpinning Toucan's tokens had remained unsold for years owing to quality concerns. Toucan said it had tightened up its rules about which credits could be tokenised.

"If people are bundling credits and selling them, what's important is the underlying credit," says William McDonnell, chief operating officer of the Integrity Council for the Voluntary Carbon Market, an industry group that is drawing up rules for what constitutes a "good" credit. "Whether it's tokenised or not, what's important is the quality of the credits." Fiorenzo Manganiello, a professor of blockchain technologies at Geneva Business School, warned of scams targeting those looking for "green" crypto. "I've been approached three or four times by people saying they're selling 'green'" tokens they claimed were backed by carbon credits, he says. "In reality, they [looked like] a pump-and-dump scheme."

> 'If you can't understand what it is you're getting into, you shouldn't get into it'
>
> Louis Redshaw, Redshaw Advisors

> 'Just like we see calorie counts on food, we're going to see carbon counts on all types of different activities'
>
> William Pazos, AirCarbon Exchange

Then there is the broader threat posed by a turbulent crypto market, which crashed this year. The value of Toucan's "BCT" tokens fell from a high of nearly $9 last year to around $1.50 in August. Moss.Earth's MCO2s dropped from more than $17 in January to under $4 this month, while JustCarbon's JCR moved from nearly $40 in May to around $24 in August.

The emissions elephant

The crypto-climate crossover goes beyond carbon tokens. Shoppers can now participate in metaverses where they are encouraged to purchase virtual versions of fashion items such as clothing, instead of buying in the real world.

Conservation-linked cryptocurrencies are also appearing, such as one developed by Estonia-based Single.Earth. The group generates "Merit" tokens, which landowners earn each time they store 100kg of carbon in their forests. Their woodland must be at least 20 years old to be eligible, and Single.Earth monitors the process using satellites and machine learning.

Advocates of blockchain say the technology could bring greater clarity to the markets of carbon offsets

However, since there is no penalty for landowners who later cut down the trees, except that they do not earn more tokens, the stored carbon could be released back into the atmosphere. Merit Valdsalu, Single.Earth cofounder, concedes this is a concern, but says she hopes the prospect of earning more tokens will incentivise landowners to keep trees standing.

The elephant in the room is the energy consumption involved in many crypto and blockchain transactions. Minting bitcoin, for example, requires huge computing power, which often runs on coal-generated electricity. That issue is drawing more attention. This year, the US Office of Science and Technology Policy called for evidence on the energy and climate implications of digital assets.

Enthusiasts have pushed back against this characterisation of crypto, arguing that many coins and blockchains are much less energy intensive than bitcoin. But the perception of digital assets as a gas-guzzling, carbon generating problem is so prevalent that an NFT auction by the UK arm of conservation charity WWF was abruptly cancelled in February following a backlash.

Despite such criticisms, many analysts do see a role for digital technologies in the fight against climate change and are encouraged by the interest in sustainability from some in the crypto community. The "recognition of the energy conundrum by major players . . . could signal a turning point for the crypto market in adapting greener algorithms," wrote HSBC analyst Camila Sarmiento.

Banks and exchanges are exploring a middle ground between the traditional carbon market and the crypto-carbon crossover. AirCarbon Exchange has designed smart contracts that could allow credits to be sold in smaller quantities than one tonne of carbon. That could be useful for people making small, regular purchases, such as offsetting a taxi trip, says Pazos. "Just like we see calorie counts on food [packaging], we're going to see carbon counts on all types of different activities."

Lenders including NatWest, Standard Chartered and BNP Paribas have developed a blockchain-based settlement platform, Carbonplace, which aims to make buying offsets simpler and enhance the traceability of transactions. Buyers receive tokens representing credit ownership, which include the details of the offsets — not digital versions of the credits.

Even the UN Framework Convention on Climate Change has taken an interest: it supported the creation of the Climate Chain Coalition initiative in 2017, which works to "advance blockchain . . . and related digital solutions" to mobilise climate finance and action on climate.

But for now, the proliferation of new companies and the "low barriers to launching new projects" make it "hard to understand who you want to work with," says Claudia Herbert, from the advisory group Carbon Direct. "We're seeing the lessons of the [real-world offsets market] being relearnt."

The FT View

FINANCIAL TIMES
'Without fear and without favour'

ft.com/opinion

China's property-driven growth model is broken

Beijing should prepare for a long and difficult economic transformation

China's property-driven growth model, which has powered the global economy for at least two decades, is looking increasingly broken. Fixing it — or finding alternative engines for the world's second-largest economy — could take several years. This is why the choices that now confront Beijing's policymakers are so crucial.

The task requires an accurate assessment of what has gone wrong. On one level this is simple: the biggest property boom in human history has ended and is now turning into a bust. But a deeper level of analysis reveals a more complicated and intractable malaise at the heart of China's political economy.

Local governments, which financed their investment activities largely by selling land to property developers, are finding it harder to repay and service huge debts. This is mostly because developers now have little money or appetite to buy the land. Almost 20 of them are in such dire financial straits that they have defaulted on bonds in the offshore market this year.

This dynamic is having knock-on effects. Local government financing vehicles — the thousands of poorly-regulated funds owned by city governments all over the country — are burdened by "hidden" debts that Goldman Sachs has estimated to total Rmb53tn ($8.2tn) — or 52 per cent of GDP — at the end of 2020. Beijing is urging local governments to clean up such "off balance sheet" borrowing, with the result that LGFVs are reining in their horns.

The result is that fixed asset investment (FAI), which funds the construction of city precincts, roads, railways, ports and a thousand other pieces of infrastructure, has slumped precipitously this year, robbing the economy of one its main drivers. From January to July this year, FAI grew at just 5.7 per cent — compared with an average of 17.87 per cent between 1996 and 2022.

So, the question before China now, as it allocates modest funds to alleviate the pain in its property sector, is stark. If the growth engine that has contributed so much to global prosperity is now gummed up with debt, what — if anything — could replace it?

There is one obvious answer. China needs to reorientate its economy away from an over-reliance on investment and towards greater consumer spending. Private consumption accounted for 38.5 per cent of nominal GDP at the end of last year — a much lower ratio than those prevailing in the US or EU.

This means that as Beijing charts a way out of its local government debt malaise in coming years, it cannot afford to shift the burden to households. It needs to create an economy in which salaries rise strongly and vibrant, well-regulated financial markets provide a healthy long-term return on savings.

The country needs to reorientate its economy away from an over-reliance on investment and towards greater consumer spending

In addition, Beijing should remind itself that much of the extraordinary economic progress of the past four decades has derived from the dynamism of the private sector. In recent years, however, the downfall of Jack Ma, founder of Alibaba, and the diminished standing of several leading privately owned tech companies has convinced observers that Beijing has moderated its support for private enterprise.

The required shift to embrace the consumer and the private sector will also require a counter-intuitive shift in mindset. Authoritarian governments prefer economic levers that they can control. Mobilising supply through muscular investment plans keeps ruling parties in the driving seat. Catering to the more democratic tastes of consumers does not.

Beijing should prepare itself for a long and difficult economic transformation. The world should prepare itself for the end of a four-decade era of supercharged Chinese growth.

Opinion Education

Governments beware the politics of tuition fees

Ewan White

Stephen Bush

Last year, I received an unexpected cheque from the taxman. The reason? I had successfully paid off the last of my student loan and as a result I had overpaid on my tax return. (UK students' tuition fees are deducted at source alongside their taxes if they are salaried employees, or when they fill out their tax returns if they are self-employed.)

I thought hard about what a milestone this was, my good fortune in being able to do this while still doing a job I love and how I could best use this windfall to invest in my future, before going out and buying a PlayStation 5.

One criticism of Joe Biden's plans to cancel $10,000 of student loan debt for low to middle income graduates is that American graduates will, like me, think about their windfall, and then go out and stoke some good old-fashioned inflationary consumer demand. But it is possible that extrapolating from the behaviour of one affluent UK graduate to millions of American graduates on low and middle incomes is not particularly helpful.

Ever-increasing fees have gone hand-in-hand with ever-larger numbers of students

The more useful political lesson runs the other way. Biden's plan is what happens in a democracy once graduate voters become sufficiently numerous and electorally important that they can do what voters have almost always done: lobby for financial relief.

That has implications well outside the US. In France, for example, private universities charge flat three-figure registration fees to domestic students, while in England, graduates effectively pay an additional form of income tax until either they have paid off their tuition fees or for 30 years after graduation.

The American model manages to combines most of the downsides of French-style flat fees and large UK-style debt balances, without any of the US graduates are saddled with mortgage-style loans in which they face the same monthly payment when they graduate, whether their first job is serving coffees or on a trading floor, and not all can switch to income-contingent loans.

But in all three countries, attempts to increase fees on students are the subject of fierce political resistance by students and the young, while proving a handy way for states to magic up extra revenue for higher education and to keep debt off the books. (Until a 2018 ruling by the UK's Office for National Statistics, successive British governments were able to pretend that all tuition fee expenditure was private, despite the fact a large chunk of it will never be repaid by the borrower.)

In policy terms, tuition fees have been a stunning success. In the UK, they have effectively allowed a stealth increase in income tax on most middle and high income workers. And across the developed world, the appetite for university degrees has proved to be astonishingly price-resistant: ever-increasing tuition fees have gone hand-in-hand with ever-larger numbers of students.

But the policy has come with a cost. The UK model is a better deal for middle and lower-income graduates than the US one, but it still represents a considerable increase in the de facto tax burden. One irony of the politics of tuition fees is that an NHS consultant complaining about paying the additional rate of income tax sounds right-wing, but doing the same about their tuition fees is considered cool and progressive. But the impact of both policies is identical: they make practising medicine abroad or in the private sector more attractive than continuing to work in public healthcare in the UK.

The fees model also has knock-on consequences for academic freedom. Campus politics has always had illiberal elements, but it is easier to ignore student demands to sack a professor or rewrite a course syllabus when individuals do not influence a university's bottom line.

As graduates become more numerous in Europe, what you might term the "Biden tipping point" inevitably makes tuition fees a less attractive policy option. As indebted graduates become more numerous, they become politically powerful enough that tuition fees cease to be a clever way of stealthily increasing income tax, and become every bit as politically painful as openly raising it.

Letters

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Society's thirst for data requires a water solution

World Water Week kicked off last week in Stockholm, with the issue of the water consumed by data centres emerging as a big concern ("Thames study: utility probes data centres' use of water", Report, August 24). Data centres use water for cooling when fans cannot maintain the correct operating temperatures. In times of drought, the increase in water consumption at higher temperatures compounds the problems for local water supplies.

Drought-stricken citizens are pushing back against these water-guzzling facilities that create little employment. For example, in the Netherlands, Microsoft and Google data centres have been the target of repeated community anger around water consumption, and it's a similar story in Arizona and elsewhere in the US.

Some forward-looking countries have already taken action. For example, in 2019 Singapore, a major data centre hub for south Asia, imposed a three-year moratorium (now lifted with restrictions) on constructing new data centres due to concerns around energy and water usage.

If drought-like conditions across the globe become more frequent and sustained, the data centre industry will rapidly need to rethink its approach to water. Perhaps now is the time to move beyond "hot air" promises to adopt new cooling technologies, such as immersive liquid cooling, at scale.

Withering petunias may survive a hosepipe ban, but society's thirst for data seems unquenchable, and a sustainable solution to cooling data centres needs to be implemented.

Duncan White
Partner, Environmental Technologies
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Why chest-beating central bankers have me worried

I can't help but be a little worried at the display of chest-thumping from central bankers at last weekend's Jackson Hole symposium. They appear to have been stung by the criticism that they have failed to control inflation and are hopelessly behind the curve (Report, August 27).

Initially tackling inflation was a way to avoid a recession. They now seem to view a recession as a way to prove their mettle. Certainly, the Federal Reserve and the European Central Bank appear unfazed by the idea of tightening policy as their economies slide into recession. That was a good move when executed by Fed chair Paul Volcker 40 years ago. But circumstances are now different.

Of course, inflation is too high but central bankers seem to be in a competitive race to raise interest rates. It's well to remember that most of the effect on inflation will be felt in late 2023 and early 2024. By that time the cost push element of inflation is likely to be weaker and perhaps even gone.

Stefan Gerlach
Chief Economist, EFG Bank, Zurich Switzerland; Deputy Governor, Central Bank of Ireland, 2011-2015

"IT'S TRICKLE DOWN"

Biden's debt write-off plan helps the wrong students

As an immigrant and a recipient of a Pell grant, I find Joe Biden's student loan forgiveness policy absolutely ridiculous ("Biden accused of fuelling 'inflationary fire' with move to cancel student debt", Report, August 26).

I picked a college that was affordable and I worked while a student to minimise my debt, attending few social events, focusing instead on my education to keep costs low.

After graduating, I worked hard and made paying off my student loans my priority. Now I see that people who were in the same situation as me (often in better financial circumstances) but who spent their loan/grant money on parties, luxury accommodation ("boogie dorms") and spring break trips are being rewarded, and I find it galling. Rewarding them is fiscally irresponsible, and will stoke inflation at a time when the Federal Reserve is struggling to temper surging prices.

As a newly-arrived American, I hear my countrymen complain about the cost of education, but education in the US is affordable if you make the right decisions. Community college costs no more than a few thousand dollars a year; state universities are subsidised.

Hence, the only people who are punished in the US education system are those who chose a private university, where tuition can be as much as $50,000 a year. Why should my tax dollars go to pay for those students who live beyond their means?

Ryan Taylor
Palo Alto, CA, US

Edinburgh's litter-strewn streets are installation art

You interpret Edinburgh's overflowing bins and litter-strewn streets as representing industrial action ineptly dealt with by Scotland's devolved government (Report, August 29).

In fact, they comprise perhaps the most ambitious public-participation cultural event of all time. Scheduled to coincide with the Edinburgh festival, this evolving, citywide, art installation — celebrating the conflicted return of mass consumerism — achieved enthusiastic engagement from both visitors and locals alike.

Kim Swales
Edinburgh, UK

A bit hard on the EU?

You write that businesspeople call Uruguay the Switzerland of Latin America "as it is a beacon of sound government in a region beset by corruption and turmoil" ("Magnate aims to tear down Uruguay's 'Switzerland' image", Report, August 24). Surely this is a bit hard on the European Union.

Robert Hopkins
Müstair, Graubünden, Switzerland

OUTLOOK

MIDDLE EAST

Lebanon's crisis pushes families to the brink

Bassam al-Sheikh Hussein was desperate. With mounting debts and medical bills for his ailing father, Hussein needed access to the $209,000 he kept in a savings account in Lebanon's Federal Bank. But, like most Lebanese trapped in the Kafkaesque nightmare of their country's financial collapse, his funds have been frozen for more than two years, with monthly withdrawals capped at the equivalent of $400 — hardly enough for his family to survive on.

Lately, according to Hussein, the west Beirut branch of his bank had been withholding even that paltry monthly allowance, despite his remonstrations. After another argument with the branch manager on August 12, Hussein went to his car, brought out a rifle and a canister of gasoline, and held six people hostage, demanding the release of his funds.

Mobile phone footage of the incident spread rapidly on social media. Many were quick to endorse the actions of a man whose anger they shared — seeing him as more Robin Hood than Clyde Barrow, driven to desperate measures by an entrenched ruling class that has yet to implement a road map for recovery.

the bank agreed to hand over $35,000 of his money, following six hours of tense negotiations. After five days in custody the Federal Bank dropped its charges, and he walked free. Last week, he told Vice News that he may try the stunt again: "Even before the money runs out, I will go to the bank and take more . . . Maybe the same bank, another bank, but I will do it again." The bank did not immediately respond to requests for comment.

He is not the first disgruntled depositor to "rob" a bank since the crisis began. In January, in the northern Bekaa Valley another man armed with a gun took nine members of staff hostage until the BBAC bank gave him $50,000 from his account. Back then, the public was divided on whether to call him a hero or a criminal. But seven months later, there was a more visible outpouring of support for Hussein.

"I shouldn't really be saying this but . . . we all understand what [Hussein] did. He actually did what many of us want to do," said Leen, a bank teller who asked her last name be withheld for fear of retribution from her employer. "He was pushed to the extreme." She added: "I'm just surprised there haven't been more people trying to rob banks so far."

published a scathing report, accusing the Lebanese authorities of operating a giant Ponzi scheme that has "caused unprecedented social and economic pain". The report said public finance was used to capture the state's resources for political patronage, creating a "deliberate" depression. It added that a "significant portion" of people's savings had been "misused and misspent over the past 30 years".

In the absence of formal capital control laws, banks decide who can access their funds, with most people limited to small monthly withdrawals. But media reports show that politically connected people have sent millions of dollars abroad. Meanwhile, the government has stalled on reform initiatives that could unlock international aid money, while endemic corruption and a lack of public infrastructure mean punishing bills for exhausted citizens.

Despite these hardships, the capital is full of recently imported luxury cars and its beaches and restaurants are packed with expats home for the summer. But children are also sifting through dumpsters for scraps with their malnourished parents, while gaunt retirees, whose savings have been lost in the crisis, spend stifling mitigating factors in either system. French students can choose to study at state institutions and apply for scholarships at private universities, while repayments from English graduates are automatically deducted alongside their salaries and are contingent on the ability to repay. Some

Tuition fees, then, are becoming a lot like the degrees they pay for: an attractive option for those considering them, but one with upfront and long-term costs governments may decide in the end aren't worth the candle.

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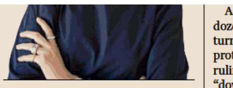

by Raya Jalabi

As police arrived on the scene, dozens of people massed outside, turning the hold-up into a full-blown protest against Lebanon's banks and ruling class. Shouts of "let him go" and "down with the banks" rang out.

Hussein released the hostages when

Lebanon's financial collapse — one of the worst economic crises in modern history — is in its third year, and has forced three-quarters of people into poverty. The currency has lost more than 90 per cent of its value.

Earlier this month, the World Bank

summer days without power in their tiny, cramped apartments.

In the absence of state efforts to alleviate the crisis, Hussein's bank hold-up may not be the last.

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Opinion

Actors worry that AI is taking centre stage

EMPLOYMENT

Sarah O'Connor

We used to think that artificial intelligence would come for the bean-counters first. It seemed reasonable to assume that AI would transform or even eliminate jobs in sectors such as accountancy and insurance, while work associated with human traits such as creativity would be relatively untouched. But this theory looks flakier by the day. One group of workers who are really beginning to worry about AI are actors and other performance artists.

A survey this year by Equity, the UK union for actors and other performing arts workers, found that 65 per cent of members thought AI posed a threat to employment opportunities in the sector, rising to 93 per cent of audio artists. This wasn't just an amorphous fear about the future: more than a third of members had seen job listings for work involving AI and almost a fifth had undertaken some of this work.

A range of AI start-ups are developing tools for use in film and audio, from making actors look and sound younger to creating AI voices that can be used for marketing campaigns, consumer assistants or even audiobook narration. Audio is such a popular medium now that companies need lots of it, but human actors are expensive and nowhere near as flexible as an AI voice, which can be made to say anything at the push of a button. These companies typically hire actors to provide hours' worth of audio which can then be turned into a voice-for-hire.

VocaliD, for example, offers a range of voices such as "Malik" ("warm, soothing, urban") "Terri" ("educated, optimistic, sophisticated") and "AI Very British Voice" ("trustworthy, warm, calm".) Sonantic, another AI company which was just acquired by Spotify, creates voices that can laugh, shout or cry. Its voices are often used by video game companies in the production process so they can play around with different scripts.

They're not as good as humans, but they don't need to be. Industry experts say no one is going to use AI to narrate the audiobook of a bestselling novel, but there is still a market to be tapped in the vast number of lower-profile books that are published or self-published every year. Audiobook.ai, for example, says it can create an audiobook in 10 minutes with 146 voices to choose from in 43 languages.

> You might find your voice in something violent when you had your heart set on a career in children's film

Voice actors aren't just worried about losing work to these synthetic vocalists. They're also worried about their rights when they help to create AI personas. Both Equity and SAG-AFTRA, its US equivalent, say they are seeing contracts for AI work that give tech companies the right to use an actor's likeness or voice irrevocably and in perpetuity. Non-disclosure agreements are also common. Young actors, in particular, might be tempted by the upfront fee only to regret the long-term implications.

What kind of implications? Once your voice or face is in the wild and you have no control over it, you might find it associated with something violent when you had your heart set on a career in children's films. Or you might find your likeness is working for a competitor to a company you now want to join. As Equity explains in its guidance to members doing AI-related work: "If at a later date you are asked to work on an exclusive basis for another client, would the presence of your AI voice and the possibility of it working for competitors be problematic contractually?"

Equity is calling on the UK government to update copyright law to make sure performers have the right to control AI-made "reproductions" of performances. Unions on both sides of the Atlantic are also trying to make agreements with tech companies that give performers royalties when their AI voice or image is used, as well as the right to approve its use in each new scenario. Some companies already do this: Sonantic says it has a profit-share agreement with voice actors, for example.

There are opportunities as well as threats. With decent contract agreements in place, it could be very helpful for actors to have a source of passive income from the AI version of themselves, which is out there diligently doing work which might be boring but still brings in some money. AI also opens up the possibility of more flexible work for people who can't always be on set, whether because of health or family reasons.

That said, the broader lesson for the world of work is that AI doesn't have to be "as good as humans" to begin to disrupt things for ordinary workers. In Hollywood, as in the economy as a whole, the superstars will be fine — everyone else will have to stay on their toes.

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The enemies of globalisation are circling

James Ferguson

WORLD AFFAIRS

Gideon Rachman

Globalisation is not just about trade and technology. It is also about politics. Political change, above all the collapse of communism, created the conditions for an age of hyperglobalisation. Now political change, above all rising nationalism, is threatening the dense network of economic ties built up over the last three decades.

The enemies of globalisation can be found across the political spectrum, from the nationalist right to the anticapitalist left, and from the environmental movement to the intelligence services.

It is true that deglobalisation has not yet really shown up in the trade figures. As my colleague, Alan Beattie pointed out recently, "most standard measures of globalisation — cross-border movements of goods, services, capital, data and people — (are) doing pretty well."

One possible conclusion to draw is that global economic connections and supply chains are now too intricate to be disentangled. While there may be a will to deglobalise, there is no real way.

A sudden retreat into economic autarky by the world's leading trading nations would certainly cause chaos and hardship. But for all the upheaval involved, international economic ties can break down suddenly. Over the past two years, the pandemic and the Ukraine war have demonstrated how vulnerable international trade is to unexpected shocks. Covid-19 shut down global travel and disrupted supply chains. The war in Ukraine led to a rupture in the west's economic ties with Russia. And the combined political and social forces that are now pushing against globalisation make it likely that there will be further shocks to come.

A decade ago, protectionism was still a dirty word in US politics. But the Trump administration started a trade war with China and the Biden administration has kept the tariffs in place. A bipartisan consensus in the US is now pushing for policies to reduce economic dependence on China and to repatriate key industries, in particular semiconductors. India has followed the decoupling trend, banning Chinese tech companies, such as TikTok, as a response to rising tensions with Beijing.

The Chinese themselves are active participants in this process of decoupling. Arguably, they made the first significant move, with a drive to promote domestic production of key technologies. Beijing's "Made in China 2025" policy was announced in 2015, before Donald Trump's election.

When economic logic was more powerful than geopolitical rivalry, the dominant question was: where is it cheapest or most efficient to buy or produce? That led to the construction of intricate cross-border supply chains. But in a world in which international rivalries are growing, different questions are asked. Where it is safest to produce or buy? And should we even be trading with nations that we regard as a threat?

The invasion of Ukraine has not just made it seem imprudent to rely on political rivals for key economic inputs, it has also allowed the west's national security establishment to seize the moral high ground from the free-traders. Jens Stoltenberg, the secretary-general of Nato, says that "freedom is more important than free trade". There are not many influential voices making the counterargument.

The political and strategic arguments for cutting trade ties are increasingly supplemented by arguments about the environment and social resilience. After the pandemic, governments are reluctant to go back to a world in which the production of vaccines, say, or even rubber gloves, is concentrated in just one or two countries. Insisting on domestic production facilities, which once seemed inefficient, now looks prudent. As one industrialist puts it: "We're moving from just in time to just in case."

> A sudden retreat into economic autarky by the world's leading trading nations would cause chaos

The potential vulnerability that is preoccupying national security establishments everywhere is semiconductors — crucial for everything from mobile phones to missiles. According to US president Joe Biden, some 90 per cent of the world's most advanced semiconductors are made in Taiwan by a single producer, TSMC. One senior US official says that a Chinese invasion or blockade of Taiwan would create a "semiconductor nuclear winter". Rectifying that situation could take many years. But the drive to do just that is now under way with the passage of America's Chips Act.

The US has long had rules that can restrict inward investment on national security grounds. The Chips Act creates new rules that will restrict outward investment, discouraging US firms from making semiconductors in China.

National security hawks believe that globalisation meant that the western democracies naively sponsored the rise of hostile rivals such as Russia or China. Leftwing critics associate the "neoliberal" era of globalisation with widening inequality and environmental degradation. There are elements of truth to both of these critiques. But the pressure to cut trade and investment ties is not simply a product of rising nationalism and economic stress — it is also contributes to both processes.

For all the discontents that hyperglobalisation has created, I suspect that, in decades to come, the period from 1989 to 2022 will come to be seen as a golden age of peace and prosperity. The world may soon discover that globalisation is the worst possible system — apart from all the alternatives.

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Insurers must rethink handling of cyber attacks on states

Josephine Wolff

The invasion of Ukraine earlier this year drew considerable global attention to the

that scrambled data from the computer systems of companies in more than 60 countries. These spanned industries from energy to shipping, forcing many of them to shut down operations for several days. The White House estimated that the NotPetya malware ultimately caused more than $10bn in damage and later referred to it as "the most destructive and costly cyber attack in history".

many different countries, including the US, and pointed out that in previous insurance disputes about whether events such as plane hijackings or missile attacks were covered by insurance, the question of whether a sovereign power or military was behind the incident was usually crucial to determining whether something was war or not.

from their coverage because the war exclusion "applied only to traditional forms of warfare". It was a significant victory for the company but it may not be a long-lived one for others that fall victim to state-sponsored cyber attacks in the future.

Earlier this month, Lloyd's of London issued a bulletin noting that, "when writing cyber attack risks, underwriters

commonplace that if insurers start refusing to cover them at the same time as governments continue ramping up their cyber capabilities, then companies won't buy these insurance policies.

Not only will this mean that companies end up less able to recover financially from cyber attacks but it may also make them more likely. There is concern that companies deciding not to buy

Heirs to Thatcher ignore her lead on industrial policy

Geoffrey Owen

Among the issues facing the Conservative leadership contenders there is one that has received almost no attention: industrial policy. This topic, while not in the same league as the energy crisis, will present the government with tricky decisions in coming months. They are important, not least in showing how far the next prime minister believes in an active role for the state in influencing the structure and performance of particular industries.

Margaret Thatcher, admired by both leadership candidates, believed that the government had no business deciding that one industry was more important than another, and therefore deserving of special help. She also insisted that no obstacles should be put in the way of foreign acquirers of British companies — that put her at odds with Tory MPs. She was greatly irritated when backbench pressure forced her to abandon the sale of parts of British Leyland to Ford and General Motors. As she wrote later, a kind of "pseudo-patriotic hysteria" had swept through politics.

But the Conservative party has shifted in a non-Thatcherite direction. Since Theresa May's government, substantial sums have been spent on developing batteries for electric cars. This has included both funding for early-stage research and direct support for commercial ventures, such as Britishvolt's battery factory in the north-east.

The government's case is that it will help British assembly lines transition to electric cars and contribute to decarbonisation. Similar considerations apply to the Port Talbot steelworks in South Wales; the owner, Tata Group, has asked for help in financing the replacement of blast furnaces with a less carbon-intensive technology. Should steel have a higher priority than others facing similar problems? Despite lengthy debate, no clear definition of a strategic industry has emerged.

> Consistent policy in this area has helped to make the UK an attractive destination for acquirers

As for foreign takeovers, here, too, the influence of Thatcherism appears to be fading. In the pre-Thatcher era, merger control in the UK was widely regarded as arbitrary and unpredictable, with the Monopolies and Mergers Commission (now replaced by the Competition and Markets Authority) using a range of public interest criteria.

The commission was expected to assess the suitability of the acquirer and make predictions on the consequences of the takeover — a process that provided ample scope for lobbying. This changed in 1984 when trade and industry secretary Norman Tebbit announced that references to the commission would be based primarily on the effects on competition. Although the legislation has been modified, competition has remained the focus in merger control. Consistent policy in this area has helped to make the UK an attractive destination for acquirers.

An important change took place at the start of this year with the National Security and Investment Act. This gives the government wide powers to review and prohibit takeovers that might pose a risk to national security. Like the word "strategic", national security is open to interpretation; an interesting test will be the expected decision on whether to unwind the acquisition of semiconductor company Newport Wafer Fab, by a Chinese-owned company.

Some observers believe that the new act will deter potentially valuable for-possibility that Russia might combine its physical attacks on the country with cyber attacks aimed at weakening critical infrastructure and information systems. Russia has had limited success, so far, in using such cyber attacks against Ukraine, but that hasn't stopped those insurance companies that sell cyber-insurance policies from worrying that this could cost them billions of dollars — not only in Ukraine, but also in countries such as the US and the UK, where most cyber-insurance policies are sold.

They have good reason to be worried: Russian cyber attacks have already cost insurers a great deal of money. Russia and its government has been widely blamed for the 2017 NotPetya attack

In the aftermath of NotPetya, some insurers denied claims for the resulting costs, on the grounds that the attack was a "warlike act" because a government was behind it. Since many insurance policies exclude coverage for acts of war, the insurers reasoned that this same exclusion should apply to acts of cyber war or state-sponsored cyber attacks.

On these grounds, Zurich denied a $100mn claim by multinational food company Mondelez, and a group of more than 20 insurers denied $1.4bn in NotPetya-related claims from pharmaceutical company Merck.

Both Mondelez and Merck then sued their respective insurers. The insurers argued that the attack had been attributed to the Russian government by

> After NotPetya, some firms denied claims on the grounds that the attack was a 'warlike act'

Meanwhile, Mondelez and Merck disputed that NotPetya was a "warlike action" and Merck further noted that it is not certain Russia was behind the attack, given the difficulties of definitively attributing cyber attacks to a particular perpetrator.

The Mondelez case is still pending, but Merck won its case in December, when a New Jersey court found that the insurers could not exclude NotPetya

need to take account of the possibility that state backed attacks may occur outside of a war involving physical force". Since the Merck ruling suggests that these attacks may not be considered sufficiently "warlike" to fall under existing war exclusions, the Lloyd's bulletin requires underwriters to start explicitly excluding certain types of state-backed cyber attacks from their coverage, especially attacks that "significantly impair the ability of a state to function" or "that significantly impair the security capabilities of a state."

These new exclusions may help insurers to lower costs in the short term, but they will be bad for the cyber-insurance market in the long term. State-sponsored cyber attacks are now so cyber-insurance may also take fewer security precautions to protect their own data and networks because they no longer have to meet the requirements of their insurers.

Insurers must understand that no one will want to buy (increasingly expensive) policies that don't cover attacks by some of the most sophisticated and active online adversaries. By only excluding from their coverage those cyber attacks that occur in the context of wars involving physical force, insurers can both better protect their policyholders and also their own business in a world now constantly on alert.

The writer is a professor at Tufts and author of 'Cybersecurity Policy'

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eign acquisitions. Others argue the government should go further in taking powers to block foreign acquisitions of companies with special importance for the UK economy. That would involve greater involvement by ministers and the politicisation of merger control — an outcome that should not have much appeal for the heirs of Thatcher.

True, the current trend in the US and the EU is towards more interventionist industrial policies, with subsidies for strategic industries and stricter curbs on takeovers. It does not follow that the UK should move in the same direction.

The writer, a former FT editor, is head of industrial policy at Policy Exchange, a think-tank

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Lex.

Twitter: @FTLex

Electric vehicles: California goals

California last week set an ambitious target: all new cars sold by 2035 must generate no greenhouse gas emissions.

The UK has already adopted this worthy goal. The EU is seeking to follow suit. But America's love affair with gas-guzzling vehicles runs deep. The move from the Golden State is punchy by US standards.

Electric vehicles made up 15.1 per cent of new car sales in the state in the first half of this year, according to the California New Car Dealers Association. Add plug-in hybrids and the total is close to 18 per cent.

To get on track with the new target, sales must reach 35 per cent in the next two years.

This is not the first time California has set stretching emissions hurdles. Not all have been met. In the mid-90s, the state walked back a requirement that 2 per cent of cars sold be EVs — then set even tougher goals.

California has the highest proportion of EV sales in the US, with more than a third of the market. The California Energy Commission estimates the state also has the most extensive public charging infrastructure.

Rising petrol prices and tax credits could spur consumers thinking of making the switch. Tesla's Model Y is the state's most popular EV, suggesting the company stands to benefit most.

Traditional carmakers hope to steal market share. Ford is a smaller EV maker but a more familiar brand for consumers.

Price and availability are obstacles. EVs are more expensive than the average car. Experts had projected that the gap would narrow. Instead, it may grow. Prices for lithium used in batteries are down from their March high point, but remain four times higher than last year.

As material prices rise, costs are passed on to consumers. Tesla increased its own prices 5 per cent in March. Ford has lifted prices for its Mustang Mach-E range by up to $8,000, blaming "market conditions".

US companies are competing for materials with Chinese carmakers, which are scaling up their own production.

BYD, China's biggest electric vehicle maker, reported that sales tripled year on year in July. But Ford has already signed deals with a number of mining groups.

Only companies able to sustain and increase production will benefit from California's phaseout plan.

Prada: Milan, darling, Milan

On the first Thursday of each month, fans join the digital queue for the Crypted event on the Prada website.

They bid on bespoke clothing and matching non-fungible tokens. But the Italian fashion house's foray into the future is a sideshow to a strategy of reconnecting with its past.

Prada wants to broaden its investor base. It is considering a second listing to raise at least $1bn in fresh capital in Milan. The group opened its first shop there in 1913.

Asian capital lured the maker of fine handbags and bucket hats to Hong Kong for its 2011 initial public offering. European brands were rushing to exploit the ballooning wealth of Asians.

That was before the pandemic narrowed the price premium enjoyed by luxury brands in the region. This has fallen from 80 per cent a few years ago to an average of 30 per cent.

Xi Jinping's drive for "common prosperity" has meanwhile pushed consumers to think twice before flaunting wealth.

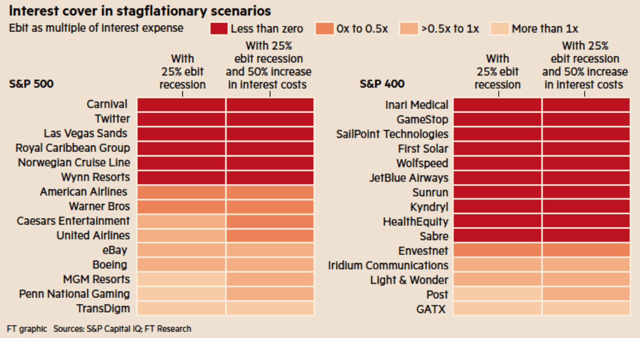
Listing in Europe would align Prada with other brands such as LVMH and with the group's local heritage.

Miuccia Prada and her husband and co-chief, Patrizio Bertelli, control the business via an 80 per cent stake. Lifting the velvet rope for more US and European investors must seem natural for a company whose 22 per cent sales rise in the first half of 2022 leaned on gains in Europe. The Milan quote might, however, test the durability of a price premium to the likes of LVMH and Ferragamo. Prada is a valued stock in Hong Kong partly because its cachet and sales in Asia are higher than for comparable European luxury brands.

The shares trade on a trailing earnings multiple of 36 times compared with 25 times for LVMH and 28 times for Ferragamo, according to Refinitiv. Prada should only come to market in Milan if it can do so without diluting multiples. Shares are a different proposition to the Prada digital time capsules listed at prices of over $4mn on NFT websites.

Interest rates: small fried

Higher rates will impose the worst stresses on businesses that endured tough times during the pandemic, mostly in the tourism and travel sectors. Lex calculations show that interest cover for many S&P 500 groups falls below two times in a stagflationary scenario. Smaller S&P 400 companies are even more exposed



FT graphic Sources: S&P Capital IQ; FT Research

US interest rates are at their highest level since the financial crisis. In recent months, the inflation-fighting US Federal Reserve has hiked the cost of money as much as it did in a span of a few years. The hawkish tone of the central bank at the Jackson Hole meeting is taking steam out of a premature rally in US stocks.

Higher rates would hurt most for companies whose balance sheets ballooned during the long period of low rates. High energy prices and supply chain disruption will compound the problem.

A stagflationary scenario of rising prices, higher interest rates and slowing growth represents the worst of all possible outcomes in the worst of all possible worlds. The resilience of one-fifth of non-financial S&P 500 companies would be tested, according to a Lex data screening.

Companies hardest hit during the pandemic, such as cruise operator Carnival, American Airlines and casino group Caesars Entertainment, are all in the danger zone again.

The findings mirror a screening of European companies. Here, interest cover for one-fifth of big listed companies would fall below two times operating profits. We assumed interest costs would rise by half and earnings fall a quarter from current forecasts.

Free money handed out during the pandemic — with the enthusiastic assistance of Wall Street — would cushion balance sheets, however.

American Airlines might not be able to cover its interest payments from earnings. But $12bn of cash and equivalents represents five years of interest cover, even after adjusting for higher rates.

Carnival is in a similar boat. The cruise line has enough cash to meet interest payments for more than four years at past rates. Its rival, Royal Caribbean, meanwhile can only cover last year's interest charge 1.5 times with cash on hand.

Smaller businesses are at greatest risk. A stress testing of S&P 400 mid-caps found a quarter would fall below two times interest cover in our severe scenario. Available liquidity was also lower as a share of current assets.

The little guys always end up carrying the depreciating buck.

Honda/LG: friends electric

So much for the unshakeable supplier relationships that supposedly characterise Japanese industry. Honda is collaborating with South Korea's LG to build a $4.4bn battery plant in the US. The tie-up is the latest sign that Panasonic is losing its position as a key supplier to Japanese carmakers.

The partners would start building the new lithium-ion electric car battery plant early next year. Mass production would begin by the end of 2025. Ohio, home to Honda's main US factory, would reportedly be the site.

Panasonic might superficially seem the easier pick for Honda's battery partner. The pair have been involved in research for years. The two formed a joint venture company in Indonesia four years ago. Their local ties are mirrored by those of LG Energy Solution. In South Korea, it supplies all carmakers including Hyundai, Kia and Edison Motors.

Panasonic and LG meanwhile rub shoulders as Tesla's main battery suppliers. But LG has a more diversified client base — including Porsche, Ford, Volkswagen and General Motors — and the experience that comes with that. In Japan, it has won over Nissan and Isuzu, the largest commercial vehicle maker.

Honda shares are up a tenth this year. It has revealed an unexpectedly aggressive push into the electric market. The group plans to roll out 30 electric models and produce about 2mn units a year by 2030. It wants to phase out petrol cars by 2040.

For Honda, the US accounts for nearly a third of sales. A stable supply chain in the region is critical. President Joe Biden this month signed a bill excluding electric cars assembled outside North America from receiving tax credits.

Honda's stock, at 7 times forward earnings, has long suffered a discount to much larger rival Toyota. But when it comes to electric vehicles, Toyota is just as far behind. The tie-in with LG will help give Honda the edge in the battle for battery supplies.

BlackRock/ESG: Texas scold 'em

It is a case of virtue signals crossed. The State of Texas recently published a "blacklist" of investment companies. It accuses them of boycotting the fossil fuel industry via policies with environmental, social and governance aims. Texas public bodies, notably pension funds, could divest their shares in nine listed European investment firms as well as BlackRock

Welcome to the world of ethical doublethink. The $10tn asset manager is emblematic of this. It is the favourite punch bag of sceptics and zealots of the ESG cause. Target investment groups have two ripostes. The first, that boycotts are counterproductive, is implicit self-criticism. The second is that values-driven investing is economically rational. Climate change, for example, is an inexorable trend that is creating investment opportunities.

As for legacy oil and gas groups, they are furiously positioning themselves for clean energy transition, even if current cash flow comes from dirty origins.

The Texas blacklist appears largely symbolic. The state may sell modest equity stakes in the managers. But its more meaningful investments are in funds run by them. These would remain unaffected. This manufactured dust-up may leave each side happy with their own selective victimhood.

Previously, West Virginia banned five Wall Street lenders from state contracts, accusing the likes of JPMorgan and Goldman Sachs of engaging in a "boycott of energy companies". Several institutions sent letters quantifying the millions still committed to fossil fuel.

Banks have taken a genuinely hard line with firearms makers. Another Texas law forced such institutions out of underwriting municipal bonds in the gun-loving Lone Star State. Academic research shows that Texas, by relying on a smaller group of banks, could pay perhaps $500mn of additional interest on $32bn in municipal debt issuance.

Social conservatism thus happily cohabits with financial flexibility. Wall Street, always ahead, rarely lets any value surpass that of the dollar.

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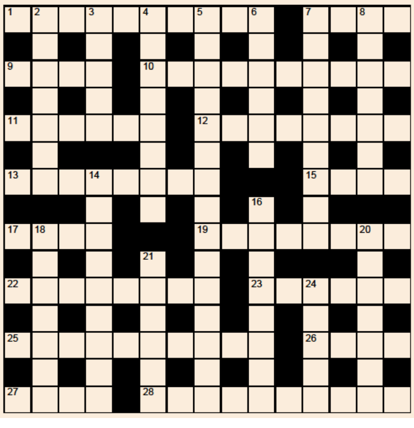
CROSSWORD

No 17,186 Set by JASON



CROSS
1 Muddy fish? This would wash it off (10)
7 Yes, solid prop, we hear, is unerring (4)
9 50% drop in fatigue in church's recess (4)
10 Fuel spontaneous and boastful blabber (7,3)
11 Developing begonias without, eg, reducing art? (6)
12 One's blown fashionable Bordeaux bottles (8)
13 Corresponding with latitude (8)
15 Irish broadcaster maintaining old learning technique (4)
17 Swanky hotel withdrawing advantage (4)
19 Apprentices left with those making a crust? (8)
22 Expression of appreciation forced out about something pocketed (5,3)
23 Keep nothing back being jolly in Paris, perhaps (3,3)
25 John, say, given least arrangementconversion (10)
26 Item of state apparel York returned (4)
27 Give up some pierced earrings (4)
28 Toy with sink as a place for rinsing? (6,4)

DOWN
2 Drawing off cloudy essential oil with a

2 Drawing on cloudy essential oil with a Greek jar (7)
3 Choppers spending an hour carrying vessels (5)
4 Working Libs seen having both feet on the ground? (8)
5 Deception caused by sharp look? (7,8)
6 Cutting a National plaid (6)
7 Continue dealing with slice of toast first (7,2)
8 Testing matter concerning a refined chap (7)
14 Poet's correspondence is behind in the matter of a new church (9)
16 Cheesy spud dish old Balt held in stock (8)
18 Possible entry to Europe perturbed Leaver – hard to be accepted (2,5)
20 I'll be involved in cooking a brown trout? (7)
21 Imp, yes, alternatively mischievous child that's ME! (6)
24 Beat cooked broth (5)

JOTTER PAD

Solution 17,185

C	L	A	S	S	I	C	■	R	E	P	R	E	S	S
L	■	D	■	M	■	H	■	A	■	A	■	L	■	E
A	R	O	M	A	■	R	E	V	O	L	T	I	N	G
S	■	R	■	L	■	O	■	E	■	A	■	T	■	M
H	E	A	D	L	I	N	E	R	■	T	H	E	M	E
E	■	T	■	■	■	I	■	■	■	A	■	■	■	N
D	R	I	L	L	■	C	E	L	E	B	R	A	N	T
■	■	O	■	O	■	L	■	E	■	L	■	S	■	■
C	O	N	D	O	L	E	N	T	■	E	X	T	R	A
A	■	■	■	K	■	■	■	H	■	■	■	O	■	S
B	A	L	S	A	■	A	F	A	S	T	B	U	C	K
B	■	A	■	F	■	L	■	R	■	H	■	N	■	A
A	R	M	S	T	R	O	N	G	■	E	N	D	O	N
G	■	E	■	E	■	N	■	I	■	I	■	E	■	C
E	N	D	O	R	S	E	■	C	I	C	A	D	A	E