FINANCIAL TIMES

WEDNESDAY 24 AUGUST 2022 INTERNATIONAL NEWSPAPER OF THE YEAR ASIA

Methane mystery
What's behind the surge in the greenhouse gas? — BIG READ, PAGE 13

Autocracy first
A second Trump term would imperil the republic — MARTIN WOLF, PAGE 15

Catching Tesla
Hyundai gains ground on electric market leader — JUNE YOON, PAGE 5

Dry white
Europe yields to searing skies

Caroline Blumberg/EPA-EFE/Shutterstock

A worker picks grapes at a vineyard near Bordeaux yesterday as a prolonged dry spell forces an early harvest across France.

The EU's Joint Research Centre has reported "severe-to-extreme" drought conditions in almost half of Europe as it warned crops and vegetation had been affected. This summer has been one of the driest on record, while forest fires have spread through the continent.

Hydroelectric reservoirs have dried up in several countries including Norway, which has suggested it would curb energy exports if the situation did not improve. A short-term return to normal weather may not be enough to recover the deficit in accumulated water.

Drought warning across Europe page 2

Twitter hid extent of fake accounts and data flaws, says whistleblower

- Ex-security chief questions cyber defences
- Threat to efforts to stop Musk ditching buyout

DAVE LEE — SAN FRANCISCO

A former Twitter security chief has claimed that the social network misled US regulators over its cyber security defences and fake accounts, allegations that threaten to hamper the company's legal effort to stop Elon Musk reneging on a $44bn buyout deal.

Peiter Zatko, known in cyber security circles as "Mudge", was fired by Twitter at the beginning of this year. He was brought in by former chief executive Jack Dorsey after an embarrassing hack on the company in July 2020.

According to Whistleblower Aid, a non-profit legal group representing Zatko, Twitter's former head of security last month filed a complaint to the US Securities and Exchange Commission, Department of Justice and Federal Trade Commission, as well as members of Congress. Zatko alleged that Twitter violated an agreement with the FTC regarding cyber security precautions, and accused the company of deception over the detection and deletion of fake or spam accounts — including those that may have been used for foreign interference or misinformation.

The dispute over the prevalence of fake accounts is at the heart of Musk's attempt to cancel his deal to buy the group. The billionaire Tesla chief executive has claimed independent analysis shows the company has grossly understated the problem in financial filings.

Details of the leaked complaint were first reported by the Washington Post and CNN. Zatko told the Post he had been "ethically bound" to make his disclosures.

Zatko also alleged that Twitter had foreign agents on its payroll with "direct unsupervised access to the company's systems and user data". This month, a Twitter employee was found guilty in a San Francisco federal court of spying for Saudi Arabia by passing on the personal data of users criticising its rulers.

Twitter said Zatko had been dismissed because of "ineffective leadership and poor performance".

It added: "What we've seen so far is a false narrative about Twitter and our privacy and data security practices that is riddled with inconsistencies and inaccuracies and lacks important context."

Twitter's share price fell about 5 per cent in midday trading in New York.

The dispute over fake accounts is at the heart of Elon Musk's push to renege on the $44bn Twitter deal, claiming filings understated the problem

The FTC declined to comment; the SEC and DoJ did not immediately comment. The Senate intelligence committee said members were "in the process of setting up a meeting to discuss the allegations in further detail. We take this matter seriously."

Whistleblower Aid, which represented Facebook whistleblower Frances Haugen, said Zatko would "of course honour" any subpoenas. Alex Spiro, representing Musk, said: "We have already issued a subpoena for Mr Zatko."

Musk's legal team has issued a subpoena to Dorsey, who stepped down as Twitter's chief in November, seeking communications between him and executives on the handling of fake accounts.

Additional reporting by Kiran Stacey in Washington

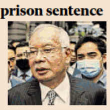
Briefing

▸ **Big contraction in eurozone activity**
Business has suffered its biggest contraction for 18 months as a result of higher prices, falling demand and rising inventories, adding to fears of a looming recession.— PAGE 2; DAY IN MARKETS, PAGE 9

▸ **Police raid Bolsonaro business backers**
Several top supporters of Jair Bolsonaro have been subjected to raids days after leaked messages appeared to show them backing a coup should the far-right president lose his re-election bid.— PAGE 4

▸ **Tiger founder Robertson dies at 90**
Julian Robertson, founder of Tiger Management and one of the most influential hedge fund managers of all time, has died. He achieved heroic status in the early days of the industry.— PAGE 5

▸ **Najib loses bid to quash prison sentence**



Ex-Malaysian premier Najib Razak, who was convicted of money laundering linked to the 1MDB embezzlement scandal, has lost a final bid to overturn his 12-year sentence.— PAGE 4

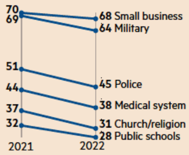
▸ **Adani targets Indian broadcaster NDTV**
Gautam Adani has launched a hostile bid that has stoked media independence fears as the group is known for airing views critical of New Delhi. The tycoon has praised premier Narendra Modi.— PAGE 5

▸ **Tallinn hits back at Russian bomb claim**
Estonia has dismissed Kremlin claims that a woman Moscow blames for killing Daria Dugina, daughter of far-right ideologue Alexander Dugin, fled to the Baltic country. Her car blew up on Saturday.— PAGE 2

▸ **Macy's turns gloomy as shelves buckle**
The department store operator has cut its full-year guidance amid consumer spending concerns and the need to move older merchandise off its shelves, in common with others in the sector.— PAGE 5

Datawatch

Trust in institutions
% of US public



Source: Gallup

Americans are less confident in US institutions than they were a year ago. As a result of declining confidence in the police, the only institutions in which a majority of Americans have confidence are small business and the military

Turks weather hard times as weak lira draws visitors

Analysis ▸ PAGE 3

Lachlan Murdoch tests press freedom in Australia by suing news site Crikey

NIC FILDES — SYDNEY

Lachlan Murdoch has filed defamation proceedings against Australian news website Crikey, its editor and a journalist over an article that alleged his family was linked to the US Capitol riots.

The application was filed yesterday, a day after Crikey published an open letter in the New York Times and Canberra Times challenging the billionaire to follow through on a threat to litigate over the article.

The filing was made in Australia's Federal Court in Sydney and will act as a test case for press freedom in the country's courts, featuring the son of the nation's most powerful press baron as a litigant.

Last year, Australia introduced revised laws to crack down on defamatory online posts. The new laws include a "serious harm" element whereby the litigant has to prove that the material published is likely to cause serious damage to his or her reputation.

Murdoch has alleged that a column written by Crikey's political editor Bernard Keane published on June 29 was defamatory.

The column focused on former US president Donald Trump and his alleged role in the Capitol riots, following evidence presented by the January 6 committee. It closed with references to Fox News commentators and "the Murdochs", alleging that the family were "unindicted co-conspirators" in the crisis of democracy caused by Trump.

The filings by Murdoch's lawyers focus on the allegations of criminality and the language used in the article.

Private Media, which owns Crikey, Keane and Peter Fray, the site's editor-in-chief and a former deputy editor of the Australian newspaper — which is owned by News Corp — are listed as respondents.

The approach taken by Murdoch differs from that of his father Rupert, who has not sued rival media publishers over coverage of his media empire or his personal life.

The article was initially taken down from Crikey the day after it was published following the first legal threat by Lachlan Murdoch.

Private Media said: "We welcome the chance to test what an honest, open and public debate actually means for free speech in Australia."

Crikey has published fresh articles this week on Fox and its alleged role in the Capitol riots. Murdoch's outlets have recently cooled on Trump, with Fox News giving him less airtime.

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 23	Prev	%chg
S&P 500	4135.41	4137.99	-0.06
Nasdaq Composite	12400.57	12381.57	0.15
Dow Jones Ind	32934.14	33063.61	-0.39
FTSEurofirst 300	1701.17	1708.45	-0.43
Euro Stoxx 50	3648.08	3658.22	-0.28
FTSE 100	7488.11	7533.79	-0.61
FTSE All-Share	4108.39	4136.51	-0.68
CAC 40	6362.02	6378.74	-0.26
Xetra Dax	13194.23	13230.57	-0.27

CURRENCIES

Pair	Aug 23	Prev	Pair	Aug 23	Prev
$/€	0.999	0.997	€/$	1.001	1.003
$/£	1.185	1.179	£/$	0.844	0.848
£/€	0.843	0.845	€/£	1.187	1.183
¥/$	136.250	137.185	¥/€	136.066	136.726
¥/£	161.476	161.748	£ index	78.754	78.482
SFr/€	0.961	0.960	SFr/£	1.141	1.136

CRYPTO

	Aug 23	Prev	%chg
Bitcoin ($)	21374.40	21400.81	-0.12

GOVERNMENT BONDS

Yield (%)	Aug 23	Prev	Chg
US 2 yr	3.24	3.31	-0.07
US 10 yr	3.00	3.02	-0.02
US 30 yr	3.22	3.26	-0.04
UK 2 yr	2.82	2.70	0.12
UK 10 yr	2.57	2.51	0.06
UK 30 yr	2.88	2.84	0.05
JPN 2 yr	-0.09	-0.07	-0.01
JPN 10 yr	0.22	0.23	-0.01
JPN 30 yr	1.15	1.13	0.02

Dubai

Nikkei	28452.75	28794.50	-1.19
Hang Seng	19503.25	19656.98	-0.78
MSCI World $	2736.10	2787.71	-1.85
MSCI EM $	991.90	1001.46	-0.96
MSCI ACWI $	635.46	646.81	-1.75
FT Wilshire 2500	5389.01	5507.03	-2.14
FT Wilshire 5000	42098.38	43018.87	-2.14

Ethereum	1626.86	1624.63	0.14
COMMODITIES			
	Aug 23	Prev	%chg
Oil WTI $	93.65	90.36	3.64
Oil Brent $	99.86	96.48	3.50
Gold $	1733.25	1750.75	-1.00

GER 2 yr	0.84	0.89	-0.04
GER 10 yr	1.31	1.30	0.01
GER 30 yr	1.48	1.45	0.03

Prices are latest for edition
Data provided by Morningstar

A Nikkei Company

INTERNATIONAL

Climate

Drought blights nearly half of EU countries

Agency warns of impact on crops and energy sector from long, dry spell

ALICE HANCOCK — BRUSSELS

Almost half of the EU remains under drought conditions, a bloc agency has said, with the weather set to remain hotter and drier until November.

This will compound fears about crop shortages and energy supply in a continent already hit by a significant reduction in gas flows from Russia.

"The combination of a severe drought and heatwaves has created an unprecedented stress on water levels in the entire EU. We are currently noticing a wildfires season . . . above the average and an important impact on crops production," said Mariya Gabriel, EU commissioner for research and innovation.

"Severe to extreme" drought conditions are evident in Italy, south-eastern and north-western France, eastern Germany, eastern Europe, southern Norway and large parts of the Balkans, according to a report published yesterday by the EU's Joint Research Centre.

It said about 47 per cent of the EU was under drought warning conditions and 17 per cent in drought alert, which meant vegetation and crops had been affected. The report also warned of the "severe impacts" on the energy sector, particularly for hydropower plants, which are unable to function, and the cooling systems of other power plants.

This summer has been one of the driest on record in Europe, which scientists have said is warming faster than the global average. Forest fires have spread rapidly, burning more than 4.6 times the average area of land of the past 19 years of forest fire seasons, while Alps glaciers have melted at a record pace.

'We are noticing a wildfires season above the average and an important impact on crops production'

The mean annual temperature over the European land mass in the past decade has been about 2C warmer than during the pre-industrial period, according to a European Environment Agency report published in June, compared with about a 1C average globally.

The UK too has been gripped by a sustained period of hot and dry weather, which pushed England into a formal state of drought in August. The government yesterday announced that 10 of 14 regions had entered drought status, saying recent rainfall had not been enough to replenish rivers, groundwater and reservoirs to normal levels.

Such extreme lack of water and heat stress to plants has reduced forecasts for this year's summer harvest in Europe, with crops worst affected including maize, sunflowers and soyabeans. Yield forecasts for these crops are between 12 and 16 per cent below the five-year average, according to the JRC data.

Energy supply problems across the continent have been exacerbated. Hydroelectric dams have dried up in countries such as Portugal and in Norway, prompting the EU's second-largest supplier of natural gas after Russia to warn it may have to curb energy exports if the situation does not improve.

Energy generation from nuclear power stations has been cut because of a lack of water to cool the reactors.

The JRC report, using European Drought Observatory data, warned warmer, drier conditions could last well into autumn in the western Mediterranean. A return to normal weather "for most of Europe" could "not be enough to fully recover the deficit [of water] cumulated in more than half a year".

Additional reporting by Camilla Hodgson

See FT Big Read and Lex

Central Europe. Energy demands

Poland's ban on Russian coal hits winter supplies

Moscow provides two-fifths of near neighbour's needs and alternatives are hard to find

RAPHAEL MINDER AND BARBARA ERLING
WARSAW

Like millions of Poles, Mateusz Szumlas would normally have coal delivered to his cellar by his local supplier in good time for him and his partner to heat their home for winter.

But this year, Szumlas has had to become something of a cross-border fuel trader, travelling to buy coal in the Czech Republic and lugging it back to his Polish town of Świeradów-Zdrój. He only expects to receive a portion of the four to five tonnes he usually gets brought to his door, even after Poland's parliament approved emergency subsidies for the one-third of households that use coal to keep warm.

"People are now counting on the subsidies from the government, but it doesn't really help solve the problem when coal is unavailable," Szumlas said.

His hunt for fuel is a result of Russia's invasion of Ukraine that has left Poland, one of the last bastions of coal production in the EU, dealing with an abrupt and unprecedented coal shortage.

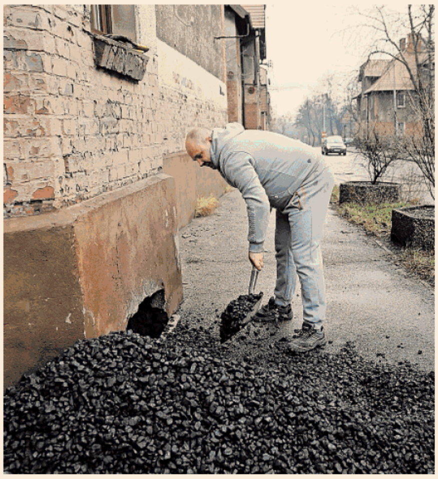
Poland's government, never slow to be hawkish towards Moscow, responded to the Kremlin's invasion of Ukraine by swiftly banning imports of Russian coal.

But in doing so, it also cut one of the country's main sources of domestic coal supply. While Poland is a big coal producer, most are of low quality and used mainly in power stations. Russia supplied about two-fifths of the coal burnt by Polish households.

The dearth has left Poland struggling to find substitutes from producers such as Colombia and South Africa. The price of coal in Poland has tripled from an average price of just under 1,000 zlotys ($208) per tonne last year to more than 3,000 zlotys per tonne.

Warsaw's ban on Russian coal started in April and prompted panic buying by Polish households. Meanwhile, an EU-wide ban only came into force this month, giving Germany and other EU nations more time to make a smoother transition and stock up on Russian coal.

For Poland's miners, the crisis reveals a long-term failure to invest in coal.



Solid fuel: a resident deals with a delivery of coal used to heat his apartment in Bytom, Poland
Kacper Pempel/Reuters

"Of course the immediate cause of the problems with coal is the war in Ukraine, but years of miserable energy policy led us to become dependent on Russian coal," said Jarosław Grzesik, president of the mining branch of the Solidarność trade union.

The coal crisis comes as Poland's economy contracted 2.3 per cent in the second quarter from the previous quarter, raising the likelihood of a recession. Facing an election next year whose outcome could hinge on how Poland manages to weather the economic impact of the war in Ukraine, the rightwing coalition government has recently announced emergency steps to alleviate voters' house-heating concerns.

In July, Warsaw ordered state-owned companies to buy a further 4.5mn tonnes of coal for households, which would be just under half of that burnt each year in Polish homes. The government also suspended quality standards for the burning of coal for home heating.

Following an unsuccessful attempt to cap retail prices for coal, the government this month pushed through parliament a subsidy scheme allowing each household to apply for a handout of 3,000 zlotys to help pay for coal.

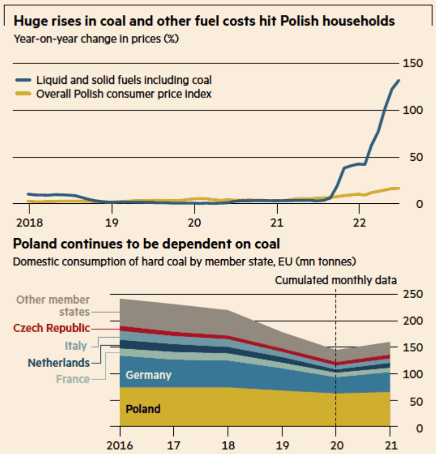
Environmentalists have decried it as a U-turn on efforts to fight global warming, coming just after Poland had reluctantly agreed to meet EU climate change goals and wean itself off coal.

Last year, the government signed an agreement with the mining industry and trade unions to shut all its coal mines by 2049.

The subsidy scheme has also been criticised as not means tested. About 30 per cent of coal subsidies are likely to go to the richest 40 per cent of households, many of which should instead have invested in better insulation and alternative heating, the World Bank has said.

"A good way to mitigate the effects of the energy crisis would be to support only those who really need such support," said Reena Badiani-Magnusson, a senior economist at the World Bank. Overall, she added, "the incentives to return to coal, even if shortlived, may destroy the hard work that Poland has done on the battlefield against smog".

'The immediate cause of the problems is the war in Ukraine, but years of miserable energy policy led us to become dependent on Russian coal'



Sources: Refinitiv; Eurostat

The air quality in Poland is among the worst in Europe, according to the European Environment Agency. In addition, residents who burn coal or wood have an almost one-third higher probability of developing a respiratory disease, according to Warsaw-based foundation, the Institute for Structural Research.

Still, Prime Minister Mateusz Morawiecki told parliament last month: "I want there to be more coal than is needed, even for a harsh winter."

In late July, the first shipment of South African coal docked at the Polish port of Świnoujście. But the ports are also getting clogged up with military equipment for Ukraine and coal distributors are citing logistical problems and costs they did not have when coal came from nearby Russia.

Some experts cast doubt on Morawiecki's claim that Poles should not fear winter. "The situation . . . will be very much weather dependent, which is worrying," said Ilona Jędrasik of the Polish office of ClientEarth, an environmental non-governmental group.

Pilita Clark see Opinion on Letters page

Single currency bloc

Eurozone recession fears grow after business activity falls

MARTIN ARNOLD — FRANKFURT

Eurozone business activity has suffered its biggest contraction for 18 months as a result of higher prices, falling demand and rising inventories of unsold goods, according to a survey of companies, which has added to fears of an impending recession.

S&P Global's flash composite purchasing managers' index yesterday fell 0.7 points to 49.2, its lowest level since February 2021 and the second consecutive month below the crucial 50 mark that separates growth from contraction.

Economists polled by Reuters had expected a slightly bigger fall, but the survey underlined the challenges confronting the eurozone after German businesses reported their biggest reversal of activity for more than two years, while French businesses suffered their first contraction in 18 months.

Andrew Harker, economics director at S&P Global, said the data "point to an economy in contraction during the third quarter". He added: "Cost of living pressures mean that the recovery in the service sector following the lifting of pandemic restrictions has ebbed, while manufacturing remained mired in contraction in August."

Tourism and hospitality-related services were boosted this summer by the lifting of most coronavirus curbs in Europe, but the benefits appear to have been cancelled out by other factors.

Russia is squeezing natural gas supplies to Europe, causing record eurozone inflation, eroding household spending and hitting business investment while forcing the European Central Bank to raise interest rates and convincing many economists that the eurozone is heading for recession.

"August's flash PMIs suggest that the eurozone economy is now contracting," Jack Allen-Reynolds, an economist at Capital Economics, told clients, adding that "the ECB will have to press ahead with monetary tightening even as the economy falls into recession".

Eurozone government bonds sold off yesterday reflecting a belief that the downturn will not be enough to deter the ECB from raising its deposit rate from zero to 0.5 per cent at next month's meeting. Italy's 10-year bond yield rose to 3.65 per cent, a two-month high.

New orders for eurozone businesses in both services and manufacturing fell for a second consecutive month, according to S&P Global, leaving factories grappling with the biggest increase in inventories of unsold products in the 25-year history of the survey.

"Particularly sharp declines in output were seen across basic materials categories and in the autos sector, but reductions were also recorded in parts of the service sector, including in tourism and recreation and real estate," it said.

The survey also found evidence that inflationary pressures were easing, as input costs and selling prices both rose at their slowest pace for almost a year. Supply chain constraints also abated as delivery times rose at their slowest pace since October 2020.

The reduction in activity was mostly in Germany and France, it found, while output in other eurozone countries continued to rise, "albeit only marginally".

ECB safety net see Companies

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Dugina killing

Estonia dismisses Kremlin car bomb claims as 'provocation'

RICHARD MILNE
NORDIC AND BALTIC CORRESPONDENT

Estonia has hit back at Russian claims that a woman blamed by Moscow for planting a deadly car bomb on Saturday later fled to the Baltic country.

Tallinn dismissed the allegations over the whereabouts of the woman the Kremlin has accused of killing the

Estonian police said on Monday that Russia had not made any official requests about Vovk.

Indrek Kannik, head of the state-backed think-tank the International Centre for Defence and Security, said the car bomb attack could have been a "false-flag" operation by Russia.

"It is possible that this was the FSB's own operation, since these people had

support for Ukraine. Estonia has given more aid per capita to Kyiv than any other country.

"Why did Estonia experience the biggest cyber attacks since the Bronze Soldier night? Why did the former president of Russia say two weeks ago that it was their failure that Estonia is still a free country?" he asked.

Estonia has led the calls for tougher

and Russian tourists in Europe. It has stopped Russians entering the country with an Estonian visa, although they can use visas issued by other EU member states.

Tallinn has also provided substantial military support to Ukraine, more than some larger EU countries despite Estonia only having a population of 1.3mn.

Kaja Kallas, Estonian prime minister,

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daughter of a prominent supporter of President Vladimir Putin.

Speaking on television yesterday, Urmas Reinsalu, Estonia's foreign minister, said: "We regard this as one instance of provocation in a very long line of provocations by the Russian Federation, and we have nothing more to say about it at the moment."

Russia's FSB security services claimed that Natalya Vovk, a 43-year-old Ukrainian, was responsible for the killing of Daria Dugina, the daughter of far-right ideologue Alexander Dugin.

Vovk then supposedly fled to Estonia, leading Russian nationalists to demand tough action against the Baltic country, which has been one of Ukraine's biggest supporters since its invasion by Russia in February.

become a threat. At the same time, it is convenient to blame it on the Ukrainians. Now we are seeing that Estonia can also be dragged into this," he said.

Estonia suffered its biggest cyber attack in 15 years last week following the removal of a Soviet-era tank memorial from the eastern city of Narva, close to the border with Russia.

The attack had no visible impact on the Baltic country, which is known for its digital infrastructure. In 2007, Estonia was hit by a crippling cyber strike that officials said originated in Russia after the removal of a bronze monument to a Soviet Red Army soldier in Tallinn, the capital.

Reinsalu said that last week's attack was part of a pattern of pressure from Moscow on Tallinn in response to its sanctions against Russia, pushing for a ban on the country's gas inside the EU

Urmas Reinsalu: Estonia foreign minister was critical of Russia

said yesterday that the governing three-party coalition had failed to reach agreement on a proposal to stop Russian citizens from voting in local elections.

The move would have been controversial, since Russian citizens are in the majority in parts of eastern Estonia. The government is planning to make Estonian the sole language used in schools and kindergartens.

Estonia was annexed by the Soviet Union during the second world war and regained its independence in 1991.

Tens of thousands of Estonians were deported to Siberia during the Soviet era, while ethnic Russians moved to Estonia, leading to high numbers of Russian speakers in areas around the Russian border and in Tallinn.

Janan Ganesh see Opinion

INTERNATIONAL

Turkey tourism revenues soften blow from high energy prices

Booming summer brings in foreign currency to help prop up economy

LAURA PITEL — CAPPADOCIA

More than a dozen holidaymakers clambered into the basket of the hot air balloon for a trip over the moon-like landscape of Turkey's Cappadocia region.

"It's full, we're all booked, that's why I'm smiling," owner Mehmet Halis Aydoğan said ahead of the early morning ride, one of about 140 that has filled the sky each day this month.

After two years of pandemic-related disruption, tourism in Cappadocia — like the rest of Turkey — is on course for a record year, helped by the plunge in the value of the lira that has made the country a cheaper holiday destination than many European rivals. Foreign visitor numbers were up 53 per cent year on year in July, according to government figures released on Monday.

The booming summer tourism season is a blessed relief not only for local businesses but also President Recep Tayyip Erdoğan and his officials, who are racing to reel in as much foreign currency as possible to prop up the economy.

A surging energy import bill caused by the rise in global prices resulting from the war in Ukraine has fed a widening imbalance between Turkey's imports and exports. That has heaped pressure on the lira, which has slumped from an exchange rate of about 8.6 to the dollar a year ago to more than 18 today, draining the country's foreign currency reserves.

"The revenue from tourism is critical in this environment to ease the pressures," said Selva Demiralp, an economics professor at Istanbul's Koç University. "The government turned to tourism as the last option to save the day."

It has been a rough few years for Turkey's holiday industry. A record 45mn foreign visitors came in 2019, but fewer than 13mn arrived a year later as the coronavirus crisis took a heavy toll. The fall-off inflicted pain on tourist-reliant beach resorts as well as Istanbul, a popular city-break destination, and locations such as Cappadocia in Turkey's central Anatolian heartland.

Numbers recovered partially in 2021, reaching nearly 25mn, but quarantine rules and travel bans ensured arrivals were well down from their peak.

Mehmet Güleşer, who sells scarves and trinkets from a small shop in the Cappadocian town of Üçhisar, resorted to collecting scrap to make ends meet. "We went through hard times," he said. "But we came out the other side."

Like many businesses, Aydoğan, whose Voyager Balloons is among the biggest local companies offering hot air balloon rides, took up a government scheme that paid 60 per cent of the salary of employees unable to work because of the pandemic.

He used cheap loans offered by the government to help him plug a cash flow gap and used the time to diversify and begin manufacturing hot air balloons himself. "We tried to turn [the pandemic] to our advantage," he said.

Normal operations are now back in full swing, with about 220 people a day signing up for hot air balloon rides that provide stunning views of the unusual rock formations and ancient churches.

Flying high: a hot air balloon glides over Cappadocia, Turkey. Tourism in the area, like the rest of the country, is on course for a record year
Behcet Alkan/Anadolu Agency/Getty Images

Teyfik Ölmez, president of KAPTD, a local tourism association, said July was an "all-time best" for the region's hotels even though Chinese tourists — who normally make up a significant proportion of visitors — are absent because of strict lockdowns in their country.

Their places are being filled by visitors from other Asian nations as well as South Americans, Europeans and those from the US. Even Russians are still coming, despite fears that President Vladimir Putin's war in Ukraine and the economic fallout from western sanctions would keep them at home. Russian visitors were second only to Germans in the first seven months of the year, with Britons trailing close behind.

Oya Narın, head of the Turkish Tourism Investors Association, said Istanbul in particular was enjoying a bumper year, adding that the weak lira was having "an important effect".

Tourism businesses serving international visitors are largely sheltered from Turkey's 80 per cent inflation and drop in the currency because their prices are stated in euros, pounds or dollars or are linked to foreign currency. Narın said the biggest problem for the industry was recruiting staff.

Tourism revenues help limit the damage to the economy from soaring energy costs, but experts say it is unlikely to be enough to solve the country's woes.

Barclays last month revised down its forecast for this year's current account deficit — which reflects the imbalance between imports and exports — by $4bn to $35bn thanks to better than expected tourism receipts. But it also warned this "temporary positive picture" would change from the autumn when tourism revenues fell as the weather turned colder, energy needs grew and foreign debt payments put pressure on the lira and foreign reserves. Erdoğan last week shocked markets by cutting interest rates even as inflation continues to rise.

> 'The revenue from tourism is critical to ease the pressures'

Business owners in Cappadocia insist they are more than pulling their weight in the battle to bring in hard currency.

Jakub Novák and Zuzana Klimecká, two young backpackers visiting from the Czech Republic, were drawn by the budget flights and "much cheaper" cost of travelling around Turkey than their own country.

At the other end of the spectrum, at Üçhisar's Museum Hotel, rooms start at €600 a night and guests lounging at the edge of the infinity pool pay the equivalent of €16 for an Aperol Spritz.

Owner Tolga Tosun said the industry deserved credit for the fact the lira had not yet fallen further than its current rate of about 18.1 to the dollar.

"We're bringing money into the country," he added.

INTERNATIONAL

Latin America

Brazil police raid Bolsonaro supporters

Leaked messages about potential coup d'état lead to search of eight premises

BRYAN HARRIS — SÃO PAULO

Brazilian police have raided the premises of several prominent business supporters of President Jair Bolsonaro days after leaked messages appeared to show the men backing a coup d'état if the far-right leader loses his re-election bid in October.

Acting on an order from Supreme Court justice Alexandre de Moraes, who also heads the electoral court, federal police yesterday launched a search of eight premises in five states, including São Paulo and Rio de Janeiro.

The move highlights the growing sensitivity of the court towards threats to Brazilian democracy ahead of what is expected to be a highly polarised poll.

For more than a year Bolsonaro, a former army captain, has raised doubts about whether he would respect the result of the polls, saying multiple times that "only God can take me" from the presidency. He has repeatedly questioned Brazil's electronic voting system, saying without evidence that it is prone to fraud. In an interview with local media on Monday night he said he would respect the result "as long as the vote is clean and transparent".

The president is trailing his main rival, leftwing former leader Luiz Inácio Lula da Silva, by 15 percentage points, according to a Datafolha poll last week.

Yesterday's operation was launched after media group Metropoles last week published WhatsApp messages appearing to show several supporters of the president calling for a coup if Bolsonaro lost the election.

"I prefer a coup than the return of [Lula's Workers' party]. A million times. And certainly no one will stop doing business with Brazil. They do [business] with various dictatorships around the world," José Koury, a real estate tycoon, purportedly wrote in the messages.

Koury was among the targets of the raid. He could not be reached for comment. Also targeted were Luciano Hang, a prominent billionaire supporter of Bolsonaro, and Afrânio Barreira Lima, owner of a popular restaurant chain.

Hang denied supporting a coup, blaming "militant media" for the scandal. Barreira Lima said he "never defended, thought or wrote in favour of any anti-democratic or 'coup' movement. I am in favour of freedom, democracy and a fair electoral process."

De Moraes also ordered the blocking of the men's bank accounts and their social media networks. "The question now is how Bolsonaro will react," said Lucas de Aragão, a partner at political consultancy Arko Advice. "We saw him recently trying to escape the ideological messages and move towards more political messages, with a focus on inflation, fuel, things like that. We will have to see [what he does now]."

Flávio Bolsonaro, a senator and the president's eldest son, said it was "insane to order a [raid] against honest businessmen for saying in a private WhatsApp conversation that they would prefer anything to an ex-convict", a reference to the time Lula served in prison on graft charges.

Gleisi Hoffmann, Workers' party president, said: "Attacks against democracy have serious consequences. This is the only way these people will learn."

Additional reporting by Carolina Ingizza

Mar-a-Lago

Trump seeks independent review of FBI papers search

KIRAN STACEY — WASHINGTON

Donald Trump has begun his legal fightback against the US justice department over the seizure of documents from his Mar-a-Lago resort, requesting an independent court official to review materials taken during the search.

The filing in a Florida federal court on Monday marked Trump's first formal move against the FBI following the dramatic raid on his Florida golf resort this month as part of an investigation into his handling of classified documents during his time in the White House.

Trump's lawyers argued in the filing that the documents were automatically covered by executive privilege, as they were created while Trump was president. "Only an evaluation by a neutral reviewer, a special master, can secure the sanctity of these privileged materials," they wrote.

The FBI stunned the country and infuriated the former president when its officers searched Trump's Florida residence two weeks ago without warning.

Agents took several boxes of classified materials as part of their investigation into whether the former president broke the Espionage Act. The raid followed months of negotiation between Trump and the justice department over whether and how the documents should be returned to the government.

According to the Washington Post, the documents included material related to nuclear weapons, among other subjects. The seized materials included Trump's passports, which were subsequently returned.

The search has piled further legal pressure on Trump, who is under scrutiny from the congressional committee examining the January 6, 2021 assault on the US Capitol as well as a grand jury in Georgia investigating his role in attempting to overturn the state's 2020 presidential election result.

Trump reacted angrily to the FBI's search at the time, calling it "not necessary or appropriate".

In the filing, his lawyers characterised the raid as "a shockingly aggressive move, and with no understanding of the

High art: Save America is paying $650,000 for the portraits of Donald and Melania Trump
Brendan Smialowski/AFP/Getty Images

Smithsonian

Political fund bankrolls presidential portraits

Donald Trump's political fundraising vehicle has taken the unusual step of paying $650,000 to commission two official portraits of the former president and first lady that will hang in the Smithsonian Institution's National Portrait Gallery.

The Save America political action committee made the donation on July 14, according to public records and the Smithsonian, an arrangement the museum said was unprecedented in recent history. Another unnamed donor provided a further $100,000.

The Washington-based Smithsonian commissions portraits of departing presidents to hang in the portrait gallery, but normally raises funds from private donors to cover the cost.

It said this was the first time in recent memory that an organisation connected with a former president had helped fund the portraits. Neither Barack Obama, George W Bush nor their political fundraising arms were involved in paying for their paintings, the museum said.

The Smithsonian said: "The Save America donation of $650,000 is accompanied by one additional private donation. It is specifically for the portraits of former president Donald Trump and former first lady Melania Trump. Two artists have been commissioned, one for each portrait. The names will be released closer to the reveal of the paintings. The funds support the artists' fees, shipping, framing, installation and events."

A representative for Trump did not respond to a request for comment.

The Smithsonian's presidential portraits have a unique status in US political life. Every departing president has been invited to choose an artist to represent them in the America's Presidents exhibition — the only complete collection of presidential portraits outside the White House.

While most presidents have chosen relatively conservative artists and traditional poses, Obama made waves when he chose Kehinde Wiley to paint him against a backdrop of vivid green leaves and multicoloured flowers.

The museum would not say whom the Trumps had commissioned to paint their portraits or when the paintings would be finished.

Unlike most former presidents, Trump has continued to fundraise after leaving office as he weighs another bid for the White House.

His affiliated PACs — including Save America — raised $17mn in the second quarter of the year, down from $23.4mn in the first quarter, and some observers have interpreted the slowdown as a sign that Republican donors are starting to take a serious look at other candidates.

But the Save America committee is sitting on almost $100mn, according to its latest public filings, an indication of Trump's enduring popularity with Republicans.

It has spent hundreds of thousands of dollars donating to groups supporting Trump-endorsed candidates, including Harriet Hageman and David Perdue. Hageman recently defeated Liz Cheney to be the Republican candidate for Congress from Wyoming, while Perdue lost his bid to unseat Brian Kemp as the party's nominee for Georgia governor.

According to the latest filings with the Federal Election Commission, the donation to the Smithsonian was the single largest contribution made by Save America last month, about 16 per cent of its overall spending.

There is no restriction on PACs making charitable contributions, according to the FEC, though individual campaigns are not allowed to make charitable contributions that personally benefit the candidate.

Kiran Stacey in Washington and Caitlin Gilbert in New York

Former premier

Najib fails in final appeal to avoid jail over Malaysia 1MDB scandal

MERCEDES RUEHL — SINGAPORE

Najib Razak, the former Malaysian prime minister convicted of money laundering linked to the 1MDB embezzlement scandal, has lost a final bid to overturn his 12-year prison sentence.

Malaysia's highest court yesterday upheld Najib's conviction on seven counts of abuse of power, money laundering and criminal breach of trust.

Najib, who had been out on bail and remained a member of parliament for Malaysia's governing United Malays National Organisation, was taken into custody immediately after the ruling.

The embezzlement of billions of dollars from the 1MDB state fund, revealed in 2015, was one of the world's biggest financial scandals. It sent reverberations from Malaysia and Singapore to Wall Street and prompted Najib's ousting as prime minister.

Najib was convicted and sentenced to 12 years in jail in 2020. The verdict was upheld by a court of appeal last year.

The case was seen as a test of Malaysia's judicial system, especially after a US court in April convicted former Goldman Sachs banker Roger Ng of conspiring to violate US anti-bribery laws and to launder money in connection with the 1MDB scandal. US authorities dedicated years to bringing the case against Ng.

> 'The position of Najib is that his new legal team did not have adequate time to put forward his defence'

Najib, who has denied all wrongdoing and still has many supporters, had this year hit the campaign trail for Umno, which leads Malaysia's ruling coalition.

Yesterday a five-member Federal Court bench chaired by chief justice Tengku Maimun Tuan Mat found that the Kuala Lumpur High Court had not erred in sentencing Najib to 12 years in jail and a 210mn ringgit ($47mn) fine. If Najib fails to pay the fine, a five-year jail sentence will be served in lieu.

The former prime minister, who led the government from 2009 to 2018, had sought to delay the ruling, including by calling on Tengku Maimun to recuse herself for previous Facebook comments attributed to her husband that were critical of Najib.

In a statement to the Federal Court yesterday, Najib referred to himself as a "pawn in a justice game". The former prime minister's lawyer, Firoz Hussein Ahmad Jamaluddin, expressed disappointment with the ruling.

"The position of Najib is that his new legal team did not have adequate time to put forward his defence . . . and was not given appropriate opportunity to defend himself at the appeal," he said.

Prominent opposition politician Anwar Ibrahim in April warned that Najib could seek to capitalise on an Umno victory in an early general election to avoid imprisonment. The next election is set for 2023, but Anwar said some members of Najib's party wanted to bring it forward so they could consolidate power and influence the judiciary.

distress it would cause most Americans", involving "roughly two dozen special agents of the Federal Bureau of Investigation, directed by attorneys of the US Department of Justice".

His lawyers made four requests: to appoint a special master, a role typically given to a retired lawyer or judge; to undertake a review of the seized documents; to force the government to be more specific about which documents were taken; and to compel the return of anything not included in the scope of the search warrant.

The filing also restated many of the former president's grievances against parts of the US government.

One section, called "The government has long treated president Donald J Trump unfairly", details allegations that there was collusion between his 2016 presidential campaign and Russia.

The filing also states: "President Donald J Trump is the clear frontrunner in the 2024 Republican presidential primary and in the 2024 general election, should he decide to run."

Martin Wolf see Opinion

Putin ally

Russian oligarch's superyacht seized as part of sanctions attracts 63 bids at Gibraltar sale

PETER WISE — LISBON
REUTERS — MADRID

The first superyacht to be sold after being seized from a sanctioned Russian oligarch following Moscow's invasion of Ukraine attracted 63 bids at an auction in Gibraltar, the auctioneers said.

Axioma, a luxury 236-foot vessel belonging to Russian billionaire Dmitry Pumpyansky, was sold by order of Gibraltar's Admiralty court to repay JPMorgan for a €20.5mn ($20.5mn) loan that was tied to the vessel.

The yacht, with an estimated value of €55mn-€60mn, was impounded in Gibraltar in March, the small British territory at the entrance to the Mediterranean, as authorities around the world seized luxury vessels belonging to Russians under sanction.

Pumpyansky, the former owner of OAO TMK, Russia's biggest steel pipe maker, had sanctions imposed on him by the EU and the UK in March, when British authorities described him as one of the oligarchs closest to Russian president Vladimir Putin. The UK estimated his net worth at £1.84bn ($2bn).

The auction attracted 63 sealed bids by yesterday's deadline, said Nigel Hollyer, a broker with Howe Robinson. In consultation with Gibraltar's Admiralty Marshal, a final decision on the winning bid is expected to be reached by Monday, but the identity of the new owner will not be disclosed, Hollyer added.

The Axioma, originally named Red Square, features a glass elevator, an infinity pool and a 3D cinema, among other amenities. It had been available for charter for up to €635,000 a week.

Luxury ship: the Axioma superyacht has been impounded in Gibraltar

According to court papers seen by Reuters, JPMorgan lent €20.5mn to British Virgin Islands-listed Pyrene Investments Ltd, which was owned by Furdberg Holding Ltd. Furdberg's owner was Pumpyansky, who acted as guarantor for the loan.

The papers said Pyrene Investments defaulted on the loan terms after Pumpyansky on March 4 transferred his shares in Furdberg to a third party and was then put under sanction, blocking the repayment of the loan.

Sources close to the process told Reuters JPMorgan would only claim the €20.5mn owed and that any further proceeds from the sale would be up to the court to disburse.

Scores of yachts and houses linked to Russian oligarchs have been seized by world governments since the invasion. British and American authorities have said they would seek to send the proceeds of sold assets to Ukraine.

A Gibraltar government source said the money would probably be frozen rather than handed to anyone other than the oligarch.

JPMorgan declined to comment.

Military neutrality

Swiss to hold referendum on purchase of US fighter jets

SAM JONES — ZURICH

Swiss activists have triggered a national referendum to stop the country's purchase of 36 F-35A fighter jets from the US, a challenge that complicates plans for the modernisation of Switzerland's military and risks a spat with Washington.

Switzerland became the 15th country to sign up to buying the jets, manufactured by Lockheed Martin, in June last year, but the decision has been mired in controversy, not least because military neutrality is the central tenet of Swiss foreign policy.

Bern chose the F-35s, worth $6.1bn, over stiff competition from Boeing's Super Hornet, Dassault's Rafale and Airbus's Eurofighter Typhoon.

The decision came after a 2020 national referendum backed the modernisation of the Swiss air force, but only with a wafer thin majority of 50.1 per cent.

The vote did not specify the aircraft to be acquired, leaving the decision up to the defence ministry.

The Swiss federal chancellery said on Monday evening that more than 100,000 signatures had been verified in support of a second referendum, specifically on whether to opt for the F-35s.

Under Switzerland's highly devolved constitutional system, the government is obliged to set a date for such a vote and abide by its outcome.

Bern only has until March to finalise its contract with Lockheed, putting the Swiss government in a delicate position.

So far, Bern has indicated it will press ahead with the purchase.

"This is a misunderstanding of popular law, if not an abuse of it," said Thierry Burkart, head of Switzerland's FDP liberal party, which supports the Lockheed contract.

It falls to the ruling Federal Council and Switzerland's parliament to finalise a date for a referendum. In order for the vote to be held before the March contract deadline, its terms will need to be agreed in the upcoming September session of parliament.

Supporters of the deal, who form a parliamentary majority, are likely to frustrate efforts for a quick popular vote, however.

Money pit Mining mogul who lost $365mn in iron ore project debacle alleges Uruguay has 'expropriated the asset' ● COMPANIES

Companies & Markets

Adani's hostile bid for NDTV raises media freedom fears

- Tycoon circles independent station
- Target critical of Indian leadership

CHLOE CORNISH — MUMBAI
JOHN REED — NEW DELHI

Gautam Adani has launched a hostile takeover bid for NDTV, the Indian broadcaster, in the first big media play by Asia's richest man, which has stoked fears about media independence.

Adani has praised the vision of Narendra Modi, India's prime minister, but NDTV is known for airing voices critical of the government and maintaining editorial independence. The broadcaster has in recent years faced tax and other legal cases brought by authorities that the station and its defenders have described as politically motivated.

Adani's AMG Media Networks said yesterday that its wholly owned VCPL subsidiary had purchased "warrants" entitling it to a 99.9 per cent stake in a company owned by Radhika and Prannoy Roy, NDTV's founders, that in turn owns 29 per cent of the broadcaster.

> 'NDTV has maintained its independence thanks to the courage and clarity shown by the owners'

Adani's new media subsidiary will also make an open offer to buy 26 per cent of NDTV shares that are publicly held, at Rs294 each. Shares in NDTV rose almost 5 per cent yesterday, having climbed for weeks on deal speculation.

NDTV and its founders said they had not consented to the Adani Group's indirect acquisition of the 29 per cent stake owned by the Roys.

"This exercise of rights by VCPL was executed without any input from, conversation with, or consent of the NDTV founders," the company said in a statement filed to stock exchanges. It said the Roys had been given two days to transfer their shares to the Adani subsidiary.

The Adani Group's announcement came a day after NDTV told stock exchanges that the Roys "are not in discussions now, nor have been, with any entity for a change in ownership or a divestment of their stake in NDTV".

"We've not had too many of these in Indian corporate histories, hostile takeovers," said Ravi Kumar, partner at IndusLaw and a public M&A lawyer. "And the raiders usually lose. So this could be a seminal moment."

One NDTV journalist said the takeover bid was "demoralising". India fell to 150th place on the 2022 World Press Freedom Index from 142nd last year.

"This is a very bad development for the independent media, and not just for news television," said N Ram, a director and former chair and editor in chief of The Hindu Group, one of India's oldest media companies.

"It sends a message. NDTV, despite the difficulties it has been through, has maintained its independence thanks to the courage and clarity shown by the owners."

Sanjay Pugalia, chief executive of AMG Media Networks, said: "We look forward to strengthening NDTV's leadership in news delivery."

Adani hails from Gujarat, the home state of Modi, who critics say has presided over an erosion of freedom of expression in India in the seven years since he took power. Adani Group did not respond to a request for comment.

In response to request for comment about its relationship to the government, Adani Group said: "The company is getting sufficient support from all states governments from different political parties."

Buying NDTV would open another front for competition between Adani and Mukesh Ambani, who has his own powerful media business. AMG Media Network this year bought a stake in business news platform BQPrime, formerly Bloomberg Quint.

Macy's jitters Fears over consumer spending prompt a cut to full-year net sales guidance

Clear out: Macy's expects to 'liquidate aged inventory' to cut its merchandise category stock — Anthony Behar/Sipa/Reuters

LYDIA TOMKIW — NEW YORK

Department store operator Macy's cut its full-year guidance on worries around consumer discretionary spending and the need to move older merchandise off its shelves.

The New York-based company yesterday trimmed its net sales guidance to a range of $24.34bn to $24.58bn from the previous range reported in late May of $24.46bn to $24.7bn.

Earnings were revised to a range of $4 to $4.20 a share from $4.53 to $4.95 a share previously.

That marked a reversal from three months ago, when the company increased its profit forecast, citing resilient demand for luxury goods.

It took some of the gloss off a second-quarter result yesterday that exceeded Wall Street expectations.

The retailer cited increased macroeconomic pressures including the "continued deterioration of consumer discretionary spending in some of its categories and the level of inventory within the industry".

Macy's also said it expected to need to "liquidate aged inventory" to reduce its merchandise category stock. It was "taking the required markdowns" on older products in seasonal goods and pandemic-related categories such as casual sportswear and sleepwear.

$5.6bn	1.5%
Net sales in the second quarter, above analysts' expectations	Decline in comparable sales in the quarter

Other large retailers including Walmart have resorted to aggressive price cuts to move merchandise off their shelves.

Walmart reported that it had cancelled billions of dollars of orders to line up inventory levels with expected demand ahead of the holiday season.

"We believe that we are well positioned to respond to changing consumer behaviours," said Jeff Gennette Macy's chief executive.

"Despite inflationary pressures, consumers continued to shop Macy's as a style source and leading gifting destination."

Macy's reported net sales of $5.6bn during the second quarter, down from $5.647 reported a year earlier but above analysts' expectations of $5.49bn.

Comparable sales, a popular industry metric, were down 1.5 per cent in the quarter.

The retailer reported net income of $275mn, beating expectations of $251mn.

Top financial groups risk ejection from Carney-led climate bloc

OWEN WALKER, KENZA BRYAN, CAMILLA HODGSON AND STEPHEN MORRIS — LONDON
SIMON MUNDY — BOSTON

Financial institutions that signed up to Mark Carney's industry alliance to tackle climate change could be kicked out for failing to hit targets by a new independent panel, under plans set to be made public this year.

Beefed-up checks by the UN on whether finance groups meet criteria on ending coal financing and phasing out fossil fuels from portfolios could be announced at New York Climate Week in September and launched at the COP27 climate talks to be held in Egypt in November, according to Race to Zero, the UN group behind the plans.

More than 450 finance companies accounting for $130tn of assets have joined the Glasgow Financial Alliance for Net Zero.

The initiative, which was announced at last year's COP summit, is spearheaded by Carney, former Bank of England governor and now Brookfield executive, alongside Michael Bloomberg, former New York mayor, and Mary Schapiro, who chaired the Securities and Exchange Commission.

Gfanz's aim is to galvanise the most powerful finance companies to commit to achieving a net zero global economy by 2050. Members are required to meet standards set by the Race to Zero, a UN-led campaign.

While the Glasgow alliance was designed to bring together as many new members as possible, the Race to Zero has updated rules to make them more onerous. It introduced tougher criteria in June, including a bar on support for new coal projects. Existing members will be required to comply with the latest criteria from June next year.

Several people with knowledge of the campaign's plans said it was setting up an independent accountability body where civil society groups, including non-governmental organisations, could report financial institutions for not following Race to Zero's criteria.

Under the plans, the body would have authority to expel financial institutions from Gfanz from the start of 2023.

The rules introduced in June require all signatories to phase "down and out all unabated fossil fuels" by 2050. It also requires them to stop financing new coal projects and meet interim 2030 net zero emissions targets.

Hyundai is catching up with Tesla in global electric vehicle race

INSIDE BUSINESS

ASIA

June Yoon

When Elon Musk said Hyundai was "doing pretty well" in June, the South Korean carmaker appeared unlikely to pose a serious competitive threat to Tesla any time soon. But the latest sales figures and parallels with Apple and Samsung in the 2010s suggest the pace of change is quickening.

Hyundai Motor and affiliate Kia have taken over the number two spot, behind Tesla, in the US electric car market by sales volume this year. The duo's market share in Europe has quadrupled. Globally, excluding China, Hyundai and Kia are the second-biggest electric carmakers by shipments, with a combined 14 per cent market share. Tesla holds the top spot at 22 per cent.

The gap reflects the competitive edge Tesla has gained in the more than a decade it has held on to its leading position in the market. Tesla's cool factor — brand studies have ranked it the "coolest" carmaker among millennials — is a hard one to replicate. So are its rapid charger network, remote software updates and vast troves of data from its drivers which, coupled with machine-learning algorithms, continually improve its software.

The latest boost for Tesla arrived last week. The list of car models eligible for tax credits from President Joe Biden's newly signed Inflation Reduction Act includes all four Tesla models currently on sale, but none from Hyundai and Kia.

A more accurate comparison can be made by looking at margins. Tesla's light business model means it runs fat operating margins of 16 per cent, more than double the 6 per cent for Hyundai, which is weighed down by much broader product lines and an aggressive trade union.

Stock valuations reflect this contrast, and diverging market expectations. Shares of Tesla trade at 60 times forward earnings, more than 10 times that of Hyundai. Hyundai's soaring electric car sales and the resulting record earnings in its latest quarter have done little to change the relative pessimism.

But Hyundai's pace of change has been much faster than expected. Its Ioniq 6 electric sedan can travel up to 610km (379 miles) on a single charge — longer than the Tesla's Model Y and Model 3 Long Range. Its Ioniq 5 electric SUV has become the best-selling imported electric car in the US. Remote software updates are starting to be rolled out.

> Hyundai's record earnings in its latest quarter have done little to change the relative pessimism

Prices are catching up, too. Tesla's cheapest Model 3 now sells for $46,990 following a price rise this year. Hyundai's Ioniq 6, launched last month, sells at a similar price range.

It is worth also looking at other industries, such as smartphones for example, for similar patterns. It was only when Samsung raised product prices and started competing in the same market segments as Apple, the market leader at the time, that market share and profits showed any significant growth.

In 2010, Samsung's share of the global market was less than 6 per cent compared with Apple's lead with more than a fifth. It took just two years after the launch of its higher-priced Galaxy smartphone series for Samsung to overtake Apple in terms of both worldwide handset sales and unit profits.

By the third quarter of 2013, Samsung's global smartphone market share had grown to almost three times that of Apple. To this day, the starting prices of Apple and Samsung's smartphones by product segment remain closely synced.

In the coming months, electric carmakers face an uphill battle to protect margins as costs rise. Prices of lithium, a key battery material, remain near historical highs. That has pushed the price of batteries up, to up to 60 per cent of the total cost of making an electric car. Tight margins at global battery suppliers suggest there will be no let up in battery prices. That leaves electric car makers to deal with the burden.

Here Hyundai has an advantage. A weaker Korean won, which has fallen 13 per cent against the dollar this year, translates to a boost of more than $1.6bn to the top line in the latest quarter. That has helped it absorb higher battery and component costs without taking a hit to margins. It uses local battery suppliers, meaning a more stable supply chain and lower currency fluctuation risks.

The weak won means Hyundai can continue to keep its car prices constant while preserving margins as its rivals are forced to pass on rising costs to consumers. When expectations are low, the upside potential, for sales volume and share prices, is high. Perhaps one of Hyundai's biggest advantages now is the fact that it has long struggled with low expectations.

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COMPANIES & MARKETS

Financials

AMG critical of asset managers' dash for scale

Sector consolidation has little to offer investors, argues boss Horgen

ADRIENNE KLASA

Consolidation in the asset management industry does not benefit investors, particularly in active management, according to the chief executive of Affiliated Managers Group.

The industry has experienced a wave of deals in recent years as fund managers grapple with a rapidly changing landscape of squeezed margins and fierce competition from cheap passive products offered by US giants such as BlackRock and Vanguard.

"You cannot consolidate talent," Jay Horgen, AMG's chief executive, told the Financial Times. "We don't think consolidation is good for clients, we don't think it's good for partners of the firm and we don't think it's good for employees at the firm. I'm not sure who it's good for ultimately.

"You might be creating value for shareholders at the expense of employees, partners and clients," said Horgen.

AMG, which has $691bn under management, operates a partnership model that buys stakes in fund managers including groups such as AQR, and Parnassus but allows them to operate independently.

Dealmaking in the industry hit a historic high in 2021 before levelling out to pre-pandemic levels in the first half of this year, according to PwC, consultants. That still meant an estimated 25,000 deals were struck in the space of six months.

But some of the highest-profile deals of recent years, such as the mergers of Janus Capital and Henderson Group, and Aberdeen Asset Management and Standard Life (now known as Abrdn), have been plagued by investor outflows while the companies have struggled to grow without acquisitions.

While scale might seem appealing for managers trying to find their place in an industry dominated by the likes of BlackRock, a wide waterfront approach to investing ran counter to the ethos of active management, Horgen said, leading firms to lose focus and investors to question the value of active management.

> 'You might be creating value for shareholders at the expense of employees, partners and clients'

As many in the industry have rushed to strike deals, the number of independent investment firms has also boomed. The number of investment advisory firms registered in the US more than doubled to 14,806 between 2000 and 2021, according to the Securities and Exchange Commission.

Horgen is not the first to question the rush to buy scale. Yves Perrier, chair of Amundi, has warned that acquisitions can never substitute for organic growth within a company. "If you do not have skills to bring to the target . . . you don't deliver synergies," he told the FT last year.

AMG has not been without its struggles. Revenues hit $604.1mn in the second quarter, a 3 per cent rise on a year earlier, but clients pulled $11.4bn in cash as volatile markets damped risk appetite, particularly in equities, the company said.

Its share price has fallen 17 per cent on a total return basis in the past year, slightly ahead of the 18 per cent average for the S&P 500 index for the asset management industry.

Mining. Political risk

Magnate aims to tear down Uruguay's 'Switzerland' image

Agarwal seeks redress after collapse of decade-long $3bn effort to develop ore project

MICHAEL STOTT — LONDON
LUCINDA ELLIOTT — MONTEVIDEO

Uruguay sells itself as the Switzerland of Latin America. Many businesspeople call it a beacon of sound government in a region beset by corruption and turmoil.

Pramod Agarwal, the Indian tycoon, describes that as "eyewash".

His decade-long attempt to develop a world-class iron ore mine in the country collapsed in 2016 amid acrimony, and he lost his entire investment of $365mn. A Paris appeal court is due to rule in October on whether a tribunal should hear his $3.5bn compensation claim.

"We would like Uruguay to realise that they have expropriated the asset," Agarwal said. "What they did was wrong . . . It's against all international law."

Uruguay has strongly rejected Agarwal's claims, saying that it was his fault that his Valentines project did not proceed, that there was no expropriation, and that he is not entitled to compensation. It defends the country's pro-business reputation.

The Uruguayan embassy in London said: "The reality is that Uruguay is a country friendly to investment because of its tradition of a consolidated system of law and respect for rules, which is recognised nationally and internationally."

The Valentines drill core shed. The project was developed by Aratirí, a unit

month." Mujica "used to meet me, give me his famous bear hug, and discuss the project . . . He used to get quite excited".

A spokesperson for Mujica, 87, said he

Agarwal said the site of the port required to ship the ore presented a complication.

"Mujica himself told me, 'You take this particular [site for a] port.' We

ernment was: "'We're done with the process. You just didn't get to the finish line. It's your fault'. That's how they effectuated the expropriation."

Once Aratirí's negotiation period

> 'They have expropriated the asset.

Liliana Buchtik, a risk consultant in Montevideo, noted that mining was "not a very developed industry" in Uruguay. "Perhaps the previous government was too ambitious to think we could have a project of such scale. Mining is not a popular industry among Uruguayans generally."

Diplomats in Montevideo also had doubts. One recalled: "There was a certain amount of scepticism about the capacity of Uruguay to deliver a project of this scale. I don't think either side fully understood the capacity of the other to do what was required."

Despite Uruguay's attempts to promote itself as an investment haven, foreign money has not poured in over recent years. According to figures from the central bank, the stock of foreign direct investment has fallen from a peak of $33.4bn in 2014 to $29.6bn in 2020.

Agarwal had experienced a legal dispute before, when Zamin litigated in London against ENRC, the Kazakh miner, over part of the payment for the $730mn sale of its stake in a Brazil project in 2010. That ended with a settlement but his arbitration claim against Uruguay has proved more tortuous.

Agarwal filed his claim in 2017 under the investment protection treaty between the UK and Uruguay. The case rested on the fact that the company controlling the Uruguayan assets was held by a Caymans trust in the name of Agarwal's children, who are UK nationals.

In 2020, the arbitration tribunal ruled that since the children's interest in the

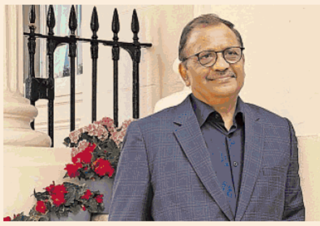
Agarwal's move is not only an attack on the country's investment-friendly reputation; it raises questions about whether a big mining project can succeed in a mainly agricultural country.

Developed by Aratirí, a subsidiary of Agarwal's Zamin Ferrous, Valentines was to be one of the biggest high-grade iron ore mines, and at $3bn, it would have been the largest foreign investment in Uruguay. Traditionally a farming and tourism nation, Uruguay has recently built a reputation as a tech hub — Microsoft chose the country as a location for one of its AI centres — but has little history in mining.

Agarwal hoped to change that when he opened talks in 2006. Reserves in the Valentines deposit were proved to be 2.5bn tonnes. Production was intended to start in 2015 with the ore pumped through an underground pipeline to a specially built port at a rate of 18mn tonnes a year, increasing to 36mn. At that capacity, it would have produced more than Anglo American's Minas-Rio mine in Brazil and generated billions of dollars in royalties over its 20- to 30-year lifespan.

José Mujica, Uruguay's president at the time, welcomed the project, according to Agarwal. They met "maybe 15" times. "I used to go to Montevideo every

of the Zamin Ferrous business of Pramod Agarwal, below, who lost $365mn



was not taking media requests because of his wife's ill-health. Uruguay's London embassy said Agarwal's account of Mujica's actions was "an affirmation which does not correspond to reality". Uruguay's mining ministry declined to comment. No further details were provided by the office of Luis Lacalle Pou, the current president.

At the heart of the dispute is Agarwal's allegation that the government's requirements for the Valentines project kept changing. He believes this was because of advisers who were more leftwing than the then president, a former guerrilla who adopted a modest lifestyle in office and earned an international reputation for humility.

spent a fortune to do an environmental impact study and feasibility study."

Then, Agarwal claims, the government decided it wanted a bigger port that could handle other types of cargo and ordered him to develop it in a different place, requiring fresh studies.

A mining law passed in 2013, following an earlier move to increase fees and government royalties, was a bone of contention. It required large projects to pay a yearly fee, a 25 per cent tax on corporate profits, and another tax of up to 38 per cent on profits. It toughened environmental standards.

"While this was a neutral law on its face, the only project at the time which qualified was the Zamin Valentines project," said Viren Mascarenhas, Agarwal's lawyer. "This law imposed certain onerous conditions, but also required that the government and the applicant execute a concession contract within a certain time. What the government did then . . . was they ran [down] the clock on the negotiations so that . . . they could walk away."

He said Agarwal could not finalise the negotiations because Montevideo kept changing the port site, triggering a need for fresh studies on feasibility and environmental impact and making it impossible to meet the deadline. By 2015, Mascarenhas said the message from the gov-

lapsed in November 2015, Uruguay proceeded to register Aratirí's areas in the Vacancies Registry and to revoke the group's mining titles, using provisions of the new mining law.

In 2016, Agarwal tried unsuccessfully to sell his mining rights.

"Uruguay then made it impossible for Aratirí to nominate a successor, thus completing its destruction and takeover of Aratirí's project," said Enrique Molina, another of Agarwal's lawyers.

Uruguay's leadership had also changed. In 2015 Tabaré Vázquez took office as president, and Agarwal said that unlike Mujica, Vásquez had no interest in meeting. Vásquez died of cancer months after leaving office in 2020.

Those in Montevideo who have followed the case are divided about what it says about the ease of investing in the country, especially given the scale of the project.

Marcelo Mercant Santa Cruz, president of the British-Uruguayan chamber of commerce, said the project was an "exception" to a generally very favourable business environment in Uruguay. It was a "complex project in an industry which has caused its share of controversy". What some businesspeople saw as slowness "is in fact part of the guarantees of the rule of law in Uruguay".

What they did was wrong'

'Perhaps it was too ambitious to think we could have a project of such scale'

trust did not in itself constitute an investment, they could not bring a compensation claim under the treaty.

The trust had shares in Zamin Ferrous, the parent controlling the Uruguayan mining assets, but neither the parent nor the trust were UK-based.

"Although some may view this as a dismissal on a technicality, BITs [bilateral investment treaties] by their terms have limits on who falls under their umbrella," said Sergio Galvis, who leads the Latin America practice at Sullivan & Cromwell, the US law firm. "This means investors seeking political risk protection through a BIT need to consider how their assets are held."

Agarwal is pinning his hopes on the Paris appeal court. If it rules that the arbitration tribunal erred in deciding it did not have jurisdiction to consider his claim, he will once again be able to fight for compensation.

The Indian magnate, who is based in the UK, said he no longer held any mining assets and claimed he had been ruined by the actions of Uruguay. He said he was forced to sell his Regent's Park mansion for £26mn in 2016 following his South American misfortune.

"The investment was made," said Agarwal. "The investment cannot just go poof. Somebody has to take responsibility."

Insurance

Ping An beats forecasts despite disruption

IAN SMITH — LONDON
TABBY KINDER — HONG KONG

Lockdowns and nervous consumers continue to disrupt sales at Ping An, China's largest insurer, hamstringing agents and reducing demand for long-term protection products.

Ping An, which boasts a $100bn market cap, is navigating the economic effects of the pandemic in its home market at the same time as fighting a battle with HSBC, using its position as largest shareholder to call for a break-up of the banking group.

The insurer delivered net profit of Rmb60.3bn ($8.8bn) in the first half of the year, up 4 per cent on the same period last year and more than a tenth ahead of analysts' expectations, according to Bloomberg data. James Garner, Ping An's group chief capital markets officer, hailed the unaudited results as a strong performance in a "challenging" environment.

Group revenue for the period fell from Rmb688bn in the first half of last year to Rmb668bn.

Volatile markets sapped turnover at the group's asset management business. The life and health insurance segment, the largest division in terms of profit, suffered from what Garner described as a double effect of weaker consumer demand for long-term protection products such as critical illness cover and sales activity being disrupted by flash lockdowns in cities across China.

Operating profit in the life and health segment rose because of improved customer retention. Agent numbers continued to fall at a slower pace as the company removed underperformers and is more selective about those it takes on.

In the property and casualty insurance division, a weaker combined ratio — claims and expenses as a proportion of premiums — was attributed to greater delinquencies in credit insurance.

Ping An's campaign to force HSBC to divide its Asian and western operations was made public in May, but the insurer has so far failed to gain any public support from the bank's other institutional shareholders. HSBC has issued a rebuttal to the demands of its largest shareholders, including at an investor meeting in Hong Kong in August.

Garner declined to be drawn further on the issue.

Technology

Yandex sells media assets to Kremlin-run group

MAX SEDDON — RIGA

Yandex has sold its news aggregator, blogging platform and homepage after facing criticism for supporting Kremlin narratives over the invasion of Ukraine.

The all-share deal, announced yesterday, in effect gives the Kremlin greater control over Russians' access to information while ridding Russia's largest technology company of its most problematic assets.

VK, the state-run social media group, will take over Yandex's media assets in exchange for Delivery Club, the food delivery app. Yandex said its board and management had "concluded that the interests of the company's stakeholders . . . are best served by pursuing the strategic exit from its media businesses".

Once known as Russia's Google, Nasdaq-listed Yandex had a market capitalisation of more than $30bn at its peak in November last year, and had made successful forays into areas such as streaming entertainment to food delivery.

But the war in Ukraine has roiled Yandex, forcing its top two executives to resign after the EU placed them under sanctions and prompting thousands of its staff to flee the country. The valuation fell to less than $7bn before trading was suspended early in the war.

Yandex has been accused of complicity in the war by promoting the Kremlin line on its news platform, which draws about 30mn visitors a month. The company declined to comment. Yandex hopes the sale will distance it as much as possible from the war, according to people familiar with the matter.

Users who visit Yandex's homepage, which, much like Google's, displays the top news stories in Russian media, will be redirected to a new site that unites the news and blogging platforms under VK's control. Yandex, which accounts for about 62 per cent of Russia's search market, will focus on a homepage, ya.ru, with only a query bar and widgets for traffic, weather and exchange rates.

Russia's media censor bans calling the war a "war" or "invasion", while people who question the Kremlin's version of events can face prosecution and a possible jail sentence of up to 15 years for "discrediting the Russian armed forces".

COMPANIES & MARKETS

Rally changes complexion of Revlon's bankruptcy

Minority investors demand formal voice in process after shares surge from $1 above $8

In the pink: the minority group believes Revlon is capable of a Hertz-style resurrection
Gabby Jones/Bloomberg

SUJEET INDAP AND MADISON DARBYSHIRE — NEW YORK

Meme is very much a four-letter word among a group of minority shareholders in Revlon. The investors will ask a federal judge this week to give them a formal voice in the cosmetics company's bankruptcy proceedings.

Revlon had fallen to about $1 a share when the bankruptcy reorganisation began two months ago but has since soared above $8, implying an overall market capitalisation of about $500mn.

Yet bond markets tell a different story. Revlon's junior debt still trades at distressed levels and, with 83 per cent of its stock owned by Ron Perelman, the wacky surge in its price appears to reflect the meme-stock phenomenon that has swept up the likes of AMC Entertainment, GameStop and most recently Bed Bath & Beyond.

The divergent valuations will be the subject of an argument between the minority shareholders and debt holders at a hearing in a New York bankruptcy court tomorrow.

In nearly all bankruptcies, shareholders are wiped out in a reorganisation. But the Revlon minority group is citing the case of Hertz, the car rental agency that went bankrupt early in the pandemic only to reorganise with legacy shareholders getting a $1bn payout as the underlying business recovered almost miraculously. The Revlon group contends that this outcome is plausible enough that they should get their own official committee in the bankruptcy.

"The Debtors may argue that Revlon is akin to a 'meme' stock whose stock price is unmoored from its fundamental value," the group wrote in a motion. "The Court should reject any such argument by the Debtors — who are duty bound to maximise value for all stakeholders, including equity — to short-circuit the stock price."

The small number of Revlon shares available to trade has more than doubled since the start of August, rising nearly 600 per cent from the lows of mid-June. When momentum accelerated, so did discussions on social media forums populated by retail investors.

Mentions of Revlon have proliferated on WallStreetBets, the popular Reddit forum where contributors posted Revlon's ticker symbol next to an emoji of a rocket on lift-off and another weighed in with its "short squeezeablility".

Meme stock share prices accelerate quickly as a small price push will cause quant strategy investors and momentum traders to buy up shares, and short sellers to cover their positions.

The appeal to Judge David Jones in the US bankruptcy court came after the Office of the US Trustee, which oversees the process, in July denied the request for an official equity committee. Lawyers for Revlon had from the outset told the court the process would be complex.

The company still did not know who constituted its creditors after Citigroup in 2020 accidentally repaid $900mn to Revlon lenders out of the bank's funds.

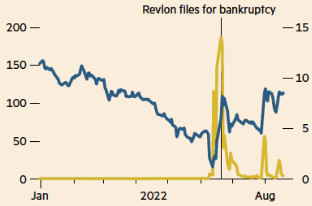
Christopher Mittleman of Mittleman Brothers Investment Management, a minority investor, recently wrote that the shares could reasonably be worth $10 each if the company is acquired by a rival that could extract synergies.

"The expectation of a positive recovery for existing equity in bankruptcies is usually the domain of delusional speculators, but I view Revlon as a liquidity driven [Chapter 11], not a truly insolvent entity," he wrote.

Also pushing for the official committee are Kevin Barnes and Adam Gui, distressed-debt investors who worked together in the bankruptcies of Latam Airlines and retailer Tuesday Morning.

Revlon stock

Trading volume (mn of shares) — Share price ($)



Source: S&P Global Market Intelligence

The bankruptcy is contentious among the debtholders who are, in line with bankruptcy law, to be repaid first before any proceeds for shareholders.

The most senior creditors own a $2bn loan secured against much of Revlon's intellectual property located in a subsidiary vehicle called BrandCo. The next highest-ranked loan, the subject of the Citi mishap, has a face value of $900mn.

Holders of $400mn of the loan returned their payments to Citi and now consider themselves Revlon creditors. Citi believes it has so-called subrogation rights that allow it to step into the shoes of lenders who did not return the mistaken payment to Citi and become a creditor of Revlon. Citi recently sued in the bankruptcy court requesting the judge confirm the subrogation rights.

Revlon's most junior debt, $430mn of unsecured bonds, is trading at just 10 cents on the dollar, indicating that those bondholders expect to be impaired, leaving no value for shareholders.

In filings for an official committee, the minority group was wary of the dominant shareholder: "There is no assurance that Mr Perelman and his affiliates will act for the benefit of minority equity holders, rather than his own parochial interests."

The group's lawyers maintained that the $900mn loan may not even count as debt any more since Citi's accidental repayment legally relieved all of Revlon's responsibility and in turn left that value for current Revlon shareholders.

'The court could say the market is bonkers but rejecting evidence like that really opens up a can of worms'

Over the weekend, Revlon said an official minority shareholder committee would waste company cash in lawyers' fees while other constituencies, such as Perelman or the unofficial committee of unsecured creditors could advocate for minority shareholders.

It also reminded the minority shareholders that Revlon debt remained distressed, implying its equity was worthless regardless of the rally.

Experts said the decision before the judge was a tough call.

"These cases with equity prices propped up by retail traders while the debt, which is mostly traded by allegedly more sophisticated activist hedge fund types, pose a significant challenge for bankruptcy judges," said Jared Ellias, a professor at Harvard Law School. "Do you go with the retail investors when it seems probably their trading is based on being misinformed?"

Anthony Casey, a law professor at the University of Chicago, believes market forces cannot be easily ignored.

"Rightly or wrongly, the market thinks there is value," he said. "The court could say the market is bonkers, but rejecting markets evidence like that really opens up a can of worms."

Fixed income. Volatility

Investors struggle to trade debt without ECB safety net

Bond-buying programme by central bank had shored up

German bond market volatility rises

Days in which 10-year Bunds moved in at least 0.1 percentage point range

tinent. "Issuers will need to navigate volatile windows" if they want to come to market, she said, adding that "it cer-

Asset management

Intel agrees chip plant deal with Brookfield

ANTOINE GARA — NEW YORK
ANNA GROSS — LONDON

Intel has struck a partnership with Brookfield Infrastructure Partners to fund development of a $30bn semiconductor fabrication plant in Arizona.

The deal has been agreed as Intel works to finance construction on large domestic factories following passage of Joe Biden's Chips Act.

Brookfield is investing $15bn for a 49 per cent stake in Intel's expansion of its Arizona site, and brings experience in developing assets such as transmission lines, data centres and wireless cell towers. Intel, which described the partnership as a "new funding model to the capital-intensive semiconductor industry" will retain a 51 per cent stake.

"Our agreement with Brookfield is a first for our industry, and we expect it will allow us to increase flexibility while maintaining capacity on our balance sheet to create a more distributed and resilient supply chain," said David Zinsner, Intel chief financial officer.

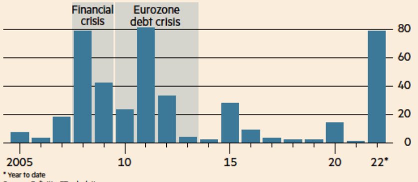
The expansion is part of a concerted effort by Intel to boost its chip manufacturing as the company seeks to take back market share from companies such as TSMC in Taiwan and South Korea's Samsung.

By taking in the Canadian asset management group as a large private capital

Intel is striving to take back market share from

region's markets – until now

NIKOU ASGARI — LONDON



* Year to date
Sources: Refinitiv; FT calculations

German government bonds are recording their biggest swings since the eurozone debt crisis a decade ago as the European Central Bank's withdrawal strips the market of one of its most important buyers.

The deteriorating trading conditions have led to a strong uptick in volatility in a market that acts as a yardstick for borrowing costs across the region.

The yield on Germany's 10-year Bund has moved in at least a 0.1 percentage point range on 79 days this year, according to Financial Times calculations based on Refinitiv data. Bund yields have not swung in such a wide range so regularly since 2011 and only did so on one day last year.

Liquidity in the region's bond markets, the ability to trade debt easily, has been hampered by fears about a looming recession, with many growing bearish about the outlook as the ECB raises interest rates to curb soaring inflation.

"Market conditions are impaired in the bond markets," said Antoine Bouvet, senior rates strategist at Dutch bank ING. "Everyone has the same view, so no one's willing to take the other side."

ECB rate-setters have been signalling that another half percentage point rate rise is probable at its September 8 meeting after a similar move last month. "Even if we entered a recession, it's unlikely inflationary pressures will abate by themselves," ECB executive board member Isabel Schnabel said last week.

German central bank chief Joachim Nagel warned at the weekend that inflation in Europe's largest economy was likely to surpass 10 per cent for the first time in 70 years. "With the high inflation rates, further interest rate hikes must follow," he said.

At the same time, traders can no longer rely on the ECB as a guaranteed bond buyer of last resort, after the bank removed a critical safety net this year with the halting of its €1.7tn pandemic-era asset-purchasing programme and its main €3.3tn bond-buying scheme.

Italian bonds have also endured significant fluctuations in recent months. The spread between German and Italian 10-year yields, seen as a key gauge of risk, was close to 2.3 percentage points on Monday, its highest level for almost a month, highlighting anxiety over the outcome of Italy's election next month and expectations of further ECB rate rises.

Higher rates and the prospect of a protracted global slowdown have prompted fund managers to reassess their portfolios, with many pulling money out of bond markets where value is being eroded by inflationary pressures. Some are instead sitting on cash, awaiting data releases for clues about the trajectory of European and US economies. Germany's 10-year Bund yield has, for example, soared to 1.3 per cent from minus 0.18 per cent at the end of 2021.

Market activity typically eases during the summer months. But Bouvet said that even before entering the seasonal August lull, "the liquidity in the bond market was getting worse because of macro uncertainty [and] risk appetite being much more reduced".

Poor liquidity has fuelled greater volatility, with bond prices swinging on ostensibly small developments and news. "[There are] large pricing moves on not a lot and you also get a bit of dislocation," said Lyn Graham-Taylor, senior rates strategist at Rabobank.

Snigdha Singh, co-head of European fixed income, currencies and commodities trading at Bank of America, noted there were now fewer new sovereign and company bond deals across the con-

Central Bank can no longer be relied upon as a bond buyer of last resort
Michael Probst/AP

'[There are] large pricing moves on not a lot [of news] . . . and a bit of dislocation'

tainly is conceivable that we could see some deals being postponed".

Liquidity woes in debt markets have not been confined to the eurozone this year. Participants in the $23tn US Treasury market have also faced significant challenges, with William Marshall at Wall Street investment bank Goldman Sachs noting that US "market liquidity has been a prominent theme in rates [government bonds] this year".

Craig Inches, head of rates and cash at Royal London Asset Management, said the global bond market conditions had led to rising bid-offer spreads, denoting the difference between the immediate sale price of an asset and its purchase price. Bid-offer spreads tend to expand during volatile markets and a wider gap usually points to worsening liquidity.

"Bid-offer spreads have become really quite large, especially when markets are moving quite quickly," said Inches. "There may be an element where we get shown a price where we'd rather not pay that price to transact that trade."

For now, central banks have ended bond-buying, or quantitative easing, but have not yet started to sell what they have on their books. Investors are divided over the likely impact of "quantitative tightening" when it happens, and are waiting with bated breath for the Bank of England to sell gilts into the market next month with a view to shrinking its balance sheet.

"When you have a major player pushing the market in a certain direction, that's a problem," said Bouvet. "That is spooky for any investors . . . Who's going to take the other side of that and at what price?"

companies in Taiwan and South Korea

partner, Intel said the deal would provide it with financial flexibility to continue funding its rising dividend. The partnership is expected to bolster Intel's free cash flow by $15bn over the next several years, the company said.

The announcement comes on the heels of the passage of the Chips Act this month, which included $52bn in incentives for the US semiconductor industry. Congress is also considering another piece of legislation to establish tax credits for semiconductor investments inside the US.

"This landmark arrangement is an important step forward for Intel's Smart Capital approach and builds on the momentum from the recent passage of the Chips Act in the US," Zinsner said.

Intel has two plants under construction at its site in Chandler, Arizona, which are expected to come online in 2024.

It announced plans earlier this year to invest $20bn to build two chip factories at a new site in Ohio. The company has also said it plans to pour $30bn into chip manufacturing in Europe, utilising state subsidies to build a new plant in the German city of Magdeburg.

The tech group surprised investors last month when it reported a sharp drop in revenues and slashed its outlook for the financial year, attributing the weaker than anticipated performance to supply chain disruptions, worsening economic conditions and pressure from competitors.

Crypto

Andreessen in Web3 bet to curb Big Tech influence

CRISTINA CRIDDLE, JOSH GABERT-DOYON AND JOHN THORNHILL — LONDON

Andreessen Horowitz, the Silicon Valley venture capital group, is betting on crypto to break up the excessive concentration of Big Tech power that the firm played a prominent role in creating, one of its leading partners has said.

Chris Dixon, founder of Andreessen's crypto arm, said the internet had led to power being held by a handful of companies including Facebook and Twitter, which the venture capital group backed at an early stage.

"I don't think any of us expected this level of concentration," he told the Financial Times's Tech Tonic podcast. "I don't think this is a good outcome, both societally and from a business point of view, as our business is investing in entrepreneurs . . . the idea of having the internet controlled by five companies is very bad for entrepreneurs and for VCs."

His comments come as the firm is seeking to hone a new investment strategy built on cryptocurrencies and digital tokens to replace the traditional equity investments made by VC firms, and create a new, community-led model for investing in high-growth start-ups.

Proponents of the Web3 movement claim decentralisation will shift the balance of power from centralised platforms and towards users.

However, critics warn firms such as Andreessen will use the new technology to create a new generation of internet gatekeepers.

"The web is just becoming re-centralised in the hands of a small few investors, or in some cases the same exact people who hold so much power in the current web," said Molly White, a software engineer and critic of Web3.

The venture capital firm's co-founder Marc Andreessen is one of Facebook owner Meta's longest-serving board members. The firm made $78mn from its seed investment in Instagram when it was acquired by Facebook in 2012, a 300 per cent return, invested $80mn in Twitter before it went public and was among the backers of Elon Musk's initial bid for the platform earlier this year.

Dixon believes blockchain technology offers safeguards against anti-competitive activity by building rules into smart contracts written into the computer code.

"Of course, [business people] will try to create monopolies and big businesses and maximise shareholder value," he added. "What we can do to create a better internet is create new systems where the network effects accrue to the community instead of to companies."

Since its crypto fund was launched in 2018, Andreessen has raised more than $7.6bn to invest in cryptocurrencies and related technology companies.

Instead of receiving traditional equity, it has been investing in tokens, a form of digital asset built on the blockchain, which can be traded.

"It is a completely different kind of economic model in Web3 in which our investments are mostly in tokens instead of companies," Dixon said. "And that was a big change. That is a big part of why we created a separate crypto fund . . . it requires a whole different legal structure."

Chris Dixon: claims decentralisation will shift power to communities

Andreessen's portfolio includes the crypto exchange Coinbase, NFT marketplace OpenSea, and Flowcarbon, a crypto carbon credit venture set up by former WeWork chief Adam Neumann.

Dixon said crypto was an opportunity for new entrepreneurs and start-ups, as companies such as Amazon and Google focus on other emerging technologies such as AI and virtual reality.

"I've seen no evidence that [dominant] companies will muscle in," he added. "We have a much wider berth for our start-ups to operate, as compared to areas like AI and virtual reality, where the incumbents are making significant investments."

While crypto values had been in a downturn since late last year, the market plunged in May after the collapse of the TerraUSD stablecoin. Instability drove the price of bitcoin to pre-pandemic levels and aided the collapse of some crypto lenders and hedge funds.

Dixon said lower prices following the downturn had made Web3 investments more appealing.

Additional reporting by Jemima Kelly

Commodities

US gas falls from highs after Freeport delays facility plans

JUSTIN JACOBS — HOUSTON
DAVID SHEPPARD — LONDON

US natural gas prices fell from their highs yesterday afternoon after Freeport LNG delayed plans to restart its facility, which accounts for about a fifth of total US LNG exports, from October to "early to mid-November". The facility has been offline since an explosion in June forced it to shut down.

The Henry Hub benchmark fell as low as $9.05 a million British thermal units on the news, down nearly 10 per cent from highs hit earlier in the day. Expectations that the plant's restart was nearing, which will lift demand further, had helped fuel the rise in natural gas prices.

The company said the initial start-up would produce at below full capacity and now did not expect the plant to reach maximum output again until March 2023.

Utilities, industries and traders in the US and abroad are scouring markets to meet soaring gas demand and fill storage sites before the winter heating season, worried over further cuts to Russian supplies into Europe.

Gas prices in Europe are far higher than in the US as fears of severe winter shortages grip the market, spreading concerns that energy costs will tip economies into recession.

Prices on the continent on Monday hit an intraday record of €295 a megawatt-hour, which is equivalent to roughly $79/mn Btu, although they eased slightly yesterday.

James Huckstepp, an analyst at S&P Global Commodity Insights, said hot temperatures and low output from wind power generators in Europe were also helping to drive prices higher. "The recent hot, dry and relatively still weather is as bullish as it gets," he said.

Gas prices in Europe are far higher than in the US as fears of severe winter shortages grip the market

Heatwaves this summer have sent demand from gas-fired power plants to record highs as electricity generators increase output to meet demand for air conditioning, the US Energy Information Administration said yesterday.

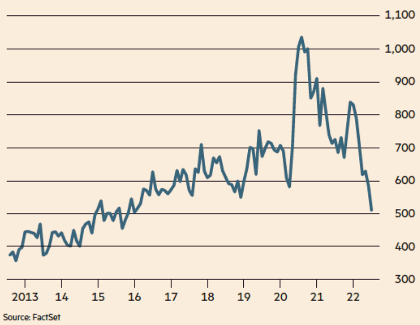
COMPANIES & MARKETS

The day in the markets

What you need to know

- Dollar and short-dated Treasury bonds fall on business and home sales gloom
- Wall Street steady after Monday's fall
- Euro rises while continent's shares edge down

US new home sales slide
Annualised rate ('000s units)



Source: FactSet

The dollar and short-dated US government bond yields dropped yesterday after worse than feared business activity surveys and home sales data sparked fresh concerns over the health of the US economy.

An index of the greenback against half a dozen peers fell 0.6 per cent in New York trading, reversing a powerful gain in the previous session. The euro, which is by far the biggest weight in the dollar index, rose 0.3 per cent to $0.9975, having earlier traded as low as $0.9901.

In fixed-income markets, the yield on two-year US Treasuries, which reflect expectations for monetary policy, slid 0.08 percentage points to 3.25 per cent.

The falls are a reversal from Monday when expectations that Federal Reserve policymakers will take a hawkish stance at this week's economic symposium in Jackson Hole, Wyoming, sent the dollar and short-term bond yields rising.

Sales of new homes fell 12.6 per cent in July to an annualised rate of 511,000 units, the commerce department reported. Analysts had anticipated a far smaller drop of 2.5 per cent, according to a Refinitiv survey.

Separately, a survey of executives low of 44.1 in August, from 47.3 the previous month, much worse than the rise to 49.2 that was expected. A reading below 50 is a contraction.

"August flash PMI data signalled further disconcerting signs for the health of the US private sector," said Siân Jones, senior economist at S&P Global Market Intelligence. "Demand conditions were dampened again, sparked by the impact investors bet signs that the US economy may avoid a sharp slowdown would give the Fed the green light to continue with aggressive rate rises.

The S&P 500 was down 0.1 per cent by midday in New York, with the tech-heavy Nasdaq Composite up 0.1 per cent. Europe's Stoxx 600 share index closed 0.4 per cent lower.

The moves came ahead of the Jackson

Time has come for 'confidence diversification'

Peter Atwater
Markets Insight

After the sharp sell-off in stocks, bonds, real estate and most other major asset classes this year, many investors will be asking hard questions about their portfolios.

Even for conservative investors it isn't a question of if they lost money, but how much, despite recent rebounds. Money managers have plenty of exogenous events and macroeconomic factors to point to that help explain this: the war in Ukraine, soaring inflation, a European energy crisis, a global slowdown, not to mention the lingering supply chain impacts of Covid-19, a soaring dollar and rising geopolitical tensions. There's a long and all-too-familiar list of "who could possibly have imagined" reasons.

Likely to be missing from this summer's discussions, though, will be any mention of 2021. Consumed by this year's challenges, we've all but forgotten the wild excesses that preceded them: the retail investor frenzy that drove up were most severely punished this year were the very last arrivals to the party. Bubbles have a funny "last in, first out" quality to them. The last in tend to leave first violently. We've seen plenty of that. If this is the beginning, there will be further well-rationalised declines ahead.

The second reason has the potential to be even more pernicious. Today's balanced portfolio construction practices presume asynchronous markets, that stock and bond prices, for example, move in opposite directions. They never anticipated a synchronous peak in stock and bond prices, let alone in most major asset classes and in most markets world-

'A balanced portfolio needs investments that reflect a wide mix of feelings from euphoria to despair'

mix of assets investors hold, per se, but from the mix in investor sentiment underlying those assets. To successfully create confidence diversification, then, a balanced portfolio needs investments that reflect a wide mix of feelings from euphoria to despair, where individual pieces of pie are warming and cooling at the same time. If investor confidence is mirrored in valuations, the result should be a portfolio balanced not by asset type, but by its composition of cheap and expensive assets

This may feel like a fool's errand, especially given the extreme emotion and impulsivity we've seen recently in the markets. What's hot one day suddenly seems ice cold the next. But these "all-in or all-out" actions only add urgency to the need to reconsider what provides portfolio balance. So does the risk of a continued synchronous sell-off in equities and fixed income. Investors who once thought they would be protected by a balanced portfolio will be showed that a fall in business activity in the vast American services sector accelerated unexpectedly this month.

The S&P Global services purchasing managers' index came in at a 27-month

of interest rate hikes and strong inflationary pressures on customer spending, which weighed on activity."

Wall Street stocks were steadier after falling sharply in the previous session as

Hole central bankers' symposium, at which Fed chair Jay Powell is expected to underline a commitment to raising interest rates to tackle stubborn inflation. **Adam Samson and Naomi Rovnick**

obscure stocks such as GameStop to extreme heights, how some $18tn of bonds were trading at one stage with negative yields, the rush to invest in blank-cheque Spac investment vehicles. Remember dogecoin, a cryptocurrency designed as a joke that surged 15,000 per cent before crashing?

This may seem like an uncomfortable walk down memory lane, but it wasn't all that long ago that pundits were suggesting we were at the climax of an "Everything Bubble". And there are reasons we should keep such times in mind.

The first is the possibility that this year's well-rationalised market drop is nothing more than the beginning of the Everything Bubble Burst, with recent gains an interlude in a broader bearish trend. Most of the investments that

wide at once, like we just witnessed. There was supposed to be a diversification benefit in those bright-coloured multi-slice pies served up to investors, as different asset classes moved up and down independently. Balanced portfolios were meant to hold a mix of correlated and uncorrelated assets.

While balanced investors thought they did, in terms of investor sentiment last year, they owned but one asset: euphoria. Every piece of the pie was piping hot. There was no "confidence diversification". Moreover, this year's No Place to Hide sell-off and across-the-board rally suggests that remains the case. It's still an all-one-mood market.

The lockstep price action we've seen cautions that the real benefit of portfolio diversification may arise not from the

punished by it.

Asset managers are hoping that the recent rebound in stocks and bond prices will continue, lifting all ships anew. They need to be careful what they wish for. Those who live by a lack of confidence diversification run the risk of being impaled by it should investor mood turn down anew.

The future may be unknown, but what is certain is that investor demand, asset prices and investor confidence move as one. For balanced investors to better navigate whatever is ahead, they must mix up the mood in what they now own.

Peter Atwater is an adjunct lecturer at William & Mary and author of the forthcoming book, The Confidence Map

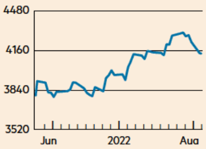
Markets update

	US	Eurozone	Japan	UK	China	Brazil
Stocks	**S&P 500**	**Eurofirst 300**	**Nikkei 225**	**FTSE100**	**Shanghai Comp**	**Bovespa**
Level	4135.41	1701.17	28452.75	7488.11	3276.22	112178.51
% change on day	-0.06	-0.43	-1.19	-0.61	-0.05	1.52
Currency	**$ index (DXY)**	**$ per €**	**Yen per $**	**$ per £**	**Rmb per $**	**Real per $**
Level	109.109	0.999	136.250	1.185	6.851	5.090
% change on day	0.058	0.201	-0.682	0.509	0.176	-1.877
Govt. bonds	**10-year Treasury**	**10-year Bund**	**10-year JGB**	**10-year Gilt**	**10-year bond**	**10-year bond**
Yield	3.002	1.314	0.217	2.574	2.639	12.737
Basis point change on day	-2.030	1.000	-0.880	6.000	1.300	-9.600
World index, Commods	**FTSE All-World**	**Oil - Brent**	**Oil - WTI**	**Gold**	**Silver**	**Metals (LMEX)**
Level	418.39	99.86	93.65	1733.25	18.90	3840.60
% change on day	-0.11	4.87	5.05	-1.00	-1.74	-0.25

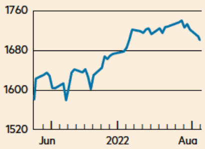
Yesterday's close apart from: Currencies = 16:00 GMT; S&P, Bovespa, All World, Oil = 17:00 GMT; Gold, Silver = London pm fix. Bond data supplied by Tullett Prebon.

Main equity markets

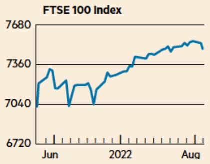
S&P 500 index



Eurofirst 300 index



FTSE 100 index



Biggest movers

%	US		Eurozone		UK	
Ups	Halliburton	8.15	Saipem	10.97	Antofagasta	3.29
	Occidental Petroleum	7.07	Tenaris	8.84	Shell	3.28
	Apa	6.85	Omv	5.86	Anglo American	3.14
	Schlumberger	6.80	Galp Energia	3.98	Glencore	2.80
	Marathon Oil	6.17	Eni	3.75	Bp	2.32
Downs	Twitter	-5.16	Grifols	-3.15	Ocado	-5.02
	Medtronic	-3.46	Reed Elsevier	-3.01	Informa	-4.40
	Biogen	-2.91	A.p. Moller - Maersk B	-2.87	Smiths	-3.70
	Vertex Pharmaceuticals	-2.80	Dassault Systemes	-2.69	Sage	-3.28
	Teleflex	-2.51	L'oreal	-2.61	Relx	-3.11

Prices taken at 17:00 GMT. Based on the constituents of the FTSE Eurofirst 300 Eurozone. All data provided by Morningstar unless otherwise noted.

Wall Street

Video-conferencing company **Zoom** sank after reporting second-quarter results described as "disappointing" by UBS.

An 8 per cent year-on-year rise in revenue to $1.1bn was shy of the consensus estimate of $1.12bn and guidance was also cut, with Zoom forecasting annual sales between $4.39bn and $4.4bn, down from the $4.53bn to $4.55bn stated in May. Kelly Steckelberg, chief financial officer, said Zoom was "not immune to the global downturn" and was navigating headwinds including the "strengthening dollar".

Energy companies tracked an uptick in oil prices, with **Halliburton**, **Occidental**, **Marathon**, **Diamondback**, **Baker Hughes** and **Devon** all rallying.

The lift in crude was spurred by a Bloomberg article in which Saudi Arabia's energy minister, Prince Abdulaziz bin Salman, said "extreme" volatility was disengaging prices from fundamentals, which could lead Opec to tighten output.

Twitter sank after its former security chief claimed it misled regulators over its cyber security precautions and fake accounts; allegations that threatened to weaken its case against Elon Musk, who is trying to pull out of buying the network.

The Tesla chief has accused Twitter of disclosing "false and misleading" information about the number of fake and spam accounts. *Ray Douglas*

Europe

Swedish technology service group **Semcon** surged on news that Finnish peer **Etteplan** had submitted a takeover offer of SKr149 per share — a 32 per cent premium on Monday's closing price.

Semcon's largest shareholder, JCE Group, with a 25.9 per cent stake, had already accepted the bid, as had other big investors who owned around 21.7 per cent of the company.

The suitor said the two groups would partially complement each other, "with Etteplan especially strong within the industrial sector, and Semcon within the automotive and life sciences sectors".

The combination would create "significant" synergies, currently estimated to be more than €5mn annually, added Etteplan, which also jumped following the announcement.

The acceptance period for the deal, which valued Semcon at SKr2.69bn ($252.5mn), would end on October 6.

German real estate group **Tag Immobilien** rose on signs it was making solid progress in vacancy reduction.

The vacancy rate for its residential units hit 5.2 per cent in June, with a further improvement of 5 per cent in August. This helped like-for-like rental growth hit 2 per cent in the second quarter. Berenberg expected the value of Tag's portfolio to remain solid as demand rose for its affordable flats. *Ray Douglas*

London

Guidance that fell short of expectations weighed on **Wood Group**, the energy services company.

Full-year revenue was expected to land between $5.2bn and $5.5bn, below Citi's estimate of $5.6bn, while half-year operating profit (before exceptional items) slid 8.9 per cent to £41mn.

Russ Mould, investment director at AJ Bell, said Wood had yet to capitalise on the surge in energy prices this year.

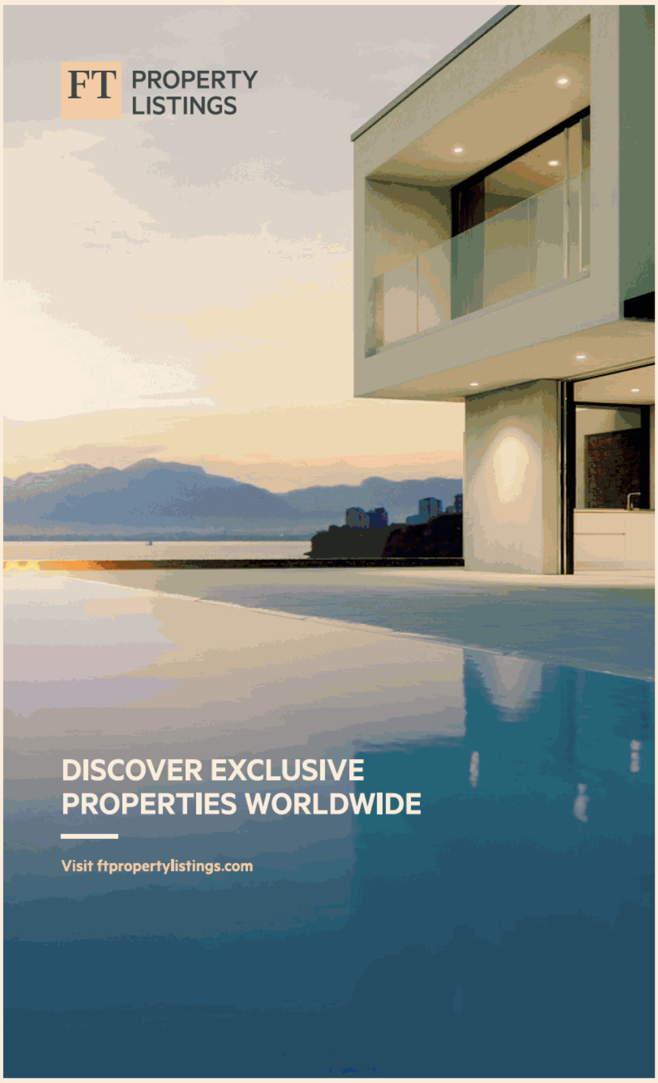
"Often there is a lag between a recovery in the oil and gas market and any increase in industry spend," said Mould, but "the danger for Wood is that a weaker economic outlook puts businesses off sanctioning major developments".

Travel retailer **On the Beach** leapt following news that Simon Cooper, its chief executive, had on Friday bought 1.5mn shares through Hawksford Trustees Jersey at 129.54p each.

Following this purchase, Cooper's stake in the company was 5.6 per cent.

Education-technology group **RM** tumbled after swinging to a statutory pre-tax loss of £7.2mn for the six months ending May 31 compared with a profit of £2.9mn for the same period a year earlier.

It said the rollout of a new IT platform was "proving more challenging than anticipated, leading to extended timelines and increased project cost". *Ray Douglas*



MARKET DATA

WORLD MARKETS AT A GLANCE

FT.COM/MARKETSDATA

Change during previous day's trading (%)

S&P 500	Nasdaq Composite	Dow Jones Ind	FTSE 100	FTSE Eurofirst 300	Nikkei	Hang Seng	FTSE All World $	$ per €	$ per £	¥ per $	£ per €	Oil Brent $ Sep	Gold $
-0.06%	0.15%	-0.39%	-0.61%	-0.43%	-1.19%	-0.78%	-0.11%	0.201%	0.509%	-0.682%	-0.237%	1.23%	-1.00%

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

AMERICAS

Jul 24 - - — Index — All World

S&P 500 — New York

Day -0.06% Month -6.73% Year -11.45%

Nasdaq Composite — New York

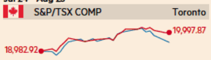
Day 0.15% Month -7.23% Year -23.37%

Dow Jones Industrial — New York

Day -0.39% Month -5.23% Year -10.21%

Jul 24 - Aug 23 — Index — All World

S&P/TSX COMP — Toronto



Day -0.06% Month -9.84% Year -6.47%

IPC — Mexico City

Day -0.39% Month -7.31% Year -5.23%

Bovespa — São Paulo

Day 1.52% Month -11.14% Year -21.26%

EUROPE

Jul 24 - Aug 23 — Index — All World

FTSE 100 — London

Day -0.61% Month -5.00% Year 0.44%

FTSE Eurofirst 300 — Europe

Day -0.43% Month -6.91% Year -9.00%

CAC 40 — Paris

Day -0.26% Month -9.62% Year -8.86%

Jul 24 - Aug 23 — Index — All World

Xetra Dax — Frankfurt

Day -0.27% Month -0.77% Year NaN%

Ibex 35 — Madrid

Day -0.71% Month -8.45% Year -7.31%

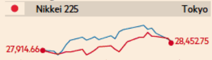
FTSE MIB — Milan

Day 0.97% Month -13.95% Year -14.96%

ASIA

Jul 24 - Aug 23 — Index — All World

Nikkei 225 — Tokyo

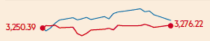


Day -1.19% Month -5.14% Year -9.83%

Hang Seng — Hong Kong

Day -0.78% Month 5.78% Year -24.49%

Shanghai Composite — Shanghai



Day -0.05% Month 7.58% Year -5.67%

Jul 24 - Aug 23 — Index — All World

Kospi — Seoul

Day -1.10% Month -13.64% Year -30.07%

FTSE Straits Times — Singapore

Day -0.50% Month -4.28% Year -0.96%

BSE Sensex — Mumbai

Day 0.44% Month -5.30% Year 0.91%

Country	Index	Latest	Previous
Argentina	Merval	135344.34	132252.56
Australia	All Ordinaries	7199.20	7287.20
	S&P/ASX 200	6961.80	7046.90
	S&P/ASX 200 Res	5513.10	5495.30
Austria	ATX	2985.54	2954.65
Belgium	BEL 20	3703.38	3736.60
	BEL Mid	9852.70	9933.22
Brazil	IBovespa	112178.51	110500.53
Canada	S&P/TSX 60	1207.64	1210.67
	S&P/TSX Comp	19963.90	19974.92

Country	Index	Latest	Previous
Cyprus	CSE M&P Gen	68.46	68.68
Czech Republic	PX	1201.78	1201.19
Denmark	OMXC Copenahgen 20	1717.17	1738.43
Egypt	EGX 30	10246.24	10339.58
Estonia	OMX Tallinn	1819.50	1816.01
Finland	OMX Helsinki General	10874.74	10825.82
France	CAC 40	6362.02	6378.74
	SBF 120	4914.38	4926.95
Germany	M-DAX	25964.56	26009.69
	TecDAX	2999.72	3041.49

Country	Index	Latest	Previous
Italy	FTSE Italia All-Share	24456.68	24235.03
	FTSE Italia Mid Cap	39354.36	39156.47
	FTSE MIB	22380.06	22165.66
Japan	2nd Section	7228.27	7239.06
	Nikkei 225	28452.75	28794.50
	S&P Topix 150	1694.54	1715.45
	Topix	1971.44	1992.59
Jordan	Amman SE	2561.43	2566.13
Kenya	NSE 20	1779.19	1789.45
Kuwait	KSX Market Index	6633.44	6603.51

Country	Index	Latest	Previous
Philippines	Manila Comp	6618.38	6704.41
Poland	Wig	53815.64	53368.61
Portugal	PSI 20	6266.97	6269.44
	PSI General	4917.52	4935.56
Romania	BET Index	12345.45	12457.73
Russia	Micex Index	2436.57	2445.30
	RTX	1245.71	1212.57
Saudi-Arabia	TADAWUL All Share Index	12560.48	12554.50
Singapore	FTSE Straits Times	3246.21	3262.57
Slovakia	SAX	358.20	358.06

Country	Index	Latest	Previous
Taiwan	Weighted Pr	15095.89	15277.86
Thailand	Bangkok SET	1633.57	1615.82
Turkey	BIST 100	3123.85	3062.49
UAE	Abu Dhabi General Index	9222.93	9251.11
UK	FT 30	2504.10	2533.40
	FTSE 100	7488.11	7533.79
	FTSE 4Good UK	6773.30	6824.11
	FTSE All Share	4108.39	4136.51
	FTSE techMARK 100	5927.39	6002.98
USA	DJ Composite	11284.78	11311.44

Country	Index	Latest	Previous
Cross-Border	DJ Global Titans ($)	452.34	453.08
	Euro Stoxx 50 (Eur)	3648.08	3658.22
	Euronext 100 ID	1245.26	1243.37
	FTSE 4Good Global ($)	9993.01	10026.22
	FTSE All World ($)	418.39	418.87
	FTSE E300	1701.17	1708.45
	FTSE Eurotop 100	3327.64	3342.56
	FTSE Global 100 ($)	2638.77	2640.38
	FTSE Gold Min ($)	1531.55	1531.57
	FTSE Latibex Top (Eur)	4440.00	4432.20

STOCK MARKET: BIGGEST MOVERS

UK MARKET WINNERS AND LOSERS

CURRENCIES

Currency	Dollar Closing Mid	Day's Change	Euro Closing Mid	Day's Change	Pound Closing Mid	Day's Change	Aug 23
	136.2446	-0.9459	136.0643	-0.6634	161.4754	-0.2786	South Africa
Kenyan Shilling	119.8500	0.1000	119.6884	0.3394	142.0394	0.8481	South Korea
Kuwaiti Dinar	0.3077	0.0001	0.3072	0.0007	0.3646	0.0020	Sweden
Malaysian Ringgit	4.4885	0.0035	4.4824	0.0125	5.3195	0.0315	Switzerland
Mexican Peso	20.0320	-0.1425	20.0050	-0.1019	23.7408	-0.0460	Taiwan
New Zealand Dollar	1.6051	-0.0150	1.6030	-0.0117	1.9023	-0.0078	Thailand
Nigerian Naira	425.7500	-	425.1760	0.8517	504.5747	2.5939	Tunisia
Norwegian Krone	9.7111	-0.1205	9.6980	-0.1006	11.5090	-0.0829	Turkey
Pakistani Rupee	216.6500	2.0250	216.3579	2.4516	256.7612	3.7075	United Arab Emirates
Peruvian Nuevo Sol	3.8559	-0.0197	3.8507	-0.0119	4.5698	0.0003	United Kingdom
Philippine Peso	56.0750	-0.1250	55.9994	-0.0124	66.4569	0.1943	..One Month

... by 1000. The exchange rates printed in this table are also available at www.FT.com/marketsdata

FTSE ACTUARIES SHARE INDICES

FT 30 INDEX

	Aug 23	Aug 22	Aug 19	Aug 18	Aug 17	Yr Ago	High	Low
FT 30	2504.10	2533.40	2572.60	2595.00	2596.20	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
2533.4	2526.3	2519.6	2579	2579.7	2581.8	2588.4	2511	2500.5	2533.4	2499.0

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

FT WILSHIRE 5000 INDEX SERIES

	Aug 22		Aug 22
FT Wilshire 5000	42098.38	FT Wilshire Mid Cap	5600.92
FT Wilshire 2500	5389.01	FT Wilshire Small Cap	5087.97
FT Wilshire Mega Cap	5393.27	FT Wilshire Micro Cap	5099.47
FT Wilshire Large Cap	5428.08		

Source: Wilshire. Wilshire Advisors LLC (Wilshire) is an investment advisor registered with the SEC. Further information is available at https://www.wilshire.com/solutions/indexes . Wilshire® is a registered service mark. Copyright ©2022 Wilshire. All rights reserved.

FTSE SECTORS: LEADERS & LAGGARDS

FTSE GLOBAL EQUITY INDEX SERIES

Aug 23 Regions & countries	No of stocks	US $ indices	Day %	Mth %	YTD %	Total retn	YTD %	Gr Div Yield
FTSE Global All Cap	9373	712.75	-1.8	2.9	-15.9	1136.11	-14.6	2.2
FTSE Global All Cap	9373	712.75	-1.8	2.9	-15.9	1136.11	-14.6	2.2
FTSE Global Large Cap	1867	638.80	-1.7	2.7	-15.9	1049.69	-14.5	2.2
FTSE Global Mid Cap	2247	912.72	-1.8	3.4	-14.9	1367.88	-13.7	2.3
FTSE Global Small Cap	5259	948.25	-1.9	3.3	-17.1	1359.82	-16.0	2.0
FTSE All-World	4114	418.87	-1.7	2.8	-15.7	707.06	-14.4	2.2
FTSE World	2667	758.87	-1.8	3.1	-15.5	1718.72	-14.2	2.2
FTSE Global All Cap ex UNITED KINGDOM In	9080	753.68	-1.8	3.0	-16.0	1178.36	-14.7	2.2

FTSE 100 SUMMARY

Stock	Closing Price	Day's Change	Stock	Closing Price	Day's Change
Haleon PLC	267.80	4.50	Sse PLC	1846	-16.00
Halma PLC	2165	-61.00	St. James's Place PLC	1167.5	-4.00
Hargreaves Lansdown PLC	899.40	-12.60	Standard Chartered PLC	592.60	1.40
Hikma Pharmaceuticals PLC	1365	-29.50	Taylor Wimpey PLC	113.10	-1.90
Howden Joinery Group PLC	601.40	-10.40	Tesco PLC	265.90	-4.50
HSBC Holdings PLC	531.30	-6.90	Unilever PLC	3941.5	-64.50
Imperial Brands PLC	1887.5	-34.50	Unite Group PLC	1082	-20.00
Informa PLC	542.60	-25.00	United Utilities Group PLC	1120	-21.00
Intercontinental Hotels Group PLC	4937	-29.00	Vodafone Group PLC	117.38	-2.50
Intermediate Capital Group PLC	1419	-8.50	Whitbread PLC	2535	-20.00
International Consolidated Airlines Group S.A.	106.92	-0.54	Wpp PLC	766.40	-17.40

UK STOCK MARKET TRADING DATA

	Aug 23	Aug 22	Aug 19	Aug 18	Aug 17	Yr Ago
Order Book Turnover (m)	49.70	68.43	68.43	68.43	45.46	42.01
Order Book Bargains	679921.00	622095.00	622095.00	622095.00	559373.00	660393.00
Order Book Shares Traded (m)	1431.00	1681.00	1681.00	1681.00	1210.00	1413.00
Total Equity Turnover (£m)	5408.81	5755.74	5755.74	5755.74	4227.44	3878.45
Total Mkt Bargains	842002.00	795320.00	795320.00	795320.00	717587.00	823692.00
Total Shares Traded (m)	3748.00	4310.00	4310.00	4310.00	3656.00	4144.00

† 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 COMPANY RESULTS

UK RECENT EQUITY ISSUES

MARKET DATA

FT500: THE WORLD'S LARGEST COMPANIES

FT 500: TOP 20

	Close price	Prev price	Day change	Day change %	Week change	Week change %	Month change %
Occid Pet	73.91	69.03	4.88	7.07	10.40	16.4	-14.17
Hunng Pwr	4.28	4.26	0.02	0.47	0.57	15.4	5.41
Devon Energy	71.45	68.42	3.03	4.42	7.87	12.4	-27.94
Halliburton	31.57	29.19	2.38	8.15	3.36	11.9	-24.08
Schlmbrg	39.43	36.92	2.51	6.80	3.85	10.8	-23.63
EOG Res	123.35	118.90	4.45	3.74	10.94	9.7	-20.23
ImpOil	63.68	62.51	1.17	1.87	5.61	9.7	-16.04
ConocPhil	109.28	105.24	4.04	3.84	9.18	9.2	-21.40
Repsol	13.69	13.21	0.48	3.63	1.08	8.5	-8.20
Equinor	396.45	385.65	10.80	2.80	29.95	8.2	-6.17
ChShenEgy	24.50	24.00	0.50	2.08	1.80	7.9	-14.80
ValeroEngy	122.19	119.13	3.06	2.57	8.88	7.8	-18.54
BP	458.40	449.00	10.40	2.32	32.90	7.7	-11.20
ENI	12.41	11.96	0.45	3.75	0.83	7.2	-20.93
Cielo	5.56	5.58	-0.02	-0.36	0.37	7.1	-1.26
ExxonMb	97.77	94.01	3.76	4.00	6.31	6.9	-10.52
Shell PLC	2317.50	2244.00	73.50	3.28	149.00	6.9	30.48
Suncor En	44.07	42.85	1.22	2.85	2.80	6.8	-14.08
Pwr Cans Corp	7.81	7.77	0.04	0.51	0.49	6.7	-0.25
Marathon Pet	102.99	100.42	2.57	2.56	6.34	6.6	-18.70

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 %
Zoom	82.77	97.44	-14.67	-15.05	-26.42	-24.2	3.08
SHOP	42.60	43.25	-0.65	-1.50	-8.84	-17.2	-4.35
Carnival	9.57	9.39	0.18	1.93	-1.62	-14.5	-34.52
Bausch Hlth	7.09	7.28	-0.19	-2.61	-1.01	-12.5	-17.10
Illumina	192.81	195.58	-2.77	-1.42	-27.02	-12.3	-18.78
AmerAir	13.67	13.71	-0.04	-0.29	-1.83	-11.8	-24.06
UnibailR	53.28	53.94	-0.66	-1.22	-6.82	-11.3	-26.44
Workday	158.13	160.85	-2.72	-1.69	-19.66	-11.1	-0.08
Target	160.40	161.96	-1.56	-0.96	-19.79	-11.0	-9.03
Charter Comms	430.64	438.51	-7.87	-1.79	-52.19	-10.8	-2.82
Walgreen	37.54	37.31	0.23	0.60	-4.51	-10.7	-10.86
Sant Gbn	41.64	41.75	-0.11	-0.26	-4.45	-9.6	-26.56
Renault	27.99	28.02	-0.03	-0.09	-2.75	-8.9	-5.27
VF Cp	43.75	43.14	0.61	1.41	-4.17	-8.7	-11.44
Inditex	23.68	24.15	-0.47	-1.95	-2.19	-8.5	-2.31
KBC Grp	48.06	47.21	0.85	1.80	-4.42	-8.4	-11.17
Netflix	225.22	226.54	-1.32	-0.58	-20.47	-8.3	-6.72
Adobe	410.74	411.35	-0.61	-0.15	-36.82	-8.2	-11.89
Biogen	201.66	207.70	-6.04	-2.91	-17.98	-8.2	5.32

Based on the FT Global 500 companies in local currency

BONDS: HIGH YIELD & EMERGING MARKET

Aug 23	Red date	Coupon	S*	M*	F*	Bid price	Bid yield	Day's chge yield	Mth's chge yield	Spread vs US
High Yield US$										
HCA Inc.	04/24	8.36	BB-	Ba2	BB	113.75	4.24	0.00	0.12	-
High Yield Euro										
Aldesa Financial Services S.A.	04/21	7.25	-	-	B	71.10	28.23	0.00	0.64	25.98
Emerging US$										
Peru	03/19	7.13	BBB+	A3	BBB+	104.40	2.60	-	-	0.34
Colombia	01/26	4.50	-	Baa2	BBB-	109.50	2.33	0.16	0.52	1.28
Brazil	04/26	6.00	-	Ba2	BB-	115.18	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 23	Red date	Coupon	S*	M*	F*	Bid price	Bid yield	Day's chge yield	Mth's chge yield	Spread vs US
US$										
FleetBoston Financial Corp.	01/28	6.88	BBB+	Baa1	A-	129.00	2.54	-0.01	-0.05	-
The Goldman Sachs Group, Inc.	02/28	5.00	BBB+	A3	A	117.21	2.47	0.00	0.32	-
NationsBank Corp.	03/28	6.80	BBB+	Baa1	A-	127.69	2.72	-0.01	0.06	-
GTE LLC	04/28	6.94	BBB+	Baa2	A-	128.27	2.80	0.00	-0.11	-
United Utilities PLC	08/28	6.88	BBB	Baa1	A-	130.43	2.62	-0.07	-0.22	-
Barclays Bank plc	01/29	4.50	A	A1	A+	96.46	5.02	0.00	0.02	-
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 23	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	0.25
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 23 (Libor: Aug 22)	Over night	Change Day	Change Week	Change Month	One month	Three month	Six month	One year
US$ Libor	2.31714	-0.004	0.002	0.041	2.42743	2.97971	3.56557	4.03214
Euro Libor	-0.64957	-0.064	0.000	0.001	-0.61943	-0.58057	-0.55600	-0.48571
£ Libor	0.18063	-0.005	0.000	0.055	1.85125	2.34820	3.01740	0.81363
Swiss Fr Libor				-0.002	-0.77540	-0.75300	-0.70280	-0.55320
Yen Libor				0.000	-0.04632	-0.01014	0.04867	
Euro Euribor				0.020	0.04600	0.45300	0.90800	1.34400
Sterling CDs				0.000	0.50000	0.63000	0.78500	
US$ CDs				0.000	2.36000	2.85000	3.31000	
Euro CDs				0.020	0.16000	0.43000	0.83000	

Aug 23	Short term		7 Days notice		One month		Three month		Six month		One year	
Euro	-0.22	0.08	-0.23	0.07	0.01	0.31	0.28	0.58	0.68	0.98	1.13	1.43
Sterling					0.45	0.55	0.58	0.68	0.71	0.86	0.90	1.05
US Dollar	2.16	2.36	2.19	2.39	2.26	2.46	2.75	2.95	3.21	3.41	3.54	3.74
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	201.04	-0.55	-0.62	-8.53	0.80	-8.35
Corporates(£)	339.27	-0.76	-4.28	-2.79	-16.51	-16.51
Corporates(€)	215.80	-0.58	-2.61	-10.65	-1.37	-12.26
Eurozone Sov(€)	224.63	-0.44	-3.29	-11.71	-1.50	-14.13
Gilts(£)	298.39	-1.06	-5.30	-16.99	-4.46	-19.37
Overall(£)	304.08	-0.95	-4.84	-15.00	-4.00	-18.32
Overall(€)	218.55	-0.48	-3.08	-11.40	-1.47	-13.59
FTSE						
Sterling Corporate (£)	-	-	-	-	-	-
Euro Corporate (€)	104.47	-0.05	-	-	0.54	-1.73
Euro Emerging Mkts (€)	716.66	-1.63	-	-	-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	548.74	-3.89	74.34	15.37	630.88	330.24
Europe 5Y	110.45	0.27	15.81	5.62	127.35	70.55
Japan 5Y	83.21	1.95	8.39	-7.84	115.50	57.71
Senior Financials 5Y	119.14	0.17	16.27	2.49	139.21	79.74
Markit CDX						
Emerging Markets 5Y	337.19	14.37	51.38	-16.94	387.80	219.01
Nth Amer High Yld 5Y	492.08	21.16	68.89	-4.96	589.25	421.25
Nth Amer Inv Grade 5Y	84.43	3.48	10.59	-1.11	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 23	Day Chng	Prev	52 wk high	52 wk low
VIX	23.82	0.02	23.80	38.94	14.73
VXD	20.24	0.06	20.18	45.37	3.27
VXN	29.61	-0.04	29.65	44.05	18.01
VDAX	28.82	-0.75	29.57	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	99.98	2.34	0.05	0.06	-0.01	2.34
	05/32	1.25	81.36	3.53	0.11	0.16	0.08	-
	02/50	1.00	95.75	1.55	0.08	0.13	-0.11	1.60
Austria	02/29	0.50	93.49	1.56	0.07	0.47	0.34	1.99
	02/47	1.50	89.05	2.07	0.04	0.27	0.15	1.82
Belgium	06/27	0.80	97.61	1.31	0.05	0.42	0.34	1.89
	06/47	1.60	84.52	2.44	0.06	0.31	0.13	1.91
Canada	03/25	1.25	94.81	3.42	0.08	0.30	0.39	2.74
	06/30	1.25	87.85	3.02	0.07	0.34	0.17	1.94
	12/48	2.75	95.18	3.02	0.06	0.18	0.16	1.32
Denmark	11/29	0.50	92.78	1.56	0.07	0.42	0.32	1.91
	11/52	0.25	65.61	1.72	0.03	0.20	0.08	1.52
Finland	09/24	0.00	98.12	0.92	0.04	0.39	0.37	1.65
	09/29	0.50	92.99	1.56	0.06	0.41	0.31	1.98
France	05/28	0.75	96.32	1.42	0.07	0.42	0.30	1.89
	05/48	2.00	93.74	2.33	0.06	0.32	0.17	1.82
Germany	08/29	0.00	92.73	1.09	0.06	0.40	0.28	1.72
	08/50	0.00	67.20	1.43	0.03	0.28	0.16	1.48
Greece	01/23	3.50	101.29	0.53	-0.04	-0.02	-0.56	1.04
	01/28	3.75	103.12	3.11	0.08	0.49	0.30	3.03
Ireland	10/22	0.00	99.91	0.61	0.15	0.23	0.37	1.21
	05/26	1.00	99.28	1.20	0.05	0.37	0.34	1.79
	02/45	2.00	94.76	2.30	0.06	0.33	0.18	1.89
Italy	02/25	0.35	96.01	2.04	0.10	0.57	0.13	2.32
	05/30	0.40	97.34	0.76	0.02	0.27	-0.43	1.59
	03/48	3.45	95.66	3.71	0.06	0.45	0.20	2.24
Japan	04/25	0.05	100.09	0.01	0.01	0.01	0.00	-0.03
	12/29	0.10	99.62	0.15	0.05	0.08	0.01	0.23
	12/49	0.40	83.79	1.09	0.04	0.01	-0.08	0.47
Netherlands	07/27	0.75	97.77	1.22	0.06	0.44	0.31	1.88
	01/47	2.75	119.73	1.75	0.04	0.30	0.17	1.80
New Zealand	05/31	1.50	83.83	3.68	0.14	0.23	-0.01	2.08
	09/40	2.50	121.42	2.12	0.12	0.14	0.05	1.30
Norway	08/30	1.38	87.46	3.18	0.10	0.39	0.33	2.07
Poland	01/23	2.50	98.31	6.65	0.01	0.32	0.25	6.40
	07/27	2.50	83.73	6.47	0.12	0.75	0.26	5.29
	04/47	4.00	75.11	5.95	0.00	-0.04	-1.55	3.80
Portugal	04/27	4.13	111.50	1.54	0.07	0.46	0.22	2.01
Spain	10/22	0.45	99.98	0.55	0.04	0.33	0.56	1.20
	10/29	0.60	90.70	2.00	0.07	0.46	0.23	2.05
	10/46	2.90	100.18	2.89	0.06	0.39	0.20	1.94
Sweden	06/30	0.13	121.39	-1.15	-0.05	0.18	0.08	0.65
	03/39	3.50	127.27	1.61	0.05	0.21	0.08	1.22
Switzerland	04/28	4.00	118.71	0.60	0.10	0.36	0.20	1.17
	06/29	0.00	95.91	0.61	0.07	0.38	0.16	1.11
United Kingdom	07/23	0.75	98.35	2.59	-0.01	0.40	0.57	2.50
	07/27	1.25	94.86	2.36	0.09	0.51	0.66	2.05
	07/47	1.50	75.64	2.88	0.11	0.40	0.38	1.93
United States	-	-	-	-	-	-	-	-
	03/25	0.50	92.88	3.38	0.07	0.21	0.39	2.81
	02/30	1.50	89.73	3.05	0.07	0.27	0.25	1.88
	02/50	0.25	81.86	1.01	0.02	-0.01	0.05	-

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

GILTS: UK CASH MARKET

Aug 23	Price £	Red Yield	Change in Yield Day	Week	Month	Year	52 Week High	Low	Amnt £m
Tr 1.75pc '22	100.00	1.68	-1.75	0.60	17.48	5500.00	102.13	100.00	29.68
Tr 0.75pc '23	98.46	2.47	-2.76	8.33	17.06	2145.45	101.08	98.37	34.36
Tr 0.125pc '24	96.28	2.79	3.33	22.91	29.17	1368.42	99.89	96.28	34.76
Tr 2pc '25	98.59	2.48	4.20	25.25	30.53	1027.27	106.59	98.59	39.04
Tr 0.125pc '26	92.24	2.50	4.60	25.63	37.36	861.54	99.37	92.24	34.53
Tr 1.25pc '27	94.39	2.47	4.66	25.38	35.71	648.48	105.36	94.39	40.07
Tr 0.875pc '29	89.85	2.43	2.97	21.50	29.26	406.25	103.12	89.57	42.65
Tr 4.25pc '32	114.62	2.55	2.00	19.72	25.62	298.44	137.53	114.06	39.43
Tr 4.25pc '36	115.95	2.82	1.81	15.57	15.57	256.96	147.43	115.86	30.97
Tr 4.5pc '42	123.57	2.95	1.72	14.34	14.34	220.65	169.96	123.57	27.72
Tr 3.75pc '52	117.89	2.86	1.78	13.49	13.49	207.53	180.27	117.89	24.55
Tr 4pc '60	129.02	2.75	1.10	12.24	14.11	219.77	213.01	128.74	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 23	Day's chg %	Total Return	Return 1 month	Return 1 year	Yield
1 Up to 5 Years	82.82	-0.20	2369.34	-1.62	-4.34	2.55
2 5 - 10 Years	158.14	-0.45	3329.81	-4.25	-11.36	2.49
3 10 - 15 Years	174.78	-0.60	3964.73	-5.14	-17.58	2.80
4 5 - 15 Years	161.11	-0.49	3481.26	-4.47	-13.40	2.59
5 Over 15 Years	258.46	-0.76	4409.49	-6.46	-31.02	2.84
7 All stocks	149.19	-0.50	3304.27	-4.35	-18.79	2.77

Index Linked	Aug 23	Day's chg %	Month chg %	Year's chg %	Total Return	Return 1 month	Return 1 year
1 Up to 5 Years	330.14	-0.61	2.16	7.25	2783.50	2.16	8.46
2 Over 5 years	658.61	-3.05	1.85	-26.51	5010.58	1.86	-26.23
3 5-15 years	498.03	-2.00	1.89	-5.23	4019.67	1.90	-4.53
4 Over 15 years	787.62	-3.62	1.84	-34.54	5817.80	1.84	-34.40
5 All stocks	607.65	-2.72	1.90	-23.14	4715.34	1.90	-22.79

Yield Indices	Aug 23	Aug 22	Yr ago		Aug 23	Aug 22	Yr ago
5 Yrs	2.38	2.29	0.26	20 Yrs	2.95	2.90	0.96
10 Yrs	2.64	2.58	0.62	45 Yrs	2.69	2.65	0.80
15 Yrs	2.89	2.84	0.86				

Real yield	inflation 0% Aug 23	Dur yrs	Previous	Yr ago	inflation 5% Aug 23	Dur yrs	Previous	Yr ago
Up to 5 yrs	-2.66	1.70	-3.01	-2.95	-3.31	1.70	-3.66	-3.36
Over 5 yrs	-0.71	20.80	-0.86	-2.49	-0.74	20.87	-0.89	-2.52
5-15 yrs	-1.31	8.88	-1.53	-2.81	-1.42	8.88	-1.65	-2.93
Over 15 yrs	-0.61	26.77	-0.74	-2.46	-0.63	26.79	-0.76	-2.48
All stocks	-0.74	18.28	-0.88	-2.50	-0.78	18.37	-0.92	-2.53

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

www.ft.com/commodities

Energy		Price*	Change	Agricultural & Cattle Futures		Price*	Change
Crude Oil†	Oct	91.47	1.11	Corn♦	Sep	649.75	16.25
Brent Crude Oil‡		99.86	4.64	Wheat♦	Sep	781.00	10.50
RBOB Gasoline†	Oct	2.86	-0.04	Soybeans♦	Sep	1541.75	14.75
Natural Gas†	Sep	9.73	0.05	Soybeans Meal♦	Sep	464.10	3.60
Base Metals (♠ LME 3 Months)				Cocoa (ICE Liffe)⊕	Sep	1724.00	-29.00
Aluminium		2426.00	37.50	Cocoa (ICE US)♥	Sep	2338.00	-10.00
Aluminium Alloy		1675.00	-905.00	Coffee(Robusta)⊕	Sep	2251.00	14.00
Copper		8126.50	74.00	Coffee (Arabica)♥	Sep	223.20	-1.10
Lead		1974.00	-40.50	White Sugar⊕		550.80	1.30
Nickel		21720.00	-695.00	Sugar 11♥		17.86	-0.08
Tin		24420.00	-80.00	Cotton♥	Oct	116.27	-1.62
Zinc		3486.50	-37.50	Orange Juice♥	Sep	169.15	0.30
Precious Metals (PM London Fix)				Live Cattle♣	Aug	141.35	-0.25
Gold		1733.25	-17.50	Feeder Cattle♣	May	134.88	-
Silver (US cents)		1889.50	-33.50	Lean Hogs♣	Oct	94.05	0.93
Platinum		875.00	-29.00				
Palladium		2011.00	-115.00		Aug 22	% Chg Month	% Chg Year
Bulk Commodities							
Iron Ore		105.52	-0.12	S&P GSCI Spt	687.57	-9.37	33.04
Baltic Dry Index		1271.00	1.00	DJ UBS Spot	125.29	-11.80	23.70
Richards Bay ICE Futures		344.50	11.25	TR/CC CRB TR	313.44	-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 22	Yield Aug 22	Yield Prev	Month return	Value stock	Market	No of stocks
Can 4.25%' 26	113.17	1.082	1.045	-1.94	5.25	73180.60	8
Fr 0.25%' 24	109.11	-4.206	-3.936	1.49	17.92	262585.40	17
Swe 1.00%' 25	125.61	-1.384	-1.323	0.37	35.15	220488.00	6
UK 0.125%' 24	108.79	-5.138	-4.483	2.91	15.24	684313.11	31
UK 2.50%' 24	389.95	-4.308	-3.793	2.66	6.82	684313.11	31
UK 2.00%' 35	282.18	-1.396	-1.400	-1.02	9.08	684313.11	31
US 0.625%' 24	99.89	0.703	0.687	-0.45	40.98	1662332.33	46
US 3.625%' 28	117.19	0.531	0.487	-1.36	16.78	1662332.33	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

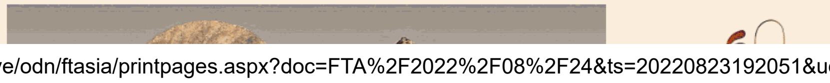
	Bid Yield	Spread vs Bund	Spread vs T-Bonds		Bid Yield	Spread vs Bund	Spread vs T-Bonds
Australia	3.53	2.44	0.48	Netherlands	1.22	0.14	-1.83
Austria	1.56	0.47	-1.49	New Zealand	3.68	2.60	0.63
Canada	3.02	1.93	-0.03	Norway	3.18	2.09	0.13
Denmark	1.56	0.48	-1.49	Portugal	1.54	0.45	-1.51
Finland	1.56	0.47	-1.49	Spain	2.00	0.92	-1.05
Germany	1.09	0.00	-1.96	Sweden	-1.15	-2.24	-4.20
Italy	0.76	-0.33	-2.29	Switzerland	0.61	-0.47	-2.44
Japan	0.15	-0.94	-2.90	United States	3.05	1.96	0.00

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

ARTS

Real colours or pigments of the imagination?

A New York show suggests that the cradle of western

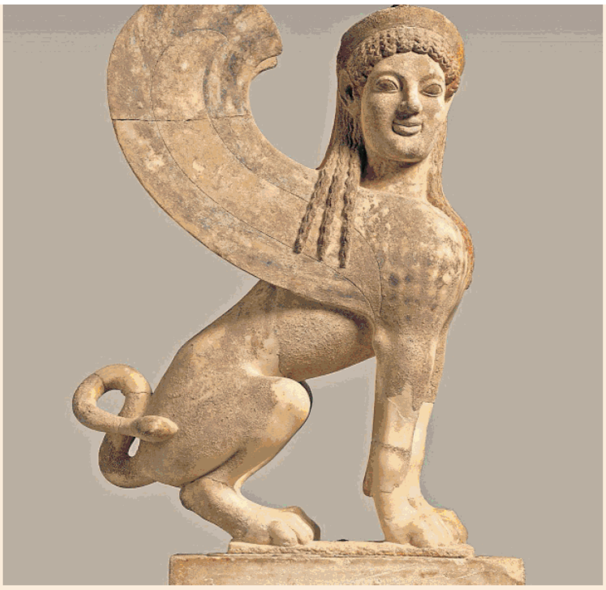


Hope wrote that "the frescoes create a decidedly disagreeable impression: the colours are gaudy, so that the *civilisation was in thrall to garish hues and glitter, writes Ariella Budick*

Ancient sculpture, the 19th-century aesthete Walter Pater wrote, "threw itself upon pure form". Glorying in the physical proportions of the human body rather than expressions of inner torment or status-boosting plumage, it relied for its impact on "a little of suggested motion, and much of pure light on its gleaming surfaces". What, then, to make of *Chroma*, the Metropolitan Museum's astonishing and deeply unsettling exhibition that makes nonsense of Pater's ode to purity?

That serene and elegantly proportioned statue of Venus, remote, staring back through the centuries with her empty eyes? That wrestler, the male embodiment of anatomical beauty, rendered with cool serenity? Those bleached temples with columns and pediments stoically unadorned, the essence of democracy manifest in the clarity of their lines? Fantasy, as it turns out, or at best a misunderstanding. All that bony marble and travertine once throbbed with colour — not muted, earthy colours, either, but bright tones and clashing patterns. Sculptures and buildings in the ancient world were decorated like ice cream cakes.

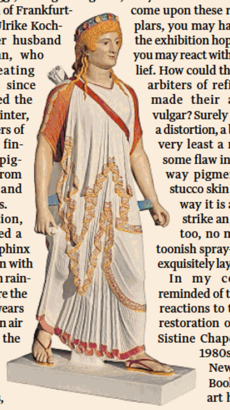
Chroma dispenses once and for all with the myth of classical antiquity's ghostly pallor, an association that has endured long past the realisation that it was wrong. Pliny the Elder described the colourising techniques of his time, a process depicted on the surface of pottery. The first archaeologists found traces of pigment on many of their finds, and the Met's show includes a 1919 watercolour of the recently excavated reliefs from the Acropolis, capturing old hues before they flaked away in the sun and air.



Clockwise, from above: Greek marble finial in the form of a sphinx, c530BCE, and its reconstruction; reconstruction of the funerary statue of Phrasikleia; reconstruction of a statue of the goddess Artemis from Pompeii
Metropolitan Museum of Art; Anna-Marie Kellen; Museo Archeologico Nazionale di Napoli

The polychromy of antiquity was obvious; ignoring it required an effort of self-deception that generations of painters, sculptors, poets, experts and collectors willingly undertook. From the Renaissance on, sophisticates were awed by what Pater called "the image of a man as he springs from the sleep of nature, his white light taking no colour from any one-sided experience. He is characterless, so far as character involves subjection to the accidental influences of life." Classical sculpture, in this view, rose above messy contingencies, presenting humanity with a distilled image of its own ideal.

The Met attempts to show us what Apollonian worshippers missed. The museum has sprinkled 17 recent reconstructions around the Greek and Roman galleries like Easter eggs, lurking among the originals. A team of Frankfurt-based researchers, Ulrike Koch-Brinkmann and her husband Vinzenz Brinkmann, who have been recreating antique sculptures since the 1990s, fabricated the forms using a 3D printer, then sprayed on layers of marble stucco, and finished them with pigments reproduced from surviving specks and spectroscopic analysis.



For this exhibition, they have juxtaposed a sixth-century BCE sphinx in the Met's collection with a version kitted out in rainbow splendour. Where the weathered original wears a demure smile and an air of otherworldliness, the new one leers with brown eyes and a pink, rictus-like grin. Gilded feathers, a red-and-blue bodice and a blue-tipped tail complete the ensemble. Most disturbing of all is the waxy hue of the skin, each cheek enlivened by a rosy flush.

Elsewhere in the galleries, a fifth-century BCE Trojan archer squats in boldly patterned leggings and a female figure appears shrink-wrapped in a gauzy green mantle, a wisp of fabric so translucent we can we see the pink of her dress beneath. These feats of illusionism are so meticulous that they edge close to the quasi-verisimilitude of a wax museum.

Even eerier are several bronze reconstructions of naked athletes and warriors with gemstones for eyes, copper lips and silver teeth. Red-tinted metal alloys define cuts on a boxer's shoulder, arm and thigh, and artificial patinas produce a violet bruise. The colourisation is less disconcerting here, perhaps because the bronze, being dark, already feels expressive.

Even with all this scholarship and technology, it's not easy to dislodge 2,000 years of wishful error. When you come upon these revisionist exemplars, you may have the epiphany the exhibition hopes to provoke, or you may react with scorn and disbelief. How could the ancients, those arbiters of refined taste, have made their artwork so . . . vulgar? Surely we are looking at a distortion, a betrayal, or at the very least a mistake? Maybe some flaw in execution — the way pigment binds to the stucco skin or the over-even way it is applied — would strike an ancient as tacky, too, no more than a cartoonish spray-on version of an exquisitely layered art.

In my confusion, I'm reminded of the first, appalled reactions to the cleaning and restoration of Michelangelo's Sistine Chapel ceiling in the 1980s. Writing in the New York Review of Books in 1993, British art historian Charles

costumes tend to overwhelm the faces and limbs, the figures look crude and often flat . . . Restrained grandeur has been replaced by garish confusion. Talking to friends, I find that my unease is widely shared."

The latest parade of flashy interlopers seems likely to shock even those who already knew that the ancient world teemed with flamboyant decoration. We can continue to hope that the Brinkmanns got it wrong, or that in the humid air of ancient Athens, the sculptures weathered so quickly that few people ever saw, much less adored, their initial out-of-the-workshop sheen.

But we might also have to recognise that posterity has given the Greeks credit for a delicacy that was actually the product of slow erosion and long-term decay. We might have to make our peace with the idea that those who dwelled in the cradle of western civilisation were a lot like us degraded moderns: turned on by colours, flash and lurid realism.

And yet a misconception can still be valid. Even if you accept *Chroma* as the definitive proof, the courtroom revelation that closes the case, that is still not enough to overturn 2,000 years of western interpretation and inspiration. Without this particular misreading or distortion, there would be no Michelangelo's milky "David", Soane would never have fashioned his solemn Bank of England, the Lincoln Memorial would not glow virtuously across the Tidal Basin, and Le Corbusier might never have found his way from Rome's ruins to neoclassical modernism. Yes, the real Praxiteles might have relished the Missoni palette or shared a taste for Trumpian glitter. Even so, we'll take our antiquities plain, thank you, the way they were never meant to be seen.

To March 26 2023, metmuseum.org

Quirky, absurd — and exquisitely played

MUSIC THEATRE

Melencolia
Bregenz Festival, Austria
★★★★☆

Shirley Apthorp

French footballer Zinedine Zidane's headbutt in the 2006 World Cup final is not the kind of thing you expect to find in an opera. But it was, according to French author Jean-Philippe Toussaint, an expression of pure melancholy. *Melencolia* is the subject of Brigitta Muntendorf and Moritz Lobeck's quirky new music theatre creation, given its world premiere in Bregenz, and Toussaint's take on the headbutt gets a scene of its own. We see an artfully blurred projection of the incident, while an actor, dressed as a clouded sky, reads Toussaint's text to musical accompaniment.

The Bregenz Festival has a tradition of ploughing the revenue earned from its famous lake stage productions back into the disinterral of neglected works and the creation of new operas. But is *Melencolia* an opera?

Straight narrative having long since gone out of fashion, it is an eclectic mish-mash of reflections on a core theme. Seven episodes examine different angles of the melancholic — from Albrecht Dürer to artificial intelligence — using a dizzying number of forms of expression. There is a chorus, and there are various kinds of singing, from close harmony to karaoke; there are achingly ironic hipster costumes and sets and lights and video projections and spoken monologues. And, of course, there are dogs on robot vacuum cleaners. Plastic dogs.

There are also the obligatory green screens for some of the abundant video special effects, there is an interactive app for audience members, and there are "digital guests", most notably African-Iranian musician Saeid Shanbehzadeh, who plays the neyanbān, a kind of bagpipe. In another scene, three Norns twist and nibble at the threads of our destinies from the video screens, never actually appearing in the flesh.

At the heart of this bizarre evening's entertainment is the fabulous Ensemble Modern, whose members can and will do anything in the service of tomorrow's music. They take Muntendorf's busy, eclectic score and play the hell out of it, from its clashing, brash and strident moments to its garish spells of pure kitsch.

Melencolia is frenetic and funny, touching and annoying. Too much happens for comfort, although comfort is presumably not intended. The abundance becomes counterproductive; you begin to blinker elements out to stave off motion sickness, and the whole is too long.

At times, *Melencolia* reads as if it is ticking off the boxes of a grant application. Immersive: tick. Interactive: tick. Multicultural: tick. Innovative: tick. Collaborative: tick. Fortunately, it never takes itself too seriously.

Yet its performers execute their roles with absolute professionalism. *Melencolia*, for all its overblown absurdity, is exquisitely played.

bregenzerfestspiele.com

'Melencolia' features seven episodes reflecting on the theme of the title
Anja Koehler

FT BIG READ. CLIMATE CHANGE

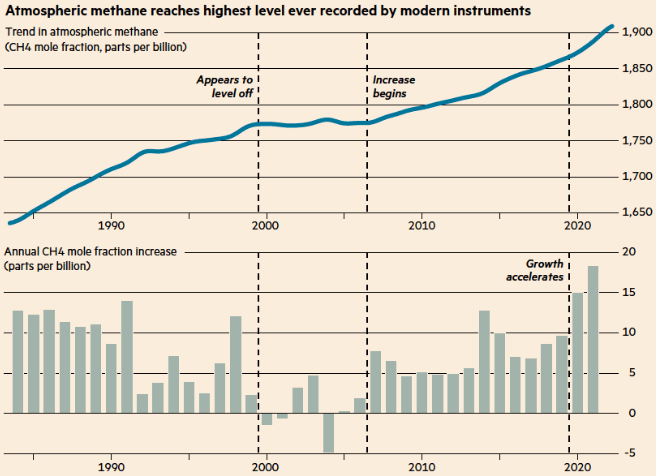
Levels of the potent greenhouse gas are growing at a record rate and natural sources – from wetlands to shallow lakes in the tropics – are the cause. But scientists don't know how to curb the surge in emissions.

By Leslie Hook and Chris Campbell

On the trail with the methane hunters

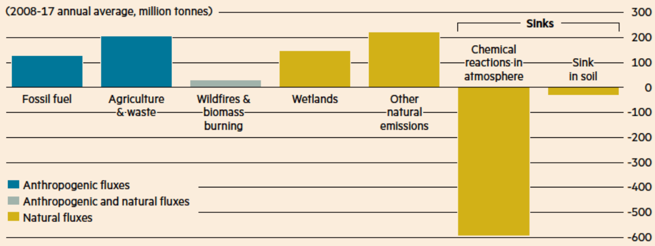
Frozen methane bubbles in the Sayram Lake near the Tian Shan Mountains, China Shutterstock

Atmospheric methane reaches highest level ever recorded by modern instruments



2022 trend to April. Charts use the globally averaged mean from marine surface sites

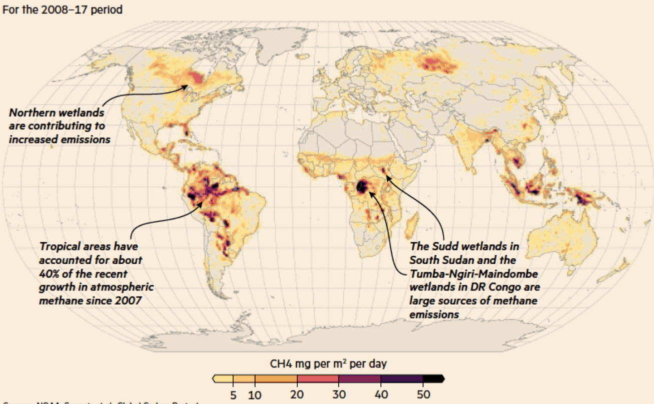
Global methane emissions and sinks estimate



Estimates made via the bottom-up approach

Natural wetlands methane emissions

For the 2008–17 period



Sources: NOAA; Saunois et al., Global Carbon Project

Every year, 6,000 flasks arrive at a laboratory in Boulder, Colorado. Inside each is a sample of air, taken from one of a chain of 50 monitoring stations that spans the globe. Together, these samples could help answer one of the most important questions facing the planet: why is there so much methane in the atmosphere?

Blue and black canisters filled with air from Algeria, Alaska, China and Samoa are lined up ready for testing. "We collect these flask samples, then they come back here," says Ed Dlugokencky, a chemist at the Global Monitoring Laboratory, run by the US National Oceanic and Atmospheric Administration.

The laboratory measures the levels of different gases inside the samples, from carbon dioxide to nitrous oxide and sulphur hexafluoride, compiling a meticulous record that forms the basis for major climate models. About 15 years ago, its researchers observed an uptick in atmospheric methane, a potent greenhouse gas with a warming impact 80 times greater than CO_2.

Many researchers initially assumed the increase was linked to fossil fuel production. Methane is the primary ingredient in natural gas but is also produced by other human activities such as landfills, rice paddies and raising cattle.

In the past few years, however, that uptick has accelerated into a surge. The implications for global warming are immense: of the 1.1C increase in global temperatures since pre-industrial times, about a third can be attributed to methane. Atmospheric methane had its highest growth rate ever recorded by modern instruments in 2020, and then that record was broken again in 2021. Nobody knows exactly why.

"It is shocking," says Lindsay Xin Lan, a researcher based in the Boulder laboratory. "A lot of research, a lot of scientists, are trying to explain it."

> 'If you think of fossil fuel emissions as putting the world on a slow boil, methane is a blow torch that is cooking us today'

One thing they have begun to identify is what kind of methane is culpable for the increase. Methane derived from fossil sources contains more of the carbon-13 isotope than atmospheric methane, while that produced by microbial sources – such as wetlands, cattle and landfills – contains less.

Since the beginning of the industrial revolution, fossil fuel emissions have tilted the ratio of methane isotopes in the atmosphere towards carbon-13. But around 2007, when atmospheric methane started to climb again, that isotopic ratio went into reverse. The recent increase in methane is not coming primarily from fossil fuels, but from other sources. That suggests the planet itself could be emitting more methane, and it is not slowing down.

"We are seeing a very substantial change," says Dlugokencky. "After 200 years of increasing . . . all of a sudden we start to see a decrease in delta carbon-13. That means something significant has happened."

Determining what that "something significant" is requires close study of methane emitted from a variety of sources – from wetlands and shallow lakes in the tropics to melting permafrost in the Arctic; from landfills and agriculture to the fossil fuel industry – as well as the chemical "sinks" that remove it from the atmosphere.

"Methane is a very interesting type of greenhouse gas because it has so many kinds of sources and sinks that you have to keep track of," says Dlugokencky. "You have to look at it like you are a detective trying to solve a criminal mystery, that is how I think of it."

Unravelling the mystery will reveal whether or not the world might face the worst-case scenario of a "methane bomb" – a feedback loop where a warmer planet emits more of the gas naturally, driving temperatures up further. It's a terrifying prospect, one that scientists studying this topic tend to tiptoe around, particularly in interviews. "We can have a gut feeling that the climate feedback might be happening," says Lan. "But it can be difficult to separate the signals from the noise."

Others are more direct. "If you think of fossil fuel emissions as putting the world on a slow boil, methane is a blow torch that is cooking us today," says Durwood Zaelke, president of the Institute for Governance & Sustainable Development, and an advocate of stricter policies to reduce emissions. "The fear is that this is a self-reinforcing feedback loop . . . If we let the earth warm enough to start warming itself, we are going to lose this battle."

Hunting for clues

For years methane was somewhat overlooked by the scientific community and by policymakers, who tended to focus more on CO_2 emissions. Part of the reason for that is because atmospheric methane appeared to be levelling off between 2000 and 2007.

Now, researchers are using both isotopic measurements and satellite data to determine the origins of the surge in methane. They know that the increase is coming from microbial sources because of the shift in the carbon-13 ratio – but which microbial sources exactly?

Wetlands and cattle appear to be the biggest culprits, says Euan Nisbet, professor of earth sciences at Royal Holloway, University of London. "The biological sources are increasing faster," he says. "The most intense growth seems to be coming from the tropics." A global increase in cattle-raising, and in landfills, is also fuelling the growth in microbial emissions.

In a forthcoming paper, Lan and Dlugokencky reach a similar conclusion: 85 per cent of the rise in atmospheric methane since 2007 is due to microbial sources. And about half of that is from the tropics.

Using satellite data, Paul Palmer, an atmospheric chemist at the University of Edinburgh has zeroed in on east Africa as a source of increased emissions, such as the Sudd wetland in South Sudan. "We are seeing a huge methane enhancement due to wetland emissions. We've only known that since 2019," he adds. When wetlands get wetter, it leads to more emissions because the microbes that produce methane have more organic matter on which to feed.

The sources of the methane may be natural, but a climate warmed by human activity is fuelling these emissions. Climate change is expected to lead to more intense rainfall in east Africa; and these wetter, warmer wetlands will produce more methane. Other natural sources of methane – melting permafrost, and wildfires – are also linked to climate change.

While Palmer works with satellites, other scientists are working on the ground to capture methane samples in canisters to be sent to laboratories.

The Royal Holloway lab is filled with boxes of samples shipped in from around the planet. "These are exciting," says Rebecca Fisher, a lecturer in atmospheric sciences at the university, gesturing to a box that has just arrived. "They are flasks of air from the Halley Research Station in Antarctica." Because Antarctica has no vegetation, the air there contains very little locally produced methane, making it ideal to provide background measurements.

Fisher is preparing for a trip to Finland, near the other end of the globe from Antarctica, to collect samples that will measure what she calls the isotopic "fingerprint" of wetland emissions in the Arctic. By measuring not only the carbon-13 isotope, but also the hydrogen isotope deuterium, known as heavy hydrogen, her group hopes to build a library of such fingerprints.

The Arctic also gives an idea of what future emissions might look like: the region is warming three times faster than the rest of the planet. "Permafrost itself contains around 1,500bn tonnes of carbon," says Katey Walter Anthony, professor at the University of Alaska, Fairbanks. As permafrost thaws, that carbon can be turned into methane by micro-organisms.

She has flown all over Alaska to measure the methane coming out of lakes, and what she has seen has surprised her. "In the last five to six years, I have just seen incredible change," she says. "It seems like we crossed a threshold and we are seeing crazy things happening."

One of those crazy things is that lakes are forming as permafrost melts. These pools, known as thermokarst lakes, are spreading rapidly. And the microbes that produce methane thrive on all the newly thawed organic material at the bottom of them. "In interior Alaska we've seen a nearly 40 per cent increase in lake area since the 1980s, because of new thermokarst lakes forming," says Anthony. "They emit methane at least 10 times higher than a normal lake, they are hotspots."

For now, the methane emissions from such lakes are much lower than from wetlands in the tropics. "We are watching the Arctic, but at the moment the Arctic does not appear to be leading the problem," says Nisbet. "[But] we need to keep watching that."

Cutting the gas

While there is little that governments can do about the methane bubbling out of wetlands and thermokarst lakes, they have promised to cut the amount produced from human-caused sources. About half of methane emissions come from anthropogenic sources, and half from natural ones.

More than 100 countries signed up to the Global Methane Pledge launched at the COP26 climate summit, pledging

> 'The biological sources are increasing faster. The most intense growth seems to be coming from the tropics'

collectively to cut methane emissions 30 per cent by the end of this decade. Cutting methane emissions would have a more immediate impact on temperatures – within a human lifetime – than cutting CO_2. That's because methane lasts a decade in the atmosphere, depending on conditions, compared with the century or more CO_2 remains.

A concerted global effort to reduce methane emissions using existing technologies could slash anthropogenic emissions 45 per cent by 2030, according to a May 2021 report from the UN Environment Programme, avoiding 0.3C of warming by the 2040s.

The quickest methane fixes are in the fossil fuel sector, which accounts for about one-third of anthropogenic emissions. Special venting installed in coal mines; early detection of gas leaks; reducing methane venting during oil and gas production and other "readily available" measures could cut methane emissions by more than 40mn tonnes a year, according to the report.

Still, it's not clear this will be enough. The world's biggest methane emitters – China and Russia – have not signed the COP26 pledge. And even if they did, it's not clear that cuts in human-caused methane will be enough to compensate for the increase from natural sources.

If the warming Earth is already starting to release more methane, then this vicious cycle – in which warming triggers more warming – could become self-perpetuating. Although that moment could still be decades in the future, once that tipping point is reached, it will be very hard to reverse.

Anticipating this, some groups are starting to study methane removal – whether there might be ways to pull methane directly from the air. While mostly hypothetical at this point, the ideas include increasing the amount of chemical sinks in the atmosphere and using methane-eating bacteria to act as a "filter" in dairy farms.

Yet even as methane rises in priority, funding to monitor it has not kept pace. "There really hasn't been a big expansion of our network for the last 15 or 20 years," says Dlugokencky. Federal funding cuts a decade ago mean the network today is smaller than it used to be.

Still, the methane hunters keep going. "Right now we are trying to work out just the source signatures; we need to get a global database," says Nisbet. "Our level of primary knowledge is still very, very low. Methane keeps kicking up these surprises."

The FT View

FINANCIAL TIMES
'Without fear and without favour'

ft.com/opinion

There is an urgent need to reduce systemic cyber risks

The finance sector ought to strengthen its collective defences

Like most investors, Norway's giant sovereign wealth fund, which owns the equivalent of 1.5 per cent of every listed company in the world, has a lot to worry about in an era of gyrating market valuations, surging cost pressures across many industries and heightened geopolitical uncertainty over Ukraine and Taiwan. But what tops its worry list? The 100,00 cyber attacks the fund faces every year, Nicolai Tangen, chief executive of Norges Bank Investment Management, told the Financial Times.

If, as Willie Sutton reputedly said, bank robbers rob banks "because that is where the money is", then it is little surprise that modern-day criminals are resorting to cyber attacks on financial institutions, such as NBIM, as well as market infrastructure more generally.

The number of known malware attacks rose 11 per cent in the first half of the year to 2.8bn, according to the 2022 SonicWall Cyber Threat Report, with the financial sector being particularly actively targeted.

Some cyber experts had feared an even greater cyber onslaught from Russia following its invasion of Ukraine and the imposition of retaliatory sanctions by many western countries — and that may yet materialise. The development of powerful quantum computers, threatening to crack traditional encryption methods, may one day add another dimension to the cyber threat, too.

The most chilling aspect of the Norwegian fund's warning was that cyber attacks could pose a systemic financial risk. As more of the finance industry moves online, so the surface area that is vulnerable to cyber attacks increases. Nato has been boosting its cyber defence capabilities but the western military alliance should do even more to work with private sector partners.

Similarly, the Quantum Dawn cyber resilience tests, periodically run by the US securities industry that involve more than 900 participants across the finance sector, could also be usefully extended to both smaller and more international firms, regulators and central banks.

The lessons from such exercises is that effective cyber defence depends on an active partnership between governments, security agencies and private sector firms. They also highlight that networks are often only as strong as the weakest link in a chain. That puts the responsibility on every financial firm, and every individual within those firms, to play their part in boosting the industry's defences. In that respect, too many companies are behind the game.

> As more of the industry moves online, so the surface area that is vulnerable to attacks increases

Three things can be done to improve collective resilience. First, more investment should be put into developing, and deploying, more secure encryption technologies. For example, big strides are being made towards implementing homomorphic encryption techniques, which can enhance both privacy and security by enabling computations to be made on encrypted data.

Second, specialist auditing firms could be asked to scrutinise their clients' data storage and cyber security practices. For some firms, such as aeroplane manufacturers and nuclear power plant operators, successful cyber attacks could endanger lives and pose an existential risk to their businesses. Regulators should know far more about the risks that these companies are running. Third, investors should be quizzing companies in which they invest more rigorously about what actions they are taking to secure their operations. Shareholders should also insist that company boards include directors with real-world cyber expertise.

Sadly, given the cyber threat's scale and prevalence, risk minimisation rather than elimination is all that can be achieved. But prudent precautions can still help prevent sporadic attacks from turning into a systemic danger.

Opinion Politics

Gaslighting finds new meaning in energy crisis

Ana Yael

Pilita Clark

One of my favourite Oscar acceptance speeches was made by Ingrid Bergman when she thanked the judges for her 1944 best actress award and said quietly, "I hope that in the future I'll be worthy of it". The Oscar was for her role in *Gaslight*, a psychological thriller about a husband who manipulates his wife to convince her she is going mad.

The film also gave us "gaslighting", a buzzword used relentlessly today to describe ploys to undermine someone's self-belief and make them doubt reality. No one could have predicted how fantastically apt the term would become as countries across Europe struggle to contain a dire energy crisis.

Gas certainly lies at the heart of this problem. Prices have surged to more than 10 times their normal level as the post-pandemic economic recovery

> We are being manipulated into thinking that net zero policies are at the heart of this emergency

drove up demand and Russia, the largest natural gas exporter, squeezed supplies to countries supporting Ukraine.

Record summer heatwaves sent electricity use into overdrive and now, with winter nearing, governments face the threat of skyrocketing power and heating bills, blackouts, business failures and recession.

It is hard to think of a more brutal example of the dangers of relying on imported fossil fuels. It has never been clearer that ministers should have heeded calls made years ago to hasten net zero policies for more efficient energy use and homegrown green power plants, which ease dependence on gas. Renewable electricity displaced about £6bn worth of gas in the UK alone last year, the centre-right think-tank, Onward, estimates.

Yet guess what political figures are blaming for the gathering energy disaster? That's right. Net zero. In a striking effort to distort reality, the longer the gas-driven energy crisis goes on,

former Brexit Party chair, claimed this year.

Attorney-General, Suella Braverman, kicked off her shortlived bid to replace Boris Johnson in the latest Conservative leadership contest last month by saying: "To deal with the energy crisis we need to suspend the all-consuming desire to achieve net zero by 2050" or we'll end up with "net zero growth".

Braverman is tipped for a government post if the contest's frontrunner, Liz Truss, becomes prime minister. So is Lord Frost, a former Brexit minister who wrote this month that "net zero proponents" had shaped an energy system that "means we face blackouts, hideous business-crushing costs, and people shivering and dying in the cold".

This is breathtaking. Yes, average annual UK household energy bills are forecast to soar above £5,000 next year, more than twice their current level. And yes, NHS leaders are warning of a "humanitarian crisis" if people have to choose between eating and heating in the winter months.

But the driving force here is not net zero policies. It's gas. Spiralling prices have had a sharp impact in the UK, where most households rely on gas boilers for heating and gas-fired power stations generate about 40 per cent of electricity.

The gas industry knows this. Charles McAllister, director of policy at the UK Onshore Oil and Gas industry group, argues that the energy crisis demonstrates the need to end a 2019 moratorium on shale gas fracking in England. But unlike Braverman, he does not blame net zero. As he told me last week: "The cause of this increase in energy price is not net zero, it is the wholesale price of natural gas."

It is true that household energy bills include green levies that pay for renewables projects and anti-fuel poverty schemes. But these charges account for just 8 per cent of typical bills and even that share is expected to fall further as wholesale prices rise.

It is also true that net zero does not come for free. Integrating green energy into grids designed for fossil fuels requires investment. So does insulating homes and rolling out electric car charging networks.

There are, however, big pay-offs. UK households with a heat pump, electric car and better insulation have been saving an average £1,000 a year by some estimates.

Blaming net zero for a gas-fuelled energy crisis is not just gaslighting, it is

Letters

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Changing agricultural practices helps farm incomes and the soil

In Judith Evans' article about the effect of climate change on declining crop volumes ("Farmers fight to save crops stunted by heat", Report, August 13) she quotes Jack Ward, chief executive of the British Growers Association, saying: "We are trying to put very small, young plants into parched soils . . . We are effectively putting them into dust."

While very true and very grave, farmers and governments should be urgently discussing why the fertility of our once deeply rich soil, nurtured under a famously temperate climate, has degraded into, as Ward puts it, "sand" after only a few short years of temperatures rising.

As with all complex issues, the solution lies in getting to the root of the problem. And it's deeper than climate change. British soil has had depleted organic content figures comparable to the soils of deserts in India and the Middle East for the past 50 years. By blaming current rising temperatures, we are missing the separate albeit interlinked human-made issue of soil degradation.

Farmers and governments must address the dark reality that ongoing modern agricultural practices that force higher yields in the short term have undercut and damaged our soil's fertility. We have abandoned traditional farming practices and jumped straight into the use of heavy machinery, chemical saturation and over-tillage without considering the long-term impact on the organic integrity of our soil. Today, we are paying the price.

The solution put forward by the government to build water reservoirs serves only as a short-term band-aid and does not address British soil turning irrevocably into sand within the next 40 years.

Instead, returning our soil's organic content to 3 per cent — instead of the current shocking 0.5-1.2 per cent — would double water retention and have a better chance of surviving drought and exposure to climate change over the coming decades.

We must discuss how adjusting our farming practices today can replenish the much-needed organic content in our soil within the next two to three years. In the face of climate change, this is the best way we can secure our farmers' financial futures.

Mariam Saadi
London KT2, UK

Russian economy leader 'laid it on with a trowel'

My father once told me one can see a person's wealth only at their daughter's wedding. So we learn from the very first scenes of *The Godfather* film that Don Corleone is a rich man.

Likewise, one can judge a country's wealth only by finding out when its metro or underground lines opened. Moscow metro opened in 1935 under Stalin, boasts 17 lines, five of which have opened since 2014 when we took Crimea. So your editorial ("Russia's economy is staggering but still on its feet", FT View, August 20) lays on its gloomy analysis with a trowel.

Actually imposing sanctions on us is like depriving a bear of honey. Everyone knows that that predator's staple food is not honey but very few in the west realise that Russia's staples are not high-tech creature comforts or posh cars — the sheer size of our country making us all spartans.

When I visited Britain for the first time in 1990 I couldn't understand how a pager worked. Something more drastic happened to our tsar Peter the Great during his grand tour to London in 1698: after dancing with corseted English girls he declared to his retinue that your women had vertical ribs and thus were not safe to marry.

That's why his heirs were marrying only German princesses.

Mergen Mongush
Moscow, Russia

Are pipeline fees fuelling both sides in this war?

Although Oleg Ustenko ("The west's phantom energy sanctions fuel Putin's war machine", Opinion, August 8) chastises the west for funding Vladimir Putin's regime by purchasing Russia's fossil fuels despite the existence of sanctions, he fails to mention that Ukraine collects transit fees from Russia for gas coming from Russia through Ukraine to Europe. Is Ukraine's own "war machine" thus being fuelled and is this also prolonging the war?

Russell A Smith
Washington, DC, US

Why Norway won't cut gas prices in a supply crunch

In his Markets Insight column (August 19) David Sheppard suggests that Norway should cut the price at which it sells its gas. But as Sheppard himself acknowledges, Norway is already

rather benefit intermediaries such as companies buying and reselling the gas. Although Norway is a large seller in the north west European gas market, its market power is limited. The absence of vertical integration means that parts of the value chain are separate and free to set prices independently.

As a remedy, Sheppard might consider price controls downstream, but the basis for that would be arbitrary.

The German government has recently committed €15bn to refill gas inventories before the winter. The purpose is to show its public that the Berlin government is serious about security of supply, and that Russia is not indispensable.

A special gas purchasing board will have the resources to agree delivery contracts, also from distant sources.

The operation is likely to lead to even higher natural gas prices in Europe. Presumably, German power and gas companies favour higher gas prices in order to replace Russian molecules with overseas ones, which involves higher transportation costs. The companies also need higher prices to finance expansion in solar and wind power. The market structures and practices prevalent in Germany to some extent facilitate the transmission of these high costs to consumers. But it is far from a perfect solution, and the market balance is difficult.

The more profound issue is the contradiction between the willingness to pay extremely high prices and the refusal to contract long-term supplies at more moderate prices (ie with Qatar and other suppliers).

A Keynesian approach to inflation worked in the 70s

Andrew Shouler blames the so-called discredited ideas of Keynesian demand management for the Bank of England's current economic dilemma (Letters, August 22). Yet he fails to appreciate that such demand management ended the inflation of the 1970s in the UK — and in the US.

Indeed interest rates were raised so high — to 20 per cent in the US — that a deep recession resulted, enough to curb demand and wring out inflation.

All the Bank of England can do to fight inflation is to raise interest rates, which it and the US Federal Reserve are doing zealously enough to compensate for their slow start.

Both, not unreasonably, thought initially inflation was transitory and would taper as supply blockages created by the pandemic eased. This turned out not to be the case, so the timing of their rate rises was off.

Both central banks furthermore aim to support high employment, so necessarily taking a cautious approach to raising rates. Even now, with these large and rapid rises, both institutions want to avoid the kind of recession which wreaked havoc on incomes in the early 1980s.

Both face a delicate balancing act. Employers have a responsibility to offer wage rises within productivity parameters and workers similarly have a duty to make reasonable wage demands, in the fight against inflation.

Government too has a role. Government income support during the pandemic in the UK and US hyped demand, for instance, and required curtailment. Employers and workers need to do their bit.

Unfortunately Giles, in his two opinion pieces (August 16; and "Person in the News", August 20), merely scapegoats the Bank of England, and so too does Shouler, your letter writer.

Emeritus Professor Albion M Urdank
University of California, Los Angeles
Los Angeles, CA, US

Small town gardens are beautiful and sustainable

In "Purple reign" (House & Home, August 6) Robin Lane Fox directs us to heat-loving plants for arid times.

I've been looking after a friend's large and very crisp garden this week, selectively watering a few favourite specimens and crossing my fingers.

Back at home, it's been a good time to have a bijou town garden like mine,

Use Dippy the dinosaur as Elgin Marbles model

While the question of custodianship of the Elgin Marbles (Letters, August 13) remains seemingly intractable, might I propose a solution which has met with favour when I have ventured it in both the UK and Greece.

British "ownership" of the Marbles is undeniable. They were bought by Lord Elgin from the Sublime Porte, the then rulers, and then sold to the British government. Thus title is arguably better than that for countless other looted treasures from Britain's global empire-building. Yet, as Dionysios Tsilioris maintains in his letter, the Marbles belong under Attican skies.

It so happens Greece will celebrate the 50th anniversary of the end of the Colonels' vile regime, and the restoration of democratic rule, on July 24, 2024. I was there in 1974. To mark this splendid date, Britain should consider the unprompted gift of the Marbles to the people of Greece. There would be honour on both sides. What better opportunity to reaffirm our links with that wonderful land and people?

There would thus be two years in which to manufacture perfect copies (whether by casting, laser cutting or 3D printing) for display in the British Museum. After all, Dippy, the Natural History Museum's diplodocus, loses none of its majesty for being a plaster cast. Could the prime minister, a noted classicist, perhaps take up this cause with his customary energy when he has time on his hands in a few weeks?

Bruce Barnfield
Selborne, Hampshire, UK

Truss can only hope for a career like this Savoyard

I much enjoyed the letter linking Gilbert and Sullivan and the Tory leadership race and the accompanying picture of the actor Henry A Lytton (August 22), presumably in a production at the Savoy Theatre.

However the suggestion this was from 1878 raised an eyebrow as I thought Lytton was an active "Savoyard" from roughly 1910 to 1935.

I think Liz Truss would be happy to have as long a career, even though, as the libretto from *HMS Pinafore* has it, she might not have to "think at all".

M Cary Leahey
New York, NY, US

Correction

the more critics condemn net zero. This is — literally — gaslighting, and it is especially evident in the UK, which became the first large economy to pass a net zero emissions law in 2019.

"Westminster's selfish obsession with net zero" is set to leave people "colder and poorer", Richard Tice, dangerous. Any policymaker manipulated into believing slower net zero progress is the answer to energy market shocks is wrong. Those who understand reality should not be forced to bear the cost of their delusions.

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stepping up gas extraction, at the cost of lost oil output, thus making a modest effort to help Europe through the crisis.

There are arguments, however, against his proposal for Norway to lower prices. Norwegian price cuts would be of little help to final users, but I fear the outcome might be an enduring supply crunch with high prices. In this situation, why should Norway or any other seller offer lower gas prices?

Øystein Noreng
Professor Emeritus, BI Norwegian Business School, Oslo, Norway

where pots of spectacular market-bought geraniums dazzle daily — and need only the attention of a watering can each evening.

Small is still beautiful — and sustainable, too.

Anne Greer
Worcester, Worcestershire, UK

● The corpses of 16 North Korean fishermen were not found on board when two fellow crew members who confessed to their killing were arrested on their vessel by South Korean officials in 2019, as wrongly reported in an article on August 19.

Opinion

The autocratic world will split before the west does

GLOBAL AFFAIRS
Janan Ganesh

The best thing about the Sino-Soviet split was that it helped the west win the cold war. The second best was the sublime quality of the comrade-on-comrade hostilities. There were scholarly feuds about the interpretation of Marxist-Leninist scripture. There was the perhaps apocryphal but please-let-it-be-true response of Zhou Enlai, the son of mandarins, to Nikita Khrushchev, the son of toil, when teased for being posh. "We are both traitors to our class."

Autocrats tend to fall out. The chauvinism that turns them against the west doesn't suddenly dissolve in their relations with each other. From Operation Barbarossa to the Iran-Iraq war, what saved the liberal cause in the 20th century, besides American power, was the elusiveness of a common front against it.

The west must ensure the same thing happens in the 21st century. This means cultivating rogue regimes at times. It means teasing out the tensions between them. Autocracies are no less prone to quarrel than they were 50 years ago, when Richard Nixon shook Zhou's hand amid the Peking-Moscow rift. The question is whether the west still has the art and cynicism to exploit the fact.

This summer, Joe Biden bumped fists with the Saudi crown prince that he wasted 18 months shunning as a brute. The displeasure of US liberals was loud. But it will be as nothing next to the rage of the right if he makes a similar overture to Iran. Gingerly, the White House is testing domestic opinion in advance of a potential revival of the nuclear pact.

There are sound enough arguments against either or both of these rapprochements. But they must be weighed against the fact that both Saudi Arabia and Iran have alternative suitors in China and Russia. Both also have the wherewithal to ease the west's energy problem. Even if, adjusting for all that, it is still right to freeze them out, the US will have to form relations of convenience with other unpleasant regimes in future. Or maintain existing ones. It cannot do so if it commits to a "democracies versus autocracies" framing of the world.

> Even in situations where the ideologies match, raw egoism is the spoiler

Fears abound of western exhaustion with the war in Ukraine. The historical record suggests the authoritarian world will fracture first: if not over this, then something else. While liberal countries tend to be liberal in much the same way, there are flavours of autocracy, and they pair badly. The ethnic chauvinist hates the universal Marxist. The cleric hates the colonel. Two theocracies of different denominations hate each other. "Axis" was a kind word for a group of second world war belligerents — Germany, Italy and Japan — that rarely viewed each other as racial or civilisational equals.

Even where the ideologies match, raw egoism is the spoiler. A Kremlin grievance with Washington is that Russia is not viewed there as a great power. Its answer: to throw in its lot with a China that has 10 times the population and no obvious delicacy towards junior partners. The Sino-Soviet split began within a decade of the start of the cold war. Who sees this Russian-Chinese tryst lasting much longer?

It is not enough for the US to wait things out, though. It must be an active stoker of divisions. But that will require domestic politics that doesn't go into meltdown each time the president uses cynical means to secure a liberal end.

The oddest thing about US statecraft is the combination of brilliant tactical flexibility and a refusal to acknowledge it in retrospect. The idea has taken hold that America got where it is by "standing up for our values". In fact, the "rules-based liberal order" is also the accretion of lots of moral compromises in the past.

With a nuclear monopoly and a vast share of world economic output, there is a case for Harry Truman in mid-1945 being the most powerful human being who has ever lived. And still he didn't feel able to purge Germany of all its ancien regime. He kept the emperor of Japan on the Chrysanthemum Throne. The CIA that he invented wasn't above a bought election or coup d'état. If the US made moral accommodations at the all-time peak of its powers, how much more expedient will it have to be now?

Too expedient to avoid domestic rancour, it seems. The cries from the left ("sellout") and right ("appeasement") are distinct, but amount to the same constraint on foreign policy. The US, Nixon included, squandered resources and intellectual effort in the early cold war on the mistaken notion of "monolithic communism". It shouldn't fall for monolithic autocracy. Eventual victory lies in sensing then exploiting the cracks within illiberalism. While ethical squeamishness is natural, the higher ethic is to win.

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Second Trump term would imperil republic

Martin Wolf Economics

What could rule by an 'America-first' nationalist mean for the residual credibility of liberal systems?

Last week the US took another step on its journey towards autocracy, as Liz Cheney lost the Republican primary for her Wyoming district. Her father is former vice-president Dick Cheney, who masterminded the Iraq war under George W Bush. She is also unimpeachably conservative. Yet she has become anathema to Republicans. Her crime? She believes that accepting the outcome of fair elections is a higher duty than promoting the lies of their "great leader". (See charts.)

The Republican party has adopted the Führerprinzip ("leadership principle") of the Germans in the 1930s. This is the notion that loyalty to a leader who defines what is true and right is the overriding obligation. The Republicans' embrace of Trump's Big Lie that he won the last presidential election is a perfect instance of this principle. Here, moreover, it is directly set against a core value of liberal democracy, that of fair elections. Ten years ago, most of us would have thought such a development inconceivable in the US. But with the ascent of Donald Trump it became likely. Now, the reaction not so much of Trump to his defeat as of his party to his lies provides another decisive moment.

As Harvard's Steven Levitsky and Daniel Ziblatt argue in their splendid book, *How Democracies Die*, it is not hard to subvert a democracy. It has happened many times, in both the past and more recently. First, subvert the electoral system. Second, capture the referees (the judiciary, tax authorities, intelligence agencies and law enforcement). Third, sideline or eliminate political opponents and, above all, the media. Supporting all such assaults will be a fierce insistence on the illegitimacy of the opposition and the "fakeness" of information that does not align with the lies the leader finds most useful today.

In his first term, Trump made much progress with establishing his lies as the truth for his supporters. But neither he nor his subordinates had yet worked out how to re-engineer the electoral system or the government, partly because he did not yet have the "right" — that is fanatical, competent and devoted — assistants. He was surrounded by people now judged "disloyal", namely those who had at least some principles.

This has changed. He has now made the party largely his own. Cheney's defenestration is proof of that. As important is the widely shared conviction among Republicans that he is above accountability for his behaviour to the law or, for that matter, Congress. He and his party have, as Robert Kagan has argued, also exploited the lies about the "steal" to justify the subversion of US elections, on which much progress is being made.

The crucial next stage for Trumpism is the replacement of the leaders and staff of core institutions of the state by people loyal to him personally. For that to happen, he must first become president. This is why progress in subverting elections is important, as is keeping him out of prison. But in two recent articles, Jonathan Swan of Axios has described something else that would be vital: a plan to ensure that the government will be staffed by true loyalists from top to bottom. A crucial aspect of this, he suggests, is to replace the permanent staff of agencies of the government with carefully vetted loyalists. If the Republicans managed to control Congress, this may become not that hard to imagine.

Suppose then that Trump loyalists headed and staffed the FBI, CIA and Internal Revenue Service. Suppose loyalists were also placed in all senior military positions under a devoted secretary of defence. Suppose loyalists were put on the board of the Federal Reserve and all significant regulatory agencies. Imagine what this would mean for the rule of law and civil rights. Imagine, too, the pressure such agencies could put on independent businesses, notably including those of the media.

> Imagine what putting loyalists on the boards of the Fed and big regulatory agencies might do

The logic of the market under autocracy is one of crony capitalism. Would the US be so very different? Maybe the federal system and judiciary would protect personal independence. Yet if people whose only principle is loyalty to the leader were to staff the federal government, his will would be hard to resist.

Despotism means unaccountable rule. It does not mean competent or intrusive rule. It is possible that the despotism would be incompetent and lazy. There are countless examples of this. But it would be despotism, all the same.

What would a second Trump administration of such a kind mean for the world? What would it mean above all for its allies? What would rule by an "America-first" nationalist with the sort of administration described above mean for the residual credibility of the liberal international economic system? What would it mean for global co-operation? "Nothing good" is the answer to all these questions. The end of "American exceptionalism" is likely to mean the formation of distinct spheres of interest as the basis of global order. Some might like that. But it would also be a transformation — a catastrophic one, in my view — towards a world of despotism.

In 27BC, the Roman republic transformed into the military dictatorship we call the Roman empire. It is not impossible that a similar transformation is under way in the US. That may still seem inconceivable to most people. I hope that is so. Trump is old, after all. He may have no suitable replacement. Yet every day he is exploiting and so displaying the demoralisation of the American republic. American conservatism has become a radical nationalist movement loyal to the truths invented by one man and dedicated to the overthrow of the "Deep State", by which is meant their own government. Dick Cheney says that Donald Trump is the "greatest ever threat to our Republic". On this we should believe Cheney: he is.

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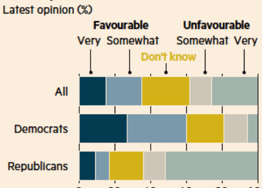
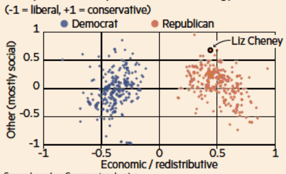
Liz Cheney is remarkably popular, but only with Democrats
Latest opinion (%)



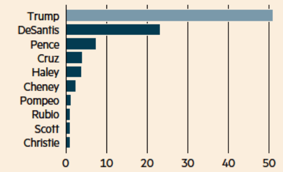
Source: YouGov Aug 13-16

Cheney is very conservative on any measure
US Representatives by DW-NOMINATE ideology score (-1 = liberal, +1 = conservative)



Scores based on Congressional votes
Source: UCLA, Voteview: Congressional Roll-Call Votes Database, Keith Poole & Howard Rosenthal

The 2024 nomination is very much still Trump's to lose
Republican voters' preferred candidate for the 2024 presidential election (average of five polls, Jun-Aug 2022, %)



Source: Real Clear Politics

Europe and Nasa are right to shoot for the stars

AEROSPACE
Peggy Hollinger

politically rather than industrially driven; both require tens of billions of dollars of state support; and both risk delivering uncompetitive results.

Finally, I will bet that the EU's plan

When Artemis 1 lifts off on Monday for its first unmanned test flight, it will be heralded as the launch of a new age of space exploration that could take humans beyond the Moon to Mars.

than a technical solution", he says.

Contractors such as Boeing, which is building the rocket's core stage, have been criticised for delays and poor management. Yet other factors contributed

Brussels may have wooed Intel with generous incentives, but the US chipmaker is trying to catch up to Asian rivals TSMC and Samsung with aggressive expansion. That strategy remains

calculates the US and Europe are offering just 10-15 per cent.

So is Europe wasting its money if chipmakers it backs struggle to produce chips that can compete globally?

What do Nasa's plans to launch one of the world's most powerful rockets next Monday have in common with Europe's ambitions to build cutting edge semiconductor factories?

At the very least, both are moonshots — one literally and the other metaphorically. Other similarities struck me as I listened to a Boeing executive last week discuss the challenges of building the first rocket system designed to bring humans back to the Moon after a 50-year absence. Both projects have been

to double its share of global semiconductor manufacturing to 20 per cent by 2030 will, like Nasa's $20bn space launch system, overrun and overspend.

But does that mean both projects will be a waste of taxpayers' money? Not necessarily. Much will depend on how politicians and the public value the capabilities that are delivered.

"Political projects get challenged on performance criteria," says Professor Bent Flyvbjerg of the University of Oxford's Saïd Business School, an expert in management of megaprojects. "But you can argue for both of these projects. It could be about jobs or it could be strategic. The problem is that these are never discussed clearly and openly like that, so things become muddled."

But that was never the key consider-

> Perhaps the success of two moonshot programmes should not be judged only by commercial criteria

ation when the space launch system was announced with a $6bn budget a decade ago, according to Casey Dreier, senior space adviser to The Planetary Society, a non-profit group. Instead, politicians wanted to preserve the thousands of jobs that were at risk when the Space Shuttle programme ended in 2011. It's "optimised for a political rather

to soaring costs. Rebuilding a supply chain that had withered when the US abandoned crewed lunar missions in the 1970s was never going to be cheap.

And technology has since emerged that threatens to render the launch system redundant. Elon Musk's reusable Falcon rockets have slashed the costs of launch. His giant, reusable rocket, Starship, aims to take them even lower.

Critics of the space launch programme now suggest it should be ditched when Starship comes to market. A government watchdog has warned that the first few Artemis missions could cost an eye-watering $4bn each.

Similar criticisms are being levelled at Europe, even before it dispenses any subsidies for new chip factories, or fabs.

unproven. And as technology advances, investment needs rise.

ASML is Europe's strongest card in the semiconductor race as it dominates the market for advanced lithography machines. Yet even the Dutch company was initially wary of Europe's aim of "strategic autonomy" in advanced chipmaking. It estimates that operating costs for a new facility in Europe would run roughly 2.5 times higher than in Asia without hefty subsidies.

But even with subsidies, will Europe's €43bn in public and private investment be enough? Consultants BCG estimate that Taiwan pays as much as 25-30 per cent of the total cost of ownership of a new fab built in the country over 10 years. China gives even more. BCG

The fact is that neither Europe's chip ambitions nor Nasa's space launch system are driven entirely by commercial concerns. So perhaps they should not be judged solely on commercial criteria. Clearly, flagrant waste is unacceptable. But some returns may be less visible when judged by traditional methods — the seeds of a lunar economy in which many companies can eventually take part, for example, or the skills and innovation sparked by new chip capabilities.

We won't know whether the moonshot programmes deliver on these less commercial measures for a long time. But we do know that if we don't reach for the stars we will never get there.

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Lex.

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Thames Water/hosepipe ban: it's raining cash

Scattered rain within its territory has given Thames Water little relief. London's main water company is imposing a hosepipe ban amid a UK drought. Householders are furious because the privately owned utility leaks so much water — around 22 per cent of the total that it supplies.

The government should be just as worried by the cash gusher the Thames group of companies leaks in interest payments. This makes it financially vulnerable as interest rates rise.

Ofwat recently warned the credit quality of the sector had deteriorated unacceptably. It said investors were increasingly unwilling "to invest in water companies rated BBB-/Baa3". Thames is among utilities whose debt is rated only one notch above this, the water regulator reported.

The Thames group has hefty borrowings. A Byzantine corporate structure complicates analysis. However, Kemble Water Finance features as the group's funding arm. It had £21.7bn in net debts at the end of March, according to S&P Global. That is £1,450 for every Thames customer.

Interest payments in the 12 months to March were almost £1.2bn. Capital expenditure by Thames Water on jobs like fixing leaks was only just higher.

Water companies, as regulated monopolies, can bear a lot of debt. But leverage seems excessive at the Thames group, given rising costs and ebitda of £1bn. S&P rates the liquidity and solvency of the operating business in the bottom quartile of its peers.

Ofwat plans to bar water utilities from paying dividends if their credit rating is BBB/Baa2 or below, like Thames. The latter suspended equity payouts in 2017. But it is unclear whether owners, Canadian pension funds among them, have extracted cash by other means in recent years.

In the private capital industry, refinancings and shareholder loans are often used to take tax-deductible payouts. The net debts of Kemble Water Finance have risen by almost £3bn over the past four years.

Water companies make leakage numbers hard for outsiders to work out. Their finances are even murkier. Collapses of the kind that claimed energy group Bulb are highly unlikely. But financial stress is a bigger risk, with customers footing the bill.

A proper accounting is overdue at Thames and its peers. The water shortage should prompt lawmakers and regulators to demand one.

Meta: graphic content

Facebook's parent company Meta has sunk to the bottom of the 10 most valuable US stocks. It is struggling to reconcile the impact of privacy changes that limit access to data for targeted adverts. Boss Mark Zuckerberg has staked the company's future on the success of an expensive virtual reality metaverse. Judging by a recent image, it will not pay off for years to come.

The metaverse selfie Zuckerberg uploaded was supposed to herald the launch of the virtual reality platform in France and Spain. Over $27bn has been reported in operating losses for the metaverse project so far. Yet the image looked like it had been knocked up on a home computer in 1995. Zuckerberg responded to criticism with a more realistic, but still cartoonish, avatar.

Investors must hope sophisticated graphics are coming. Meta's ability to expand acquisitions such as WhatsApp and Instagram has yet to translate to success in launching its own projects. See the failed cryptocurrency Diem.

Zuckerberg is doing a poor job communicating his excitement for the metaverse. Market scepticism is high. Since Facebook renamed itself Meta, the shares price has halved. The stock is priced at a significant discount to both its own long-term average and the wider market. Meta's price/earnings ratio is 14. The S&P 500's is 20.

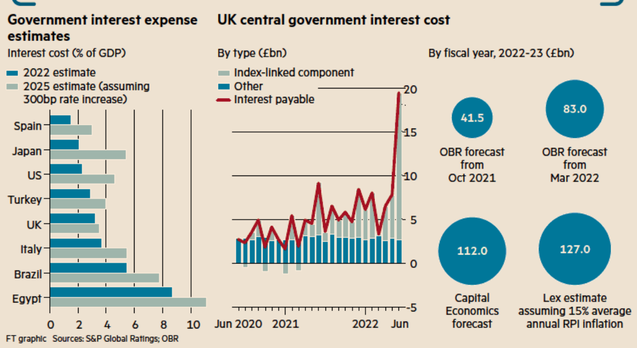
The share decline is also thanks to a slowdown in digital ad revenue. Forecasts for the current quarter show a second consecutive drop in revenue compared with the previous year.

In a bid to lift sales, Meta is pushing TikTok-like short video advertising and promoting more content to Instagram users from creators they do not follow. The real answer is to slow spending on the Reality Labs division until digital advertising picks up.

Despite privacy changes, Meta remains well-placed to benefit when it does. Between Facebook, WhatsApp and Instagram, it has 3.65bn monthly active users. This is equal to nearly half the global population. No other social media company comes close.

Government debt: missing link

The UK government's borrowing costs are soaring because of its higher proportion of inflation-linked bonds compared with other developed countries. Payments to index-linked holders more than doubled in June this year, a trend that will continue as inflation picks up further.



FT graphic Sources: S&P Global Ratings; OBR

Higher prices in the UK will not only squeeze the pocketbook of the average Briton. They will also hit the government hard. Talk of double-digit inflation this winter — Citigroup thinks the rate could pass 18 per cent — comes as energy prices continue to soar. But the country's over-reliance on inflation-linked debt will mean punitively higher financing costs too.

Britain pioneered the issuance of index-linked bonds, or "linkers", in the 1980s with the rationale that the government's commitment to reducing inflation directly lowers borrowing costs. This would remove any temptation to inflate away debt.

That premise has proved flimsy in 2022. UK government debt now equals annual economic output, one of the highest proportions of any developed economy. Soaring inflation, through inflation adjusting, has exacerbated the pain of excessive debt.

Linkers make up almost a quarter of total UK central government debt of £2tn. Compare that with just 8 per cent in the US and less than 5 per cent in Germany. UK government interest payments in June more than doubled to £19.4bn this year. This increase was entirely due to the rise in semi-annual linker payments connected to a surging retail price index (which includes mortgage rates). This measured inflation at 12.3 per cent in July.

In March the UK's Office for Budget Responsibility had forecast interest costs to hit £83bn this fiscal year, about double what it expected at the end of last year. That burden will continue to pile up. Capital Economics expects an extra £30bn to be paid on top of that. An average RPI rate of 15 per cent next year would boost the cost to almost £130bn, Lex calculates. And that does not include the impact of any additional interest rate rises by the Bank of England.

Even without these, borrowing costs alone would equal about 5 per cent of GDP. That could push UK spending on debt servicing above that of Europe's most indebted country, Italy, if the latter's interest costs rose by 3 percentage points, thinks S&P. Those kinds of numbers should send a message to UK policymakers to clamp down on inflation, and soon.

Adidas/Rørsted: running battle

Adidas describes itself as a team of rebellious optimists. But the German group's can-do spirit has worn increasingly thin. A few weeks after the sportswear company warned on profits, it has announced the departure of chief executive Kasper Rørsted next year. His exit three years before his contract expires underscores the waning credibility of his ambitions.

The stock fell 5 per cent on the news, cementing a decline of nearly 50 per cent over the past year. Adidas's shares have returned to where they started at the beginning of Rørsted's tenure in 2016. Over the same period Germany's Dax index has risen by a quarter.

There were high hopes when Danish-born Rørsted, who had previously boosted returns at Germany's Henkel, took over. Flogging more expensive items and cost-cutting duly pushed up operating margins 3.2 percentage points to a historic high of 11.3 per cent in the three years to 2019.

The focus on profitability might have held back top-line growth. Sales grew 15 per cent in the five years to 2021, compared with more than double that for Nike. When Rørsted took over, Adidas was valued at a 45 per cent premium to Nike. Their positions have reversed, with Adidas trading on a forward price/earnings multiple of 20 compared with 29 for Nike.

China is the biggest hurdle. The region contributed more than 30 per cent of operating profits in 2019. It will deliver little more than half that this year, according to UBS. Rørsted insists that the overwhelming problem is China's lockdowns. But Adidas's stance on Xinjiang cotton prompted a consumer boycott there. That allowed domestic brands to grab market share.

Rørsted's departure means investors should brace for a paring back of the medium-term revenue growth targets of 8 to 10 per cent, even if the new boss opts — sensibly — to spend more on marketing to boost the top line. Given the dismal economic outlook and challenges in China, Adidas will have to run hard just to stand still.

AMC Entertainment: meme me up

Adam Aron, the memelord and chief executive of AMC Entertainment, sees its shareholder register as an exclusive club. Perhaps too exclusive.

AMC has dodged financial distress by issuing billions of dollars worth of equity since the pandemic. An emblematic meme stock, its trading value has broken from reality. AMC would like to sell more equity but its shareholders have not yet provided the authorisation to issue more common shares over worries of dilution.

Preferred stock is another matter. AMC this month decided to issue to its common stockholders a preferred stock unit. This trades under the ticker "APE", a nickname for its army of retail traders. This essentially mirrors a common share in economic and voting power, and eventually will be convertible into one. AMC must still get shareholder authorisation.

Wall Street does not approve. The APE unit trades at about $7 while AMC shares are $10, offering an arbitrage opportunity. It is also a challenge for AMC. It would like to sell more APE units to raise capital. But at this discount to the common stock, raising new cash is possible but expensive.

Business has improved, though. AMC recently announced a strong second quarter with slightly positive operating cash flow of $52mn. Yet box office receipts have not reached the levels of 2019 and may not for years.

Aron has masterfully managed the shareholder experience around AMC to keep it afloat. But he knows he needs to keep the show rolling with AMC, which carries $9.5bn in net debt.

Theoretically, preferred stock should trade at a premium to the common given its higher priority in a potential bankruptcy. Shareholders could short the common stock and use the proceeds to buy the APE unit. When the APE unit can be converted to common stock, shareholders could make that swap, deliver back the borrowed share and pocket the difference. That trick is one that Aron himself could salute.

Lex on the web
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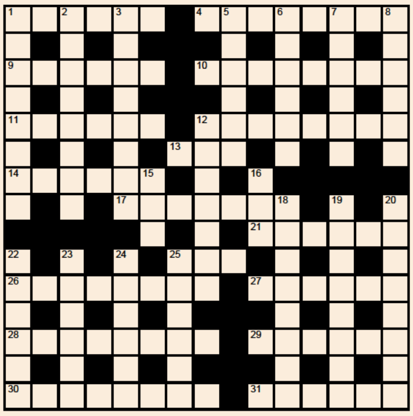
CROSSWORD

No 17,181 Set by GOZO



The thematic definitions of 18 solutions (9 reading across and 9 downwards) are omitted. Three of these solutions are plural.

ACROSS

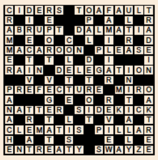
1 Nostalgic for conifer? (6)
4 Sullen international sportsman's apple with caramel topping (8)
9 Head off influential figure (6)
10 Valley almost catching aquatic mammal (8)
11 Rode at front, backing aid to driver (3-3)
12 Favourite holds a roué (8)
13 See 25
14 Pest is left out in shade (6)
17 Arrived, during yesterday in France (7)
21 Relative from Tyneside, gasping? (6)
25, 13 The Divine Comedy? (6)
26 The length in question (8)
27 Attack, losing head in drinking-bout (6)
28 Patronage cut off, endlessly (8)
29 Put up with what is available and create party (4,2)
30 Brilliant fish (8)
31 1,000 sorts – out of sorts (6)

DOWN

1 Out of shape worker (8)

JOTTER PAD

Solution 17,180



1 Out of shape worker (8)
2 Late evening glass of beer (8)
3 Teachers' union has to brood (8)
5 Scrutinise John and young Katherine, endlessly (4,2)
6 I left captain, tossing in sleep? (6)
7 Ringlet with two points (6)
8 Dish containing a relish (6)
12 Entertainer on jetty? Rubbish! (7)
15 Listener on this spot in the Old Kent Road (3)
16 Writer's enclosure (3)
18 Resume once more around start of day (8)
19 Weather a storm (8)
20 Devon and Cornwall lets (8)
22 Regularly encountered in town in the US (6)
23 Volunteers touring Persia's capital (6)
24 Educate artists and porpoises as a group! (6)
25 Knight upset silver hay-cart (6)