FINANCIAL TIMES

WEDNESDAY 28 SEPTEMBER 2022 INTERNATIONAL NEWSPAPER OF THE YEAR ASIA

Why the strength of the dollar matters
MARTIN WOLF, PAGE 17

Truss finds that UK cannot act like the US
JANAN GANESH, PAGE 17

Sabotage fears as Russian gas pipelines suffer series of leaks

- Nordic states say accident unlikely
- Ruptures cause 1km-wide bubble

RICHARD MILNE — OSLO
DAVID SHEPPARD — LONDON
GUY CHAZAN — BERLIN

Suspicious leaks on two Russian gas pipelines in the Baltic Sea are likely to be the result of sabotage, Danish, German and Polish officials have warned, heightening concerns over the vulnerability of Europe's energy infrastructure.

Denmark's prime minister Mette Frederiksen said sabotage could not be ruled out as the cause of the leaks in the Nord Stream 1 and 2 pipelines, which have been at the centre of the energy crisis between Russia and Europe.

"There are three leaks, and therefore it is difficult to imagine that it could be accidental," she said.

German officials said the sudden loss of pressure in both pipelines could be the result of a "targeted attack". They added that Russia's involvement could "not be excluded", but said Germany was not involved in the investigation being run by Denmark and Sweden.

The leaks come as Russian gas supplies to Europe have dwindled as part of President Vladimir Putin's efforts to deter support for Ukraine. The leaks, which will not directly hit Russian gas flows because the pipelines were not operating, coincide with the inauguration of a pipeline that will deliver Norwegian gas through Denmark to Poland for the first time.

"We see clearly that it's an act of sabotage, related to the next step of escalation of the situation in Ukraine," Polish premier Mateusz Morawiecki said.

Mykhailo Podolyak, adviser to Ukraine's president Volodymyr Zelenskyy, said on Twitter: "'Gas leak' from NS-1 is nothing more than a terrorist attack planned by Russia and an act of aggression towards EU. Russia wants to destabilise economic situation in Europe."

Asked if sabotage was the cause of the leak, Kremlin spokesman Dmitry Peskov told reporters "no version can be excluded now", the Russian agency Interfax reported. "Obviously the pipe has been damaged somehow," he said.

Sweden's maritime administration reported two leaks in the Russian Nord Stream 1's pipelines close to the Danish island of Bornholm in the Baltic Sea. That report came hours after Denmark's energy agency said there was a separate leak, also close to Bornholm, on the Nord Stream 2 pipeline — which Germany effectively cancelled shortly before Russia's invasion of Ukraine.

Nord Stream 2 had been filled with gas by Russia at the end of last year in preparation for its planned start-up, while Nord Stream 1 was transporting gas to Germany as recently as the start of this month.

Danish authorities said the gas bubbles in the Baltic Sea measured about 1km in diameter. Sweden and Denmark warned ships to avoid the area.

Sweden's National Seismology Centre said it had detected two powerful blasts the day before in the area of the gas leaks. "There is no doubt that these were explosions," Björn Lund, a member of the seismic network, told Sweden's state broadcaster SVT.

Terje Aasland, Norway's oil and energy minister, said that as the leaks looked like sabotage the Nordic country was paying close attention to security, on the day that it opened a new gas pipeline to Poland.

Abe honoured More than 4,000 dignitaries attend state funeral for assassinated premier

Kyodo News/Getty Images

Japan's prime minister Fumio Kishida stands before a large portrait of Shinzo Abe, one of his predecessors who was assassinated in July, as he delivers a eulogy at the state funeral in Tokyo yesterday.

During the ceremony at the Budokan arena, Kishida spoke before more than 4,000 guests including world leaders, Japanese politicians, business figures and some of the imperial family. Foreign dignitaries included US vice-president Kamala Harris, India's premier Narendra Modi, Australia's prime minister Anthony Albanese and UK foreign secretary James Cleverly.

After a period of public grief following Abe's murder at the age of 67, the government's decision to hold an $11mn funeral sparked an outcry and a sharp fall in popularity for Kishida.

Demonstrators marched on Japan's parliament to protest against the state funeral, while tens of thousands of supporters queued nearby to honour Japan's longest-serving leader.

Abe was renowned for both his stimulus programme, dubbed Abenomics, as well as his hawkish opinions on reforming the country's pacifist constitution.

Parliament protest page 4

Briefing

- **China falls behind Asia**
The World bank has forecast that economic output will lag behind the rest of the continent for the first time since 1990, as Covid policies take their toll.— PAGE 4; BIG READ: CHINA VACUUM, PAGE 15

- **Yellen defends green push**
Treasury secretary Janet Yellen has defended the $370bn in incentives passed by Congress, saying the US needed to speed up the green transition.— PAGE 2

- **Glencore in copper crisis**
A liquidity crisis at Maike Metals International, its largest partner for selling refined copper in the Chinese market, has caused disruption at the miner.— PAGE 8

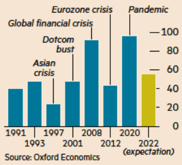
- **Crypto baron 'not hiding'**
Do Kwon, co-founder of collapsed Terraform Labs, has broken his silence after Interpol issued an arrest notice against him. He said he was in his living room.— PAGE 6

- **Nasa strikes asteroid**
A spacecraft has hit an asteroid in a test of technology that could divert a space rock to prevent a cataclysmic impact on Earth.
— PAGE 3; ANJANA AHUJA, PAGE 16

- **Nigeria rates hit record**
The central bank has raised interest rates to 15.5 per cent as it struggles to contain a surge in inflation that has seen fuel and food prices soar.— PAGE 3

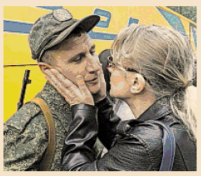
Datawatch

World under stress
% of advanced economies in recession



Source: Oxford Economics

The world looks set to narrowly avoid a recession next year. Less than half of big economies typically suffer recession in stress periods, roughly the same share as expected for 2022-23. Exceptions have been the financial crisis and pandemic



Draft dodging puts Putin in a bind over Ukraine war
Analysis ▸ PAGE 3

Tax the rich more to help victims of energy crisis, says ECB chief economist

MARTIN ARNOLD — FRANKFURT

The European Central Bank's chief economist has called on eurozone governments to tax rich people and companies more to finance support for those hit hardest by the energy crisis.

Philip Lane said that funding for policies to help the most vulnerable groups in society "could take the form of higher taxes on higher earners or on industries and firms that are highly profitable in spite of the energy shock".

Lane's remarks were published after the UK government's budget, which included a tax cut for the highest earners and triggered a bond sell-off and sharp depreciation of the pound.

The UK and EU member states have unveiled fiscal support for households and businesses to deal with soaring energy prices. However, after presenting plans for a £150bn energy price cap, the UK also unveiled £45bn of tax cuts — mainly for those earning more than £150,000 — funded by extra borrowing.

Investors globally are increasingly concerned that monetary policy and fiscal policy are out of sync. Central banks worry that expensive government support measures will lead to greater inflation, forcing them to raise rates higher.

Lane said governments faced a trade-off in choosing how to finance measures to support those hit hardest by the crisis created by Russia's invasion of Ukraine, which has drastically cut Moscow's supply of natural gas and oil to Europe.

"If you support those in need through higher taxes, it has less of an effect on inflation than if you increase deficits," he told the Austrian newspaper Der Standard, giving more detailed advice than is usually provided by the central bank to politicians on tax policy.

Lane's comments support the EU's plan to raise €140bn from a levy on excess profits in the energy sector to spend on measures cushioning the blow of high prices, to be discussed by policymakers on Friday. The EU has not, however, advocated higher taxes for wealthier citizens.

"From the point of view of fairness, but also from a macroeconomic perspective, governments should support the income and consumption of those households and firms that are suffering the most," said Lane. "The big question is whether part of this support ought to be financed by tax increases for those that are better off."

BoE eyes action page 2
Airlines attack UK leadership page 6
Odey profits page 10
Lex page 18

Australia	A$7.000(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

	Sep 27	Prev	%chg
S&P 500	3654.58	3655.04	-0.01
Nasdaq Composite	10843.23	10802.92	0.37
Dow Jones Ind	29217.48	29260.81	-0.15
FTSEurofirst 300	1539.06	1540.75	-0.11
Euro Stoxx 50	3333.55	3342.56	-0.27
FTSE 100	6984.59	7020.95	-0.52
FTSE All-Share	3810.44	3841.45	-0.81
CAC 40	5753.82	5769.39	-0.27
Xetra Dax	12139.68	12227.92	-0.72

CURRENCIES

Pair	Sep 27	Prev	Pair	Sep 27	Prev
$/€	0.962	0.965	€/$	1.039	1.036
$/£	1.078	1.079	£/$	0.928	0.927
£/€	0.893	0.894	€/£	1.120	1.118
¥/$	144.735	144.355	¥/€	139.250	139.281
¥/£	155.953	155.773	£ index	74.097	74.532
SFr/€	0.952	0.956	SFr/£	1.066	1.069

CRYPTO

	Sep 27	Prev	%chg
Bitcoin ($)	19467.21	19225.28	1.26

GOVERNMENT BONDS

Yield (%)	Sep 27	Prev	Chg
US 2 yr	4.30	4.29	0.02
US 10 yr	3.96	3.80	0.16
US 30 yr	3.81	3.66	0.15
UK 2 yr	4.65	4.52	0.13
UK 10 yr	4.50	4.26	0.25
UK 30 yr	4.98	4.56	0.42
JPN 2 yr	-0.05	-0.05	0.00
JPN 10 yr	0.25	0.25	0.00
JPN 30 yr	1.43	1.38	0.05

Dubai

Nikkei	26571.87	26431.55	0.53
Hang Seng	17860.31	17855.14	0.03
MSCI World $	2408.44	2438.50	-1.23
MSCI EM $	888.58	905.84	-1.90
MSCI ACWI $	560.43	567.86	-1.31
FT Wilshire 2500	4747.22	4800.88	-1.12
FT Wilshire 5000	37064.71	37485.50	-1.12

Ethereum	1344.00	1336.92	0.53
COMMODITIES			
	Sep 27	Prev	%chg
Oil WTI $	77.93	76.71	1.59
Oil Brent $	85.61	84.06	1.84
Gold $	1643.35	1643.55	-0.01

GER 2 yr	1.96	1.93	0.03
GER 10 yr	2.23	2.11	0.12
GER 30 yr	2.08	1.94	0.15

Prices are latest for edition
Data provided by Morningstar

A Nikkei Company

INTERNATIONAL

Currency slide

UK central bank eyes action on pound

Chief economist notes market turmoil but rejects call for emergency move

DELPHINE STRAUSS — LONDON

The UK government's loosening of fiscal policy "will require a significant monetary response", the Bank of England's chief economist has said, while signalling the central bank did not expect to act before its next scheduled meeting in November.

Speaking a day after sterling hit an all-time low against the dollar, Huw Pill said the Monetary Policy Committee was "certainly not indifferent" to the sell-off in sterling and gilt markets sparked by chancellor Kwasi Kwarteng's announcement last week of big unfunded tax cuts.

Pill highlighted the combined effect of the government's new fiscal stance, "significant" reaction in the markets and the broader context of rising interest rates in other countries. "All this will require a significant monetary response," he said.

But Pill, speaking at a conference in London, pushed back against calls from some investors for an emergency interest rate rise to shore up the currency and restore confidence in the UK's macroeconomic outlook.

He said the best time to carry out a "necessarily comprehensive assessment" of not just fiscal policy but also energy and labour market developments would be when the BoE updates its forecasts alongside its November decision on interest rates.

In the meantime, policymakers' ability to reassure markets would rely on the "essential stability and credibility" of the UK's macroeconomic framework, he said.

In an implicit criticism of Kwarteng's initial decision to publish fiscal plans without the usual procedures for a Budget, Pill added that it was helpful HM Treasury had now set a clear timetable to clarify the government's fiscal rules and submit to external scrutiny by the Office for Budget Responsibility.

"In my view, the combination of fiscal announcements we've seen will act as a stimulus to demand," said Pill, noting this did not necessarily represent the view of the other eight MPC members.

Pill said that when the BoE last published forecasts for the UK economy in August, they had shown the economy falling into a prolonged recession, partly because the government had yet to set out measures to protect households and businesses from higher energy prices.

This had left UK policymakers facing an acutely difficult trade-off because aggressive action to curb inflation would mean a severe downturn, he said.

> The BoE is concerned about persistent inflation and is prepared to raise interest rates

Now that the government had set out fiscal plans that would support household incomes, "that has freed monetary policy to do its job", said Pill, adding: "That freedom will have to be used."

While the government is focused on generating growth, the BoE is concerned about persistent inflation and is prepared to raise interest rates to restrain demand and slow price rises. Pill said the bank had to be "prepared to take unpopular decisions, if necessary".

The pound was up 0.6 per cent in afternoon trading in London at $1.075, trimming larger gains earlier in the session. Sterling has fallen about 20 per cent against the US currency this year and is near its lowest levels since 1985.

Markets were pricing in a 1.5 percentage point increase by the MPC to 3.75 per cent in November.

Martin Wolf see Opinion

Europe. Energy security

France resists Spanish gas hub strategy

Paris has opposed a revived Pyrenees pipeline plan despite Berlin's enthusiastic backing

BARNEY JOPSON — MADRID
LEILA ABBOUD — PARIS

Europe's urgent search for alternatives to Russian gas has provoked a stand-off across the Pyrenees as a Spanish quest to dig a pipeline through the mountains is stymied by French scepticism.

Spain is reigniting its ambition to become western Europe's new hub for gas imported from beyond the continent as the flow of Russian gas to the region through pipelines such as Nord Stream 1 dwindles. Key to its hopes is laying the MidCat pipeline that could carry 7bn cubic metres (bcm) of gas a year, equal to about a fifth of Spain's annual consumption, from Catalonia to south-west France.

But French president Emmanuel Macron voiced opposition to the multi-million-euro project this month, saying an argument that it would alleviate Europe's gas problems was "factually false".

Whether Spain can find enough allies to best French resistance will help shape the identity of Europe's new energy gatekeepers, as the continent's power map is redrawn amid rationing warnings and rising household energy bills.

Teresa Ribera, Spain's energy and environment minister, said it was premature to write off the pipeline. "It is a conversation that goes beyond the bilateral relationship between Spain and France. These are not questions of shared infrastructure between two countries. There is a bigger picture that needs to be considered," she said.

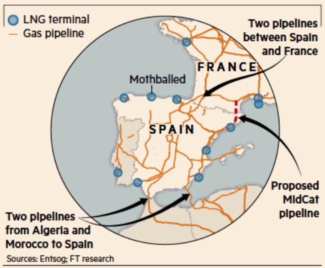
Spain, which has long lamented being an "energy island" due to its poor connections with France, has Germany's backing. Europe's largest economy badly needs to replace Russian gas and could import fuel from Spain with some improvements to France's network. Olaf Scholz, German chancellor, last month said he strongly backs the link.

The 100km Spanish section of the MidCat pipeline would cost €375mn and be built by Enagás, the national gas grid operator, which has two links to France with a capacity of 8.5 bcm. Paris says the project and associated upgrades would cost at least €3bn. Ribera acknowledged MidCat could not ease the winter woes expected in Europe this year but said it could be completed by autumn 2023. Paris believes it would take longer.

Spain argues that MidCat should be paid for with EU funds. Brussels is trying to move from financing fossil fuel infrastructure but Madrid says the link could be able to carry hydrogen from 2030, an EU priority fuel against climate change and an area where France and Spain are set to compete as producers.

Although Spain is also a force in wind and solar power, and Ribera in 2018 scolded those who thought gas use could continue indefinitely, the war in Ukraine has shaken up Madrid's priorities. Spain produces little gas of its own but is eager to use billions of euros of infrastructure built since the 1980s. The system daily ingests gas from Algeria, Nigeria, Qatar and the US, plus some from Russia still, via two pipeline links to north Africa and six facilities that combine liquefied natural gas terminals and plants that turn LNG back into gas.

Expansion: Teresa Ribera last week in the Basque region at a natural gas pipe connecting Spain and France
Vincent West/Reuters



Sources: Entsog; FT research

The 60 bcm a year those facilities can handle accounts for a third of EU regasification capacity, Enagás says.

Last week, as she announced a modest increase in the gas that could be sent via an existing Basque pipeline. Ribera said: "We want to contribute, because we can, to the security of supply in Europe and of our neighbours."

Macron does not agree. After meeting Scholz, he said France supported the idea of European energy solidarity but dismissed the pipeline as economically and environmentally unworkable.

"I do not understand why we would jump around like Pyrenees goats on this topic to claim this would solve the gas problem," Macron said, paraphrasing former president Charles de Gaulle.

He added that the two existing pipelines were not even being fully utilised, capacity use was only 53 per cent since February 2022, and that last month France had exported gas to Spain. Enagás said that since the start of the war in Ukraine, Spain had exported gas to France on about 70 per cent of days.

Separately, French officials have questioned whether it is wise to invest in gas infrastructure when the country relies on nuclear energy for most of its electricity and needs to invest massively to catch up in renewables.

The idea of MidCat has been around for about 15 years but it appeared to have been killed in 2019 when French and Spanish regulators said the project did not meet market needs and was too costly.

But Arturo Gonzalo Aizpiri, Enagás's chief executive, said supply risks and the gas price rise, now 12 times higher than three years ago, plus the EU bet on hydrogen have changed things.

Teréga, the French counterpart of Enagás, did not comment on the project.

Thierry Bros, an energy expert at Sciences Po Paris, said: "The Germans did not correctly manage their gas or electricity networks. The Spanish built too many LNG terminals. I don't see why France taxpayers should pay for mistakes made by Spain and Germany."

GLOBAL INSIGHT

FRANKFURT

Martin Arnold

Policies to minimise inflation's bite risk longer-term problems

Caps on electricity bills, fuel rebates and cheap public transport tickets are just some of the ways European governments are trying to cushion the impact of surging energy prices.

While these policies will lower prices in the short term, the region's central bankers worry they risk boosting demand and forcing interest rates to go even higher in the longer term.

Tensions between governments and central banks are flaring. There is, as Dario Perkins, an economist at research group TS Lombard, put it, "a tug of war between fiscal and monetary policy".

"Central banks want to squeeze demand but governments want to support incomes," he said.

Since Russia's invasion of Ukraine, energy prices in the region have soared. The European Central Bank has raised interest rates at an unprecedented pace in response, aiming to suppress demand to bring eurozone inflation down from its all-time highs of more than quadruple its 2 per cent target, even if it means exacerbating a potential recession this winter.

At the same time, euro area governments are promising extra fiscal support, which Allianz estimates has already cost taxpayers almost €500bn. If these fiscal measures are too generous or broad-based, they will boost consumers' spending power and undo the cooling effect on demand from higher rates, keeping inflation higher for longer.

The EU's plan to raise €140bn from a levy on excess profits in the energy sector to spend on measures cushioning the blow of high prices is likely to amplify this.

"The continuous fiscal efforts will make the ECB's job more tricky, as they will keep inflation stronger for longer, hence not getting inflation down as soon as anticipated," said Piet Haines Christiansen, chief strategist at Danske Bank.

> 'The extent of the fiscal easing does not spare the euro area a recession and a cut in gas demand'

In the UK, tensions are at boiling point. Chancellor Kwasi Kwarteng's new economic strategy, which includes a £150bn energy price cap and £45bn of tax cuts funded by extra borrowing, caused a sell-off in bond markets after investors judged it would lead to more inflation and require bigger rate rises by the Bank of England.

The BoE on Monday reminded everyone of its aim "to ensure that demand does not get ahead of supply in a way that leads to more inflation over the medium term".

Economists have also said US president Joe Biden's $700bn climate, health and tax bill is as likely to add to price pressure as reduce it, while his waiving of billions of dollars of student loans is expected to fuel more inflation.

The ECB, where fiscal policy is handled by 19 governments, has an extra worry. Higher government debt levels may raise the spectre of a debt crisis and deter it from raising rates as high as needed to tackle inflation. ECB president Christine Lagarde on Monday said any government support should be "temporary and targeted", which "limits the risk of fuelling inflationary pressure . . . [while] contributing to preserving debt sustainability".

This is a new situation for Lagarde, who repeatedly praised the "strong and co-ordinated" approach of fiscal and monetary policy during the pandemic.

Some economists doubt governments will boost demand enough to avert a sharp downturn, which will ease inflation. Silvia Ardagna, chief European economist at Barclays, said: "The extent of the current fiscal easing does not spare the euro area a recession and a cut in gas demand."

The question is whether fiscal support is spread too wide and therefore boosts the spending power of people who do not really need it. "It is all about distribution," said Jens Eisenschmidt, chief European economist at Morgan Stanley, who used to work at the ECB.

"If you are a taxi driver you probably don't have much extra savings," said Eisenschmidt. "Yet some of these fiscal policies, like fuel duty cuts, help everyone and that means they can stimulate demand too much."

martin.arnold@ft.com

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US Treasury

Yellen defends $370bn climate and green power incentives

JAMES POLITI — CHAPEL HILL, NORTH CAROLINA
MYLES MCCORMICK — NEW YORK

Janet Yellen yesterday defended the sweeping $370bn in climate and clean energy incentives passed by Congress last month, saying the US economy needed strong government support to speed the transition to clean energy and compete internationally.

means coupling long-term incentives for private investment with regulation across key sectors in order to accelerate innovation and expand the productive capacity of the economy. And that's what the Biden economic plan delivers."

The legislation provides unprecedented incentives for investors and producers of wind and solar power over a 10-year horizon, as well as support for energy storage and hydrogen technol-

economy at the pace that is needed to meet our climate goals" and left the country "at risk of being left behind in the global competition for leadership of these low-carbon technologies and industries of the future".

Her comments came as Congress prepared to vote on proposals to overhaul the US's bureaucratic energy permits system. Clean energy executives have warned that unless the red tape is cut

politicisation of what they said should be a bipartisan priority.

"It seems to me this should not be a political issue," Pedro Azagra, chief executive of clean energy developer Avangrid, told the Financial Times. "Republicans are very keen on certain

> 'Like a large ship, the US economy requires

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Letters to the editor
letters.editor@ft.com

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Representative, Anjali Mahindroo

The US Treasury secretary was speaking at a solar energy facility in North Carolina as part of a series of trips across the US to promote the Inflation Reduction Act — a package of measures core to Joe Biden's economic agenda and was passed last month after months of wrangling among congressional Democrats.

While Republicans on Capitol Hill have attacked the plan for discouraging fossil fuel production at a time of high petrol prices, and unnecessarily boosting spending, Yellen said it was vital for the US economy to establish large-scale and long-term subsidies for clean energy.

"Like a large ship, the US economy requires a clear course to steer in the right direction," Yellen said. "This

energy storage and hydrogen technology.

Yellen said that previous green energy tax incentives in the US "were not sufficiently strong to help transition the

Janet Yellen: climate change is a 'threat to everyone on our planet'

warned that unless the red tape is cut, the tax incentives will be much less effective, leaving the country short of Biden's emissions reduction targets.

The reform of permit legislation — which would speed up both renewable and fossil fuel projects — has been attached to a bill to avert a government shutdown, raising the stakes. But it faces heavy opposition from both Republicans and Democrats.

Joe Manchin, the West Virginia Democrat who put forward the bill, hit out at what he called "revenge politics" as politicians on both sides of the aisle looked to stymie it. Progressive Democrats have voiced concern that the bill will ease permits for new oil and gas pipeline projects.

Renewables bosses lamented the

'US economy requires a clear course to steer in the right direction'

projects being done faster and we have the Democrats now [moving] in the same direction — probably because they realise otherwise their energy policy will not take place. This should be one example of people understanding each other."

During her remarks, Yellen warned that "unmitigated climate change" posed "an existential threat to everyone on our planet" and a "grave risk to the productive capacity of our economy while also impacting its stability" — in some of her most forceful comments on the subject.

INTERNATIONAL

Russians prepared to run or hide from Putin's zealous military draft officials

Kremlin call-up has shattered the facade that has allowed life to continue as normal for the majority

MAX SEDDON — MOSCOW

Late on Sunday night, Ilya, a 38-year-old Muscovite, hobbled to his front door on crutches to find two officials handing him a draft notice.

Ilya pointed to the cast on the leg he broke falling down the stairs a few weeks earlier, refused to sign the papers, cursed the officials and slammed the door. "I told them: 'Why don't you go where the Russian warship went?'" Ilya said, referring to a cruiser that a Ukrainian serviceman told to "fuck off" at the start of Russia's invasion and that Ukraine later sank.

"What have Ukrainians done to me? I have a ton of friends there. What am I going to do, go and shoot at their relatives? Are they serious?"

Almost a week after President Vladimir Putin announced the "partial" mobilisation of army reservists to bolster his forces in Ukraine, tens of thousands of Russians are refusing to enlist in the biggest backlash against the Kremlin since the invasion began in February.

Only fit adult men with combat experience are included but the Kremlin admitted on Monday that the draft had affected a much greater swath of the population than Putin had promised, shattering a carefully maintained facade that had allowed life for most Russians to carry on as normal.

The move has prompted some to refuse, others to protest and still more to flee the country, with flights sold out for days and long queues forming at Russia's land border crossings.

No longer able to rely on Russians' tacit support or apathy, the Kremlin is faced with a dilemma. A further crackdown on society — where dissent about the war has been in essence outlawed since March — would risk undermining support for it further. But backtracking after Putin moved to annex four regions in south-eastern Ukraine and threatened the west with nuclear weapons could open space for more instability.

"They only know how to implement their ideas with violence. And violence, war and mobilisation weren't part of the social contract," said Andrei Kolesnikov, a fellow at the Carnegie Endowment for International Peace. "They are undermining their social support base of people who were indifferent and allowed to go on living their lives. This is a huge mistake."

The most striking protests against Putin's decree have been in Dagestan, an impoverished region in the north Caucasus Mountains that has sent a disproportionate number to fight in Ukraine.

On Sunday and Monday, people in several cities in Dagestan chanted "No to war!", blocked an important road and argued with officials. Footage posted on social media showed women scuffling with police officers, several violent detentions and apparent attacks on protesters by groups of thugs.

One doctor in the city of Makhachkala said patients had asked her for medical exemptions to avoid the draft. "On the day they announced mobilisation, everyone started whispering in queues, shops and on the bus," she said. "There was already news — everyone had heard that someone they knew got drafted. Of course, people are upset."

Called up: recruits at a military centre in Bataysk, Rostov-on-Don, on Monday, as long queues formed at many borders, including with Georgia, below
AP; The Insider via Reuters

The doctor, who spoke on condition of anonymity, said authorities had begun drafting medical workers in Dagestan, prompting some of her friends and relatives to flee to Kazakhstan. "We're going to hide and run away. We won't open the door, go to the draft office or take the notices. We've talked it all over."

There is also evidence officials are using draft notices as reprisals against people arrested for protesting against the war. Andrei, an 18-year-old student whose last name the Financial Times chose not to publish, was detained during a demonstration last week in central Moscow and taken to a police station.

After spending several hours there, at about 1am he and other young men were told to head upstairs, where an official wrote out conscription notices.

They initially refused to sign but a police officer threatened them with being kept overnight and other repercussions. After seeing one young man sign and leave the station immediately, the others, including Andrei, followed suit. The FT has seen the copy of his conscription notice.

Under Russian law, draftees must be handed their notices in person. The penalty for failing to obey a summons is a fine. The young men signed their draft notices but did not go to the office the next day, Andrei said. Moreover, as a student, he is supposed to have his military service obligation deferred.

"I don't fit the bill for mobilisation by any criteria," he said.

Many people have attempted to avoid the draft by fleeing the country amid widespread rumours Russia will prevent military-age men from leaving.

The Kremlin and the defence ministry said on Monday that there were no plans to close the borders, a sign they were seeking to tame widespread public panic, and have blamed the anger on overzealous local authorities. On Sunday, Vladimir Soloviev, a bellicose state television talking head, jokingly called on unscrupulous draft officials to be executed. Shortly after, one was shot in Ust-Ilimsk in eastern Siberia by a man reportedly angry a friend who did not meet the criteria had been enlisted.

'Everyone had heard that someone they knew got drafted. Of course, people are upset'

Some officials have called on Russia not to stop those who want to leave the country. "Let the rats who are running run. The ship will be ours, it's gaining strength and clearly moving towards its target," Ella Pamfilova, Russia's election commissioner, said on Monday.

Officials at border stations in some airports and at the land border with Kazakhstan said they had been given lists of people who were forbidden to leave the country.

Alexander, a 33-year-old who works for a European company in Moscow, said that on Monday he was stopped from boarding a flight to Turkey with his girlfriend at the capital's Vnukovo airport. The FT has seen a copy of Alexander's exit ban.

"They were very polite. They told me the draft office is banning me from leaving Russia because of mobilisation," even though he had never served in the military, Alexander said.

Lev, a 27-year-old who lives in suburban Moscow, quit his job and left home after officials put his draft notice in his mailbox. He said he had decided to avoid his registration address but stay in the country, fearful he would be caught at the border and handed a draft notice.

"Putin's 'special military operation' has just destroyed my life and any chances I had," he said. "And now he literally wants to take my life away."

Additional reporting by Polina Ivanova in Berlin

Mobilisation decree

Kazakhstan and Georgia welcome exodus of young men

POLINA IVANOVA — BERLIN

Kazakhstan and Georgia will welcome Russians fleeing conscription, their governments said yesterday, as queues of thousands of mainly young men unwilling to fight in Ukraine built up on their borders.

The exodus, triggered by President Vladimir Putin's announcement last week of a wide-ranging mobilisation and by fears that Russia might soon shut its borders, poses challenges to all its neighbours, with some countries, such as Finland, taking steps to curb access.

But Kazakhstan's president said that keeping the country's doors open to Russians was a humanitarian issue, signalling an indirect condemnation of Moscow's invasion of Ukraine as well as of its conscription laws by one of its closest economic partners.

"In recent days, many people are arriving from Russia," said President Kassym-Jomart Tokayev. "Most of them have been forced to leave as they have no other way out of the situation. We must show them care, and ensure their safety. It is a political and a humanitarian question." Tokayev added that he would discuss the matter with Moscow.

Kazakhstan, which shares a border of more than 7,500km with Russia and has historically been one of its most reliable economic and political partners in the wider ex-Soviet region, has increasingly shown its disapproval of Moscow's war.

On Monday, Kazakhstan's foreign ministry said it would not recognise the possible annexation of occupied south and eastern Ukraine where Russia held referendums, which ended yesterday.

Kazakhstan also rebuffed suggestions it would extradite people to Russia if they got a call-up notice or were accused of evading conscription. "If the conscription offices are looking for someone, this is not a legal basis for extradition," Kazakhstan's interior minister Marat Akhmetzhanov told news agency Kazinform yesterday.

Since Putin issued the mobilisation decree on September 21, about 98,000 Russians have crossed into Kazakhstan, the ministry said. Russians do not need to obtain a visa to enter Kazakhstan or even carry their passports.

Videos on social media showed hundreds of Russians queueing outside registration offices in Kazakh cities to apply for identification numbers that would allow them to open bank accounts.

But many have also used Kazakhstan as a transit route to other destinations, with more than 64,000 Russians leaving the country in the past six days, the interior ministry added.

Roads out of Russia into Georgia have been crammed with cars and checkpoints swamped by those on foot or on bicycles. Georgia has already had a big influx of Russians since the invasion of Ukraine, causing tensions in a country which lost a fifth of its territory after a 2008 invasion by Moscow.

But interior minister Vakhtang Gomelauri said yesterday the government saw no reason to close the border. He said the main crossing between the two countries had seen more than 10,000 Russians pass through it every day in the past week, double the amount before the draft decree.

West Africa

Nigeria lifts rates to record high as prices surge

AANU ADEOYE — LAGOS

members disagreed about the scale of

due to theft of an estimated 400,000

Space

Nasa hits asteroid in test deflection mission

CLIVE COOKSON — LONDON

The collision was observed by Licia-

Nasa chose this target because it is

Nigeria's central bank has raised interest rates to an all-time high of 15.5 per cent as it struggles to contain a surge in inflation.

The bank increased its benchmark interest rate by 150 basis points — its third consecutive rate rise — to combat price pressures that have left citizens facing soaring costs for fuel and food.

Central bank governor Godwin Emefiele said after a two-day meeting that the committee could not rule out further tightening, adding that it was "imperative" to rein in price pressures.

"Inflation in the last four months has gone up aggressively. It is difficult for us to not go in the aggressive way we have today. This is the best option at this time," Emefiele said.

Annual inflation in August was 20.5 per cent. Core inflation, which excludes volatile food and energy prices, is 17.2 per cent. The naira currency had weakened sharply to a fresh low against the US dollar ahead of the interest rate decision, threatening to raise the price of imported products further.

Emefiele said the decision to raise rates was unanimous but committee

tightening needed. Ten of the committee's 12 members voted to raise rates by 150bp, one voted to lift by 100bp and the other backed a 50bp increase.

Analysts had predicted a modest rise of between 50bp and 100bp.

Virág Fórizs, Africa economist at Capital Economics, a research firm, said Nigeria's central bank was "reluctantly

> 'It is difficult for us to not go in the aggressive way we have today. This is the best option at this time'

hawkish" and forecast a lowering of interest rates early next year.

Many economies are struggling because of the strength of the US dollar and the impact of higher US rates on global borrowing costs.

However, Nigeria's economic woes have been compounded by the lacklustre performance of its oil sector in 2022. Africa's most populous nation usually earns more than 80 per cent of its foreign currency from crude but has not benefited from rising oil prices this year

barrels per day, under-investment in infrastructure and the cost of fuel subsidies. Nigeria lost its crown as Africa's largest oil producer to Angola last month when it produced 1.1mn b/d of crude, far short of its Opec quota of 1.8mn b/d.

Low oil production has led to a scarcity of US dollars in its import-heavy economy. Imports have become more expensive as businesses raise prices to reflect the high cost of sourcing dollars from the black market, where it trades freely and is almost 50 per cent higher than the central bank's official exchange rate. The Nigerian currency has depreciated almost 25 per cent against the dollar on the black market since the start of the year.

Nigeria's decision comes amid soaring inflation across west Africa. Ghana is experiencing 33.9 per cent inflation, its highest since 2001, forcing its central bank to raise rates by 300bp to 22 per cent at an emergency meeting last month.

Economic insecurity will be a key issue as Nigeria goes to the polls to replace outgoing President Muhammadu Buhari in February.

A Nasa spacecraft has smashed into an asteroid in a spectacular first test of deflection technology that could in future divert the path of an incoming space rock to prevent a cataclysmic collision with Earth.

As the 600kg Dart projectile closed in on its target, Dimorphos, early yesterday, its camera sent back a spectacular series of images at a rate of one per second, until rocks, boulders and smooth ground became visible on the surface of the peanut-shaped asteroid.

Then came the moment of impact, right on target at 23,000kph, and the picture feed died. Scientists and engineers at mission headquarters at Johns Hopkins Applied Physics Laboratory in the US cheered and hugged each other.

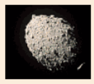
"We are now embarking on a new era for humankind — an era in which we potentially have the ability to protect ourselves from a hazardous asteroid impact," said Lori Glaze, Nasa planetary science director, after the test.

"Now is when the science really starts. Now that we have impacted, we're going to see how effective we've been [at deflecting the asteroid]."

Cube, a small satellite made in Italy that had accompanied Dart — or Double Asteroid Redirection Test — on its journey to Dimorphos 11mn kilometres from Earth. It separated from Dart 15 days ago and flew past a few minutes after impact at a safe distance of 55km.

LiciaCube will take longer to transmit its images back to Earth for analysis.

In the line of fire: Dimorphos, pictured by the Dart spacecraft 11 seconds before impact



They are expected to show not only the impact site but also the resulting cloud of dust and gas, giving Dimorphos a temporary tail, similar to a comet.

But terrestrial telescopes will carry out the main job of assessing the effects of the collision over the next few weeks. The asteroid, about 160 metres in diameter, is too far from Earth to glean images in detail, though several telescopes saw a dust plume emerging after impact. They will now evaluate how much the impact shifted its path.

part of an unusual double asteroid. While orbiting the sun, Dimorphos also revolves around a larger partner called Didymos. A deflection in this local orbit is far easier to detect than a change of orbit around the Sun.

Dimorphos takes about 12 hours to travel around Didymos. Advance calculations suggest the impact will cut this time by 10 to 15 minutes. The decrease in its orbital time will provide critical information about the asteroid's texture — hard or soft, consolidated or crumbly.

There was zero chance the impact could push the asteroid on to a path that threatened Earth, astronomers said.

In 2024 the European Space Agency will launch a probe called Hera to carry out a detailed post-impact survey of the binary asteroid system in 2026.

Surveys have convinced astronomers there is no risk over the next few centuries of Earth encountering anything as big as the 10km-wide asteroid that struck 66mn years ago and put an end to the dinosaurs. But there are thousands of smaller "near-Earth objects" that are uncharted — and capable of devastating vast regions of the planet.

Anjana Ahuja see the FT View page

INTERNATIONAL

World Bank

China's growth to fall behind rest of Asia

Covid curbs and property woes prompt downward revision of forecasts

EDWARD WHITE — SEOUL
MERCEDES RUEHL — SINGAPORE

China's economic output will lag behind the rest of Asia for the first time since 1990, according to World Bank forecasts that highlight the damage wrought by President Xi Jinping's zero-Covid policies and the meltdown of the world's biggest property market.

The bank has revised down its forecast for gross domestic product growth for this year in the world's second-largest economy to 2.8 per cent, compared with 8.1 per cent last year, and from its prediction in April of between 4 per cent and 5 per cent for 2022.

At the same time, expectations for the rest of east Asia and the Pacific have improved. The region, excluding China, is expected to grow 5.3 per cent in 2022, up from 2.6 per cent last year, thanks to high commodity prices and a rebound in domestic consumption after the coronavirus pandemic.

"China, which was leading the recovery from the pandemic, and largely shrugged off the Delta [Covid variant] difficulties, is now paying the economic cost of containing the disease in its most infectious manifestation," Aaditya Mattoo, the World Bank's chief economist for east Asia and the Pacific, told the Financial Times.

China had set a GDP target of about 5.5 per cent this year, which would have been a three-decade low. But the outlook has deteriorated markedly over the past six months. Xi's policy of relentlessly suppressing coronavirus outbreaks through snap lockdowns and mass testing has restricted mobility and sapped consumer activity just as China's property sector, which accounts for about 30 per cent of economic activity, suffers a historic collapse.

The Washington-based group's latest forecast follows a series of financial institutions, including Goldman Sachs and Nomura, slashing their outlook for next year. The rise in pessimism is based on expectations that Xi will prolong his zero-Covid policy beyond this year.

Many economists and analysts had predicted Beijing would significantly increase stimulus measures in response to flagging economic growth, accelerating easing measures to boost consumption and help arrest the housing market downturn.

However, Mattoo said that while China had "immense ammunition to provide powerful stimulus", it appeared Beijing had concluded that fiscal stimulus would be "emasculated" by the zero-Covid restrictions.

The data come against a backdrop of broader concerns that Xi, who is set to secure an unprecedented third term as Communist party leader next month, is undoing the economic dynamism that began in Deng Xiaoping's reform era.

The World Bank also worried that the property slowdown represented a deep "structural" problem. To reduce the immediate risk of contagion from the property sector "turmoil", the bank said Beijing needed to provide more liquidity support to distressed developers and financial guarantees for project completion. In the long term, however, fiscal reforms were needed to give local governments revenue sources beyond land sales, including a property tax.

China vacuum see FT Big Read

US politics. Midterm elections

Savvy campaign keeps Democrat in Senate race

Pennsylvania hopeful unable to hold rallies after illness turns to social media

KIRAN STACEY — WASHINGTON
CAITLIN GILBERT — NEW YORK

Back on the road: candidate John Fetterman returns to rallies, while his TikTok account, below, takes aim at a Mehmet Oz gaffe

Kriston Jae Bethel/AFP/Getty Images

John Fetterman looks off camera and pulls at the shoulders of his trademark hoodie before a series of images of the Democratic Senate candidate in his scruffy youth — all to the strains of "Teenage Dirtbag".

To the ordinary TikTok viewer, this is just another in the viral trend of users making videos of their younger selves looking dishevelled while the 22-year-old hit single by Wheatus plays.

But for Fetterman, who is locked in one of this year's most competitive Senate races, it is part of a carefully orchestrated social media strategy that has involved spending $12mn on communications consultancies alone.

Despite health problems that have stopped him campaigning in person, the innovative online playbook has helped to propel him into an early lead in Pennsylvania. "It is fun but this is also a deliberate strategy," said Joe Calvello, Fetterman's head of communications. "We have a creative team which is willing to take risks and do things other campaigns might not."

Fetterman, 53, leads his Republican opponent, the television doctor Mehmet Oz, by 4 percentage points in the polls, making Pennsylvania one of the tightest midterm races in the country, and potentially the one that could decide which party controls the Senate.

It is also the most expensive — both parties have flooded the state with money since the start of the campaign.

Fetterman is already an unlikely candidate. He is 6ft 8in tall, with a bald head, goatee beard, tattooed arms and a reputation for blunt speaking. He espouses progressive causes such as legalising cannabis but has also built a blue-collar base of support by focusing on regenerating communities such as his home town of Braddock, where he worked as mayor for 13 years.

His team already wanted to make his campaign as unconventional as the candidate. But when Fetterman suffered a stroke just days before winning the Democratic primary, leaving him un-

tured attention mainly through punchy social media messaging, much of which has taken direct aim at his opponent.

When Oz posted on Twitter a video in a local supermarket complaining about how inflation had made crudités more expensive, Fetterman shared it with the comment: "In PA [Pennsylvania] we call this . . . a veggie tray."

In July, he posted on Twitter a video of Nicole "Snooki" Polizzi, star of the television show *Jersey Shore*, in which she urged "Mehmet" to come home to New Jersey. "I heard that you moved from

New Jersey to Pennsylvania to look for a new job," she said. "But don't worry because you'll be back home in Jersey soon." He followed it up with an endorsement video from Steve Van Zandt, the musician and star of *The Sopranos* television series — another well-known New Jersey celebrity.

"Fetterman is recovering from a stroke, so fighting over social media was his only option," said Maggie Macdonald, a fellow at New York University's Center for Social Media and Politics. "But he's done it better than I would have thought anyone could do it. If it was not for his social media presence he would be out of this race by now."

Calvello said that the tone of the messages came from Fetterman himself. But the campaign has also put together a team of well-paid external communications consultants from agencies including The Win Company — to which it has paid $5.8mn, according to public records analysed by the Financial Times — and Middle Seat Consulting, which has received $6mn.

> 'Fighting over social media was his only option. But he's done it better than I would have thought anyone could do it'

appearance service, he said. Snooki was not aware of how the message was going to be used and was paid her regular Cameo fee of $400.

Meanwhile, the response to Oz's crudités video came from a genuine reaction from Fetterman, Calvello said. "We told him about Oz's video, and he said: 'What's a crudité? Am I having a stroke symptom?' When we explained it to him, he said: 'Oh, a veggie tray.' And that was the tweet." Calvello added that the campaign raised $1mn in the three days after that Twitter post.

Fetterman's health has improved in recent weeks and he has begun holding election rallies — though at times his speech has appeared slow and he says his hearing has not yet fully recovered.

Republicans have been infuriated that he has remained competitive in the race while not campaigning in person. "John Fetterman sits in his basement and lies to the public about how sick he is," said Barney Keller, a spokesperson for Oz. "People are starting to catch on."

Josh Novotney, a Republican strate-

Japan

Protesters march on parliament against Abe's state funeral

KANA INAGAKI, LEO LEWIS AND ERI SUGIURA — TOKYO

Demonstrators marched on Japan's parliament yesterday to protest against the state funeral of Shinzo Abe, while tens of thousands of supporters queued nearby to honour one of the country's most powerful and divisive leaders since the second world war.

After an initial period of shock and public grief that followed Abe's assassination in early July at the age of 67, the government's decision to hold a ¥1.6bn ($11mn) funeral sparked a public outcry and a sharp fall in popularity for Prime Minister Fumio Kishida.

In a ceremony at Tokyo's Budokan arena, Kishida spoke in front of more than 4,000 guests including world leaders, Japanese politicians, business figures and some of the imperial family.

Among the foreign dignitaries were US vice-president Kamala Harris, Indian prime minister Narendra Modi, Australian prime minister Anthony Albanese and UK foreign secretary James Cleverly.

"Mr Abe, you were a person who should have lived much, much longer. I was certain that you would serve as a compass for the future of Japan and the world for the next 10 to 20 years," Kishida said in front of a large photo of Abe surrounded by white chrysanthemums.

Following a short stint as prime minister from 2006 to 2007, Abe became Japan's longest-serving leader during his second term in office between 2012 and 2020.

He was known for his stimulus programme dubbed Abenomics and hawkish opinions on reforming the country's pacifist constitution to expand the military's role in response to an increasingly aggressive China.

Abe's murder prompted public scrutiny of the close ties between the ruling Liberal Democratic party and South Korea's Unification Church. The suspect in Abe's killing said he was seeking revenge for the financial ruin his mother allegedly suffered through her involvement with the religious group.

Abe and his family had a longstanding association with the church, which is known formally as the Family Federation for World Peace and Unification, more commonly as the "Moonies". An internal investigation by the LDP found that nearly half the party's 379 parliamentarians had some connection with the Moonies.

One retired school teacher had travelled with her sister and friends from Chiba prefecture, a suburb of Tokyo, to join hundreds marching on parliament, protesting against the cost of the funeral and honouring a leader they regard as tainted by scandal and nationalism.

"He was not a good example to anyone. We want fewer politicians like Abe. We came here today as Japan became less safe in his time as prime minister," said the teacher, who wished to be known only as Sakurada.

Elsewhere in Tokyo, Aoi Doi, 20, a student, said: "I have never been interested in politics but Abe has been prime minister since my earliest memory. The shocking killing made me want to commemorate him."

able to hit the campaign trail, the team had little choice. Instead of holding large rallies and events, Fetterman has cap-

It was a staff member who came up with the idea of paying Snooki to record her message via the Cameo celebrity

gist in Pennsylvania, said: "If Fetterman wins, it will be the craziest thing I have seen in politics for a long time."

Japan last held a state funeral in 1967 for Shigeru Yoshida, one of the country's most important postwar leaders.

Semiconductors

Threat of global competition provokes 'sense of crisis' in South Korean chip industry

SONG JUNG-A AND CHRISTIAN DAVIES
SEOUL

South Korea's science minister has said a "sense of crisis" is gripping the country's semiconductor industry, as the east Asian nation is braced for greater challenges from the US and China in an intensifying global chip war.

There is growing fear among Korean officials and industry executives that the country will shed production facilities as domestic chipmakers, lured by subsidies and tax incentives, rush to build semiconductor plants in the US. China is also catching up fast in the memory chip sector on the back of generous state funding.

Lee Jong-ho, minister of science and information communications technology, and a renowned semiconductor expert, told the Financial Times that legislation passed last month had "laid the legal groundwork to support the semiconductor industry against severe competition from countries like the US, China, Japan [and in] Europe and Taiwan".

"It reflects a sense of crisis about our competitiveness on the global stage and the act is designed to strengthen our competitiveness in supply chain and security," said Lee.

"Korean companies have received relatively smaller tax benefits from the government and suffered from a lack of talent compared with China, the US and Taiwan, so we addressed the problems with the legislation."

Washington is using $52bn in grants outlined in the Chips and Science Act to entice global chipmakers to expand their manufacturing in the US. But the legislation also includes "guardrails" that prohibit recipients of funding from expanding or upgrading their advanced chip capacity in China for 10 years.

Last week, South Korea's trade minister Ahn Duk-geun told the FT that "our semiconductor industry has a lot of concerns about what the US government is doing these days". He acknowledged disagreements between Seoul and Washington over the restrictions on the transfer of cutting-edge manufacturing capabilities to facilities in China.

South Korea remains the world's biggest memory chip producer, with Samsung and SK Hynix together controlling about 70 per cent of the global Dram market and more than half of the Nand flash market.

Dram chips enable short-term storage for graphic, mobile and server chips, while Nand chips allow for files and data to be stored without power.

But the Korean chipmakers' technological edge over US rival Micron in the Dram business appears to be narrowing, while Chinese chipmakers such as YMTC are expanding their market share in the Nand flash market. Apple said this month that it was "evaluating sourcing from YMTC for Nand chips to be used in some iPhones sold in China".

"The sense of crisis and anxiety over our industry's competitiveness is greater than ever," said Kim Yang-paeng, senior researcher at the Korea Institute for Industrial Economics and Trade. "There is a concern that the country's role in the global supply chain could be threatened as Korean chipmakers flock to the US."

James Lim, an analyst at US hedge fund Dalton Investments, said: "The volume that YMTC supplies to Apple will be small but it shows that China is catching up fast in terms of technology and could be a threat to South Korean chipmakers."

Yoon Suk-yeol: president has pledged greater backing for the chip sector

South Korea industry officials want the government to provide more support for domestic chipmakers as the US, China and Europe boost investment in the sector.

President Yoon Suk-yeol, who has said semiconductors "determine the fate of the South Korean economy", has promised greater backing for the industry. However, two important bills aimed at bolstering it, known as the K-Chips Acts, are still pending in parliament.

The Yoon administration, which came to office in May, has expanded tax breaks and cut red tape.

It also intends to provide funding for essential infrastructure for chip production facilities, such as electricity and water supply.

It wants to develop large "chip clusters" that will gather production and research and development and attract foreign chipmakers to Korea.

"The domestic chip market is not big, so companies need to set their sights on the global market to generate profits," said Lee.

Addressing the "lack of talent" referred to by Lee, the government plans to train 150,000 people over 10 years to boost the semiconductor workforce.

But the chip clusters have been held up by environmental issues and problems securing permits. They are also unlikely to satisfy US officials, who worry that too many of the world's chips are already produced in geopolitical hotspots across east Asia.

Analysts also noted that much of the R&D development being conducted by Korean companies on next-generation semiconductor technologies was taking place in the US.

"The South Korean semiconductor industry is worried that they could be overtaken by promising new competitors, just as they overtook others in the past," said Burm Jin-wook, professor of electronic engineering at Sogang University in Seoul.

Inside Business see Companies

Girl power South Korea's Zepeto, the metaverse platform dominated by young female users, takes on larger US rivals ➜ COMPANIES

Companies & Markets

Airlines attack UK leadership over tumbling value of pound

- Virgin leads calls for policy U-turn
- Sector's dollar costs dent outlook

PHILIP GEORGIADIS — LONDON

The head of Virgin Atlantic has called on the UK government to "consider reversing" course after its mini-budget sent the pound tumbling to a record low and undermined investors' confidence in the economy.

Chancellor Kwasi Kwarteng's plan to borrow more to pay for the biggest package of tax cuts since the 1970s unleashed turmoil in financial markets, with the pound plunging to as low as $1.035 on Monday.

Virgin Atlantic chief executive Shai Weiss said yesterday that he was concerned about the direction of Prime Minister Liz Truss's government since it took office less than a month ago.

> 'Sometimes all of us in this room should be humble enough to say . . . maybe I should reverse course'

"Truss said she would take difficult decisions upon entering into the role," Weiss said. "Maybe they need to take more difficult decisions to reverse the decline of the pound and ensure this country is not left with . . . perceived weakness in international markets.

"Sometimes all of us in this room should be humble enough to say that if I said something that is not working, maybe I should reverse course. That is not a bad thing to do," he added.

While the pound had already been dragged lower this year by the strength ... sterling's weakness. Sixty per cent of Virgin's costs are in dollars, while it generates only 30-35 per cent of its revenue in the US currency.

Willie Walsh, head of global airline lobby group Iata and a former head of British Airways, said that he had "a lot of sympathy" for Weiss's intervention.

"I think his criticism is well founded, particularly the additional challenge it will create for his company, given he will have a lot of sterling revenues and significant dollar costs," Walsh said.

"It is very frustrating when you see these knee-jerk government responses to some of the challenges they face. Clearly in an effort to make themselves look popular with the electorate, taking decisions that have massive economic impact on companies," he added.

Ryanair chief executive Michael O'Leary, a persistent critic of the UK government, said its economic policies were "all going in the wrong direction".

"The Truss government has poured petrol on a bonfire with a budget that does not really make a lot of sense, and is likely to drive inflation further," O'Leary said.

The airline bosses' interventions are the most outspoken criticism so far from the business world of the mini-budget, which also scrapped a planned increase in corporation tax and cut the rate of tax for the highest earners.

Kwarteng yesterday sought to reassure UK banks, insurers and asset managers, telling them that he was "confident" his strategy would work.

After plunging almost 5 per cent on Monday, the pound clawed back some ...

Tunnel vision Eurostar forced to raise fares as Brexit border controls and high loan rates bite

Peak capacity at London St Pancras is 30 per cent down on 2019 because of UK passport checks — Simon Dawson/Bloomberg

PHILIP GEORGIADIS — LONDON

Eurostar has been forced to raise prices and slash services to focus on its most profitable routes as it struggles with Brexit border controls and high interest rates on commercial loans agreed in the pandemic.

The company's outgoing chief executive, Jacques Damas, said that Eurostar "cannot currently pursue a strategy of volume and growth" because of the headwinds facing the business.

"We are having to focus . . . services on core routes which make the maximum contribution per train and to charge higher prices to our customers," he wrote in a letter to the Com... ment, which does not hold a stake, did not take part in the rescue.

Eurostar had been at risk of bankruptcy following a collapse in revenue after passenger numbers plunged because of the Covid-19 crisis. Damas said that the loans were underpinned by "demanding financial ratios".

The company has been criticised in the UK for cutting some services, including direct trains between London and Disneyland Paris. But Damas told MPs that the company had also been forced to prioritise because of lack of space at stations to handle new border checks in place after Brexit.

Peak capacity at London St Pancras is 30 per cent lower than in 2019 at ... 2019 levels that we are not seeing daily queues in . . . London similar to those experienced in the Channel ports," he said.

As the economic outlook worsens, Eurostar faces questions over whether demand for travel will hold up. Airlines have continued to report robust ticket sales this autumn, but there are concerns over consumer spending power in the event of a deep recession and the cost of living crisis.

Damas also said track access charges on HS1, the UK's high-speed rail line that runs from London to the Channel Tunnel, were rising almost three times as fast as in France. He warned that unless these charges ...

Kwon denies he is hiding as crypto probe intensifies

SONG JUNG-A — SEOUL

The co-founder of collapsed cryptocurrency operator Terraform Labs has broken his silence after Interpol issued a red notice against him, saying he is not in hiding despite a global manhunt.

Do Kwon has remained active on social media as he faces the threat of prison in South Korea. He wrote on Twitter on Monday that he was making "zero effort to hide. I go on walks and malls," hinting that there had been no change in his routine. "I'm writing code in my living room," he said, adding that he had not seen his name on Interpol's red notice list. "For something that has notice in the name, it sure gives no notice."

Not all names on the red notice list are made public. Kwon left for Singapore in April, before the $40bn implosion of the terraUSD and luna tokens in May, according to South Korean prosecutors.

Kwon showed his location as Singapore on his Twitter account on Monday, but his whereabouts remains unclear. Singapore police said this month that he was not in the city-state.

South Korean prosecutors declined yesterday to say whether they had discovered his whereabouts. "Locating and arresting someone is tricky. The situation changes every time. We're doing our best to get him," said the Seoul southern district prosecutors' office.

Experts said it may only be a matter of time before Kwon's arrest and extradition to his home country, as law enforcement agencies worldwide were co-operating to apprehend him.

Kwon and five associates are accused of financial fraud and violating South Korea's capital market laws. Prosecutors have also asked the foreign ministry to cancel Kwon's South Korean passport after he previously told law enforcement via his lawyer that he had no intention of appearing for questioning.

The meltdown of terraUSD and luna coins affected hundreds of thousands of investors, many of whom were drawn in by a scheme in which clients could lend their terra for a yield of 20 per cent.

Kwon is facing lawsuits in South Korea and the US for allegedly deceiving ...

dragged lower this year by the strength of the dollar, the currency's decline accelerated after Kwarteng's fiscal plan raised alarm over the sustainability of the UK's public finances.

With many of their most significant costs, including fuel, priced in dollars, airlines are among the most exposed to Monday, the pound clawed back some of the decline to trade at $1.082 yesterday. Yields on UK government bonds, which have surged since the fiscal plan was announced on Friday, were lower yesterday.

Additional reporting by Oliver Barnes

See Markets and Lex

ers," he wrote in a letter to the Commons transport select committee published yesterday.

Eurostar took on £500mn of commercial debt to help it survive the pandemic, as well as a £250mn bailout from shareholders, including the French government. The UK govern- is 30 per cent lower than in 2019, at 1,500 passengers per hour, because it takes an average of 15 seconds per passenger longer to process people with a British passport.

"It is only the fact that Eurostar has capacity-limited trains and has significantly reduced its timetable from warned that unless these charges could be lowered then "at best, the business will find itself indefinitely locked into the present position".

HS1 said its focus was "on helping the HS1 line recover following the pandemic", aided by rail industry and government support.

investors. The Securities and Exchange Commission and South Korean prosecutors are examining Terraform Labs' marketing tactics amid allegations that Kwon and his company may have misled investors by labelling terraUSD a stablecoin. Terraform has denied any fraud or breach of financial regulations.

Seoul anger over short-term US hit to Hyundai misses bigger picture

INSIDE BUSINESS
ASIA

Christian Davies

On his visit to South Korea in May, US president Joe Biden revelled in Hyundai's fresh $10bn investment in US manufacturing, telling the carmaker's chair Euisun Chung: "Thank you again for choosing the United States. We will not let you down."

So there was consternation in the Korean capital last month when Biden signed into law a provision of his landmark Inflation Reduction Act that eliminates subsidies for electric vehicles assembled outside of North America.

Hyundai's $5.5bn EV plant in the US state of Georgia, announced during Biden's visit, is not scheduled to begin production until 2025 — making it ineligible for subsidies until then, and US rivals more competitive in the period.

The resulting furore continues to rage, exposing growing tensions between South Korea and the US over Washington's use of tools ranging from legislation to export controls and investment screening to restrict the transfer of cutting-edge technology to China.

But Korean talk of "betrayal" has baffled some industry analysts, who point out that what amounts to a short-term setback for a single company pales in comparison with the benefits likely to be accrued by Korea Inc overall.

Section 45X of the Inflation Reduction Act allocates $35 per kilowatt-hour in subsidies known as "advanced manufacturing production credits" to battery-cell makers. That means that a 40 gigawatt battery plant in the US would stand to receive around $1.5bn each year in tax credits between now and 2032. This amounts to a big subsidy for battery makers with a presence in the US — and the South Koreans are perfectly placed to take advantage.

In July, SK On launched a $7.8bn joint venture with Ford to build three battery plants in the US, while LG Energy Solution and GM announced a $2.6bn investment earlier this year to build a third plant as part of their joint venture in Michigan. Samsung SDI has a similar partnership with Stellantis, the group behind Peugeot, Fiat Chrysler and Jeep.

"All the global automakers will try to source from US-based battery manufacturers, and the Korean companies have a huge capacity in the US," said Angela Hong, an analyst at Nomura.

> 'Given the amount in subsidies the EV supply chain will be collecting, I can't get my head around the [Koreans'] complaints'

According to Tim Bush, a Seoul-based EV battery analyst for UBS, by 2026 Korean battery makers will be operating plants in the US accounting for at least 200 gigawatt hours each year. That would mean an annual collective subsidy of upwards of $8bn, likely to rise in line with expanding capacity, from the advanced manufacturing production credit alone. Moreover, restrictions on Chinese components mean that the Koreans' only serious competitors will soon be eliminated from the US market. "Given the amount in subsidies the EV supply chain is going to be collecting, I just can't get my head around the complaints," said Bush.

The potential benefits don't stop there. There do not appear to be any restrictions on US-subsidised batteries being exported, raising the prospect that Korean battery makers could be poised to knock their Chinese rivals not just out of the US market, but out of the European market too.

Used wisely, the US subsidies could also finance the transition from graphite to next-generation silicon anodes.

This could raise energy density, lower cost and reduce charging times.

"Before, there was no catalyst to get silicon produced at scale, but the Inflation Reduction Act changes that," said Bush. "Because of the advanced manufacturing credit, you have money to make that investment. It will go from high end to mainstream, and this could give Korean battery makers a crucial advantage over the Chinese."

Nor is it even clear that the US legislation will inflict significant damage on Hyundai. Restrictions on the sourcing of Chinese components that kick in from 2024 mean that Hyundai's competitors are unlikely to manage to steal a march before its Georgia plant comes online.

"Many European and even US automakers won't qualify for these tax incentives, because there are still many conditions to be met," said Hong. "There are no definitive winners or losers."

Seoul does have reason to feel aggrieved. According to Wendy Cutler, a senior former US trade official, the provisions in the Inflation Reduction Act are likely to violate both WTO rules and the free trade agreement between South Korea and the US. But Korean leaders might also reflect on the wisdom of kicking up such a fuss over short-term harm to a single company, while ignoring the long-term benefits for an entire industry that can be measured in decades.

christian.davies@ft.com

Basic resources

Glencore hit by woes at China's Maike

Disruption for miner as copper distribution partner faces debt crisis

HARRY DEMPSEY — LONDON
CHENG LENG — HONG KONG

Mining group Glencore faces disruption at its largest partner for selling refined copper in the Chinese market as Maike Metals International, a powerful trading house, grapples with a liquidity crisis.

The slowdown in the Chinese economy and downturn in the real estate market have caught out several domestic trading houses, leading to a string of scandals including missing copper at warehouses.

Glencore was selling about 600,000 tonnes a year of high purity copper into China through Maike, before the Xi'an-based trading group ran into liquidity constraints, according to people familiar with the matter. That level is equivalent to a fifth of Glencore's sales of copper metal and concentrates last year, according to its annual report.

Glencore's sales volumes through Maike had more recently been reduced, one of the people added.

Maike was Glencore's biggest local intermediary to market refined copper, accounting for 80 per cent of sale volumes in China.

But Maike ran into trouble this year, and its founder He Jinbi admitted last month that it was facing liquidity issues. Last week, He told the Financial Times that Maike was selling assets and studying a broader restructuring to survive the crisis. It is also working with creditors to extend existing loans. Maike, founded by He in 1993, grew into one of the most important bridges between big international trading houses and Chinese consumers, with revenues of Rmb160bn ($22.6bn) in 2021.

The trading house used imported metal to raise financing from banks with usually 90 days to repay, which He then ploughed into China's property sector, according to traders. The company had property investments of Rmb6.65bn, or around 60 per cent of its illiquid assets, at the end of 2020, according to a report by China Lianhe Credit Rating, a Beijing-based rating agency.

Now that China's real estate sector has slowed, Maike is laden with debts that it is struggling to repay to creditors. The largest were the Xi'an branches of the Bank of Beijing and Industrial and Commercial Bank of China, according to company filings for mid-2021.

At the end of June 2021, lenders had extended credit lines of about Rmb10.6bn to Maike, of which it had used Rmb9.6bn, according to the company's filings. It also had three bonds with an outstanding value of Rmb3.3bn, according to data provider Wind Information. Founder He said in the latest interview that the company still had an outstanding bank debt of about Rmb7bn.

London-based ICBC Standard Bank has been moving some copper stocks that were collateral for its lending to Maike outside China, according to two people familiar with the matter.

Foreign lenders have become increasingly nervous about financing commodity trading in China after a string of problems at trading houses. The credit squeeze has made it more difficult to get physical copper inside China, and stocks in Shanghai are close to their lowest level in a decade.

Other large copper miners, including the world's largest mining group BHP and Chile's Codelco, have also paused sales to Maike, according to commodity trading executives.

Foreign groups including Glencore, Mitsui, Trafigura, Codelco and Aurubis supplied 30 per cent of Maike's annual imports in 2020, according to China Lianhe Credit Rating. A person familiar with the matter said Trafigura had not done any business with Maike this year.

Glencore, BHP and JPMorgan declined to comment. ICBC Standard and Codelco did not respond to requests for comment.

Technology. Virtual worlds

Asia metaverse champion challenges US rivals

South Korea's Zepeto targets global expansion after proving a hit with young female users

CHRISTIAN DAVIES AND SONG JUNG-A
SEOUL

Asia's largest metaverse platform, Zepeto, is stepping up its global expansion as it looks to compete against the Big Tech groups that are betting billions on creating avatar-filled virtual worlds.

Automobiles

Energy crisis has slowed EV push into Europe, says China's Nio

PETER CAMPBELL — MUNICH

The head of Chinese electric-car maker Nio has warned that Europe's energy crisis is slowing its expansion in a region where it is aiming to take on dominant performers such as Mercedes-Benz and BMW.

William Li, the group's founder and chief executive, said soaring energy costs were one impediment to the company's rollout of battery swapping stations across Europe.

In contrast to rival carmakers that rely on recharging their batteries, Nio uses a system of swap stations in which batteries are replaced with new ones in a process that takes just minutes.

"Right now we are behind the schedule regarding the swap station installation, but that is driven by multiple reasons and the electricity cost is one part," Li said in an interview. Slower than expected planning approvals and the need to train workers were also hindering the rollout, he added.

The company began selling electric cars in Norway last year, its first step outside China, but has only two swap stations operating there, short of a forecast of five made at the start of the year.

Nio is betting that its domestic success will prove a springboard to crack Europe and the US. The group, whose

'Right now we are behind the schedule regarding the swap station installation'

Owned by South Korean tech group Naver, Zepeto has attracted 340mn users since it launched in 2018. Unlike rivals developed by gaming companies, it is dominated by young female users.

The K-pop and fashion-focused avatar platform, which is valued at more than $1bn, has attracted investment from South Korean entertainment companies JYP Entertainment, YG Entertainment and Hybe, as well as from SoftBank's Vision Fund II.

"We have a long way to go to be more of a globally dominant player, but we are very much on the right track," said Ricky Kang, head of business at Naver Z, the subsidiary that operates the Zepeto platform.

"We have established a very strong presence in Asia-Pacific, so we want to grow further in the region, but we also place a very strong emphasis on growing in the US and western Europe, [for example] in France, where we have already established high growth," said Kang.

He added that Zepeto was popular in Brazil, and that it was working on Turkish and Arab language versions as part of a push into the Middle East.

It comes as groups from Facebook parent Meta to Microsoft are betting billions of dollars that the three-dimensional metaverse will become the next big tech platform.

Zepeto has quickly become the largest such site in Asia. It has about 15mn-20mn active monthly users, predominantly in South Korea, Japan and China. Of those, 70 per cent are female and mostly aged between 13 and 21.

But it has a long way to go to catch up with US rival Roblox, the $50bn online gaming company which also has a devoted pre-teen following among its 200mn monthly active users.

Kang said that while Zepeto had focused on users purchasing virtual items, "moving forward, the items and the experience that they can purchase will be more focused on individual virtual worlds . . . it's a very similar business model to Roblox".

User friendly: K-pop and fashion-focused avatar platform Zepeto is valued at more than $1bn. It has more than 15mn active monthly users and counts SoftBank among its investors. Below, Ricky Kang — FT montage

Other competitors cited by Kang include online social platforms Rec Room and VR Chat, as well gaming juggernaut Fortnite.

But he also stressed that "Zepeto is essentially a social network, not just people chatting while they play games".

"It's actually a feed that really looks like TikTok or Instagram, but which only contains avatar content — the first avatar-centric social network of its kind," he added.

Accessed principally through a smartphone app, Zepeto has monetised its audience by offering users the chance to customise their avatars and to design and trade millions of items — mainly clothing, accessories and hairstyles — as well as to create their own virtual worlds.

Appliances and furnishings for virtual homes can also be bought traded on the marketplace.

It operates a licensing model, forming partnerships with athletic and luxury fashion brands including Gucci, Ralph Lauren, Bulgari, Adidas and Nike.

Samsung appliances are offered and avatars can drive Hyundai cars.

Naver Z has also sealed IP partnerships with Disney and Universal. Girl group Blackpink, which is represented by YG, held a virtual signing on the platform during the pandemic.

"One of our key strengths has been our relationship with K-pop companies," said Kang.

Last year, the South Korean government launched a "Metaverse Alliance" of more than 200 companies and institutions. It has earmarked almost $8bn from its 2022 budget for the country's next digital transformation.

But analysts have questioned the sustainability of Zepeto's popularity, citing its limited user base.

"It needs to expand its user base beyond teenagers, as Facebook and Instagram did," said Choi Joon-chul, head of VIP Research and Management.

"Teenagers are enthusiastic users but their interest tends to be shortlived. They get satisfaction from the platform by relishing things that they can't afford in reality. But I doubt if they will keep using Zepeto as they grow older."

Kang accepted that the platform needed to "grow" with its users as they become older. He said: "As our users get older, we want to make sure we grow with them. This is true for all the social platforms that have become dominant players, including Snapchat or TikTok. They always started with teens and then became more of a general audience app."

> 'As our users get older, we want to make sure we grow with them. This is true for all the [big] social platforms'

But South Korean academics and campaigners have raised concerns about the potential vulnerability of Zepeto's users. While in the EU the minimum age for joining such platforms is 16, in many Asian countries it is 13 and in some places even younger.

This month, Naver Z joined the Tech Coalition, a global alliance of companies fighting online sexual abuse and exploitation of children.

Kang acknowledged the difficulties in policing the metaverse, saying that Naver Z had artificial intelligence programs to identify inappropriate behaviour and call centres that users could contact for help. But he accepted that "bad apples can be very sneaky and go through those protection mechanisms".

Wi Jong-hyun, a business professor at Chung-Ang University in Seoul, said the company needed "to come up with tougher and more pragmatic measures".

"Many of these teenagers totally identify with their avatars so they get shocked by these unpleasant online experiences," he said.

> swap station installation
>
> William Li, Nio founder

shares are listed on Wall Street, has ambitions to have 1,000 charging stations outside China by 2025, with the majority in Europe.

Li, who founded Nio in 2014, also said that rising battery costs, driven by increases in the price of raw materials, would delay the company's target of becoming profitable in the short term. The group posted a second-quarter net loss of $411mn.

"Profitability is still our target, but what matters most is finding the right cadence for us to become profitable," he said, pointing to the cost of growing its Chinese business while funding an aggressive international expansion.

Nio already has about 800 stations in China's biggest cities, a total it expects to reach 4,000 by 2025. "We have been pretty fast and efficient in China" at rolling out the battery swapping stations, said Li. "Then we didn't really manage our expectation for the European market, and the speed is actually behind our expectation."

The company is banking on the same model working in Europe, despite lower population density requiring it to install more stations. Given that a battery can account for a third of the price of an electric car, Nio reckons that its model of selling drivers the car and giving them the choice of leasing the battery will give it a larger market than rivals.

In Norway, where it began selling cars last September, 95 per cent of its customers lease batteries rather than buy them with the car. A further hurdle for its European rollout is the need to install transformers, which are essential to running the stations and can take up to two years to build.

Nio would consider manufacturing in Europe if sales there hit 200,000. It has sold about 240,000 cars globally, with a handful of those outside China.

Technology

Singapore's Grab aims for 2024 profitability

MERCEDES RUEHL — SINGAPORE

Grab, one of south-east Asia's biggest tech groups valued at $10.8bn, said the 10-year-old business would be profitable by 2024, even as growth slows against mounting global recession fears and rising inflation.

The Nasdaq-listed company, which is backed by Uber and SoftBank, said at an investor day yesterday that revenue growth would slow to between 45 per cent and 55 per cent in 2023 on a constant currency basis. The company expects its 2022 revenue to be between $1.25bn and $1.3bn.

Grab's share price has plunged since its listing via a special purpose acquisition company in December 2021. As well as never having been profitable, the ride-hailing and deliveries company has been buffeted by a sell-off in tech stocks, sending its share price down 61 per cent over the year to date.

The announcement is the first time Grab has given a target for becoming profitable, albeit on an adjusted basis that excludes exceptional items such as restructuring costs. The company said it wanted to clarify a strategy that focused on local commerce and mobility.

"We are expecting the environment to remain tough," said chief operating officer Alex Hungate in an interview in Singapore, where the company is headquartered. "We want to be the largest, most efficient on-demand platform in south-east Asia. We are a single app for the consumer, but we are not doing everything for the consumer."

Grab sought to reassure investors that it was in a strong position, with $6bn in cash and liquid items. The company expects losses to narrow to $380mn on an adjusted basis in the second half of this year, compared with $520mn in the first half.

Grab, which operates in 480 cities across eight countries in south-east Asia including Indonesia, Thailand and Singapore, has long been a barometer of consumer tech sector health in the region. The company started out in ride-hailing and expanded into banking, lending, grocery delivery and hotel bookings, among other services.

Grab said yesterday it had abandoned some of the business lines that helped to burnish its reputation as the region's "super app" but burnt cash. The company lost $3.4bn in 2021.

A move into dark stores, where the company built its own warehouses and distribution centres and bought inventory wholesale, has been cast aside in favour of partnerships with major retailers.

Grab said it had not had to announce big lay-offs seen in other tech companies. Hungate added that it would be hiring next year, especially in financial services. The group has launched a digital bank in Singapore and has plans to hire staff for two more banks in Indonesia and Malaysia in 2023.

Support services

Biffa agrees lower £1.3bn private equity bid

MARK WEMBRIDGE AND LEKE OSO ALABI
LONDON

Biffa has accepted a lowered £1.3bn takeover bid from a group controlled by US private equity firm Energy Capital Partners, as turmoil in UK markets weighs on dealmaking.

The British waste management company said yesterday it had recommended shareholders accept the 410p a share offer from ECP-controlled Bears Bidco, below a tentative bid of 445p a share submitted in June.

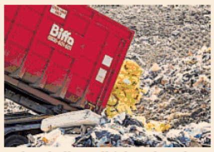
Including dividend payments, the offer is 28 per cent higher than the FTSE 250 group's closing price of 325p a share the day before the June bid was announced, and values Biffa's equity at about £1.3bn.

Shares in Biffa, which closed at less than 320p on Monday, jumped 27.7 per cent to £4.06 in late trading yesterday.

"It is the Biffa board's view that this offer represents a compelling opportunity, particularly in a weakening economic environment, for shareholders to realise, in cash and with certainty, the potential for future value creation," said Biffa chair Ken Lever.

However, he conceded that the offer was "lower than the proposal previously announced".

Analysts at Citibank said the lower offer "could be the outcome of a weak macro environment and the recent sterling devaluation". Citi said: "While waste management is generally non-discretionary, production of [commercial and industrial] waste was shown to be cyclical between 2008 and 2010.



Reduced offer: Biffa's board cited a weakening economic outlook

"Against a range of fixed costs, we would expect I&C collection to exhibit negative margin leverage during the UK's next recession."

ECP said it had targeted Biffa because of the group's "position as a leader in UK sustainable waste management, underpinned by a strong national brand and extensive service coverage".

"Given generally supportive but uncertain public policy in the waste management sector, ECP believes that Biffa requires patient, sustained capital investment predicated on a long-term investment horizon," ECP added.

After providing haulage services to coal-fired power stations, Biffa was bought by Severn Trent in 1991 and floated in 2006. In 2008 it was taken private again by investors before rejoining the London bourse in 2016.

COMPANIES & MARKETS

Brazil's Petrobras at centre of battle between populism and privatisation

Two presidential candidates offer competing visions for future of state-controlled oil and gas giant

MICHAEL POOLER — SÃO PAULO

The last time the left was in power in Brazil, the country's most important company was looted in a multibillion-dollar corruption scam and almost buried under a mountain of debt.

After emerging from the scandal and financial turmoil of the previous decade, $76bn oil and gas giant Petróleo Brasileiro today is leaner, more profitable — and a cash machine for its owners.

As Latin America's largest nation prepares to choose a new president in elections beginning on Sunday, very different visions are on offer for the state-controlled group better known as Petrobras.

Incumbent rightwing leader Jair Bolsonaro has spoken of privatising the region's top hydrocarbon producer and most valuable listed business.

His main challenger and the frontrunner, leftist ex-president Luiz Inácio Lula da Silva, intends to reassert greater government influence over what was at one time considered the crown jewel of the Brazilian economy.

Lula's manifesto calls for Petrobras to

Financials

Credit Suisse dealmaker to join Citi ahead of investment bank shake-up

ARASH MASSOUDI AND OWEN WALKER
LONDON

Credit Suisse has lost one of its most senior remaining dealmakers to Citigroup, as the beleaguered Swiss lender prepares for a major restructuring of its investment bank after a series of scandals.

Jens Welter is quitting Credit Suisse less than nine months after being named co-head of global banking, ending a 27-year career with the Swiss bank where he became known as a top adviser to consumer companies such as Nestlé.

Welter will join Citi as its new co-head of European investment banking and also become chair of its consumer and retail advisory business, which works with the largest companies in those sectors globally. He will join Spanish banker Ignacio Gutiérrez-Orrantia in leading Citi's business in Europe, the Middle East and Africa.

"Jens is one of the best consumer bankers around. We have been talking for a long time," said Manolo Falco, global co-head of investment banking at once again be an "integrated energy company", present in fertilisers, renewables and biofuels — areas that it has largely exited in order to focus on its core activity of pumping deepwater crude. There would be a bigger role for Petrobras in the clean energy transition.

He also wants it to work towards national self-sufficiency in refined derivatives, such as petrol and diesel, and stop charging international prices for fuel sold domestically.

"We would like to use oil so that Brazil can be an exporter of petroleum products and not an exporter of crude oil," Lula told the Financial Times in July.

"Petrobras has to be profitable, it has to earn, it has to distribute dividends to shareholders," he said. "But it cannot be the madness that it is today. What is happening is a total debacle; it is a crime against the Brazilian people."

The veteran politician's resource populism taps into public discontent in Brazil over living costs, a sentiment inflamed by bumper profits at Petrobras. Like other oil majors, it benefited from a spike in crude benchmarks triggered by Russia's invasion of Ukraine.

As well as beating predictions with a 27 per cent increase in net income to R$54.3bn ($10bn) during the second quarter of 2022, Petrobras was the world's biggest corporate dividend payer in the period, according to research by fund manager Janus Henderson.

Private shareholders, including western financial institutions such as Baillie Gifford and Fidelity, together hold almost two-thirds of the company's equity, but with more than half of voting rights the Brazilian state wields control.

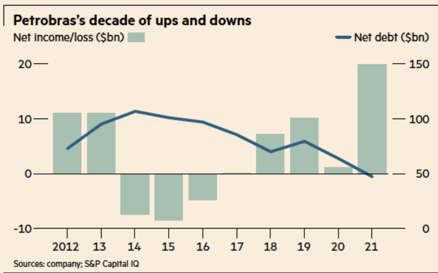
Despite a recent tumble, its São Paulo-listed preference shares are up more than 50 per cent so far in 2022, outperforming the local stock index.

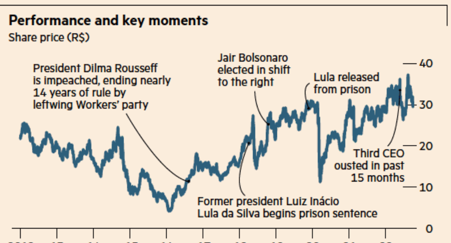
Lula's proposals have unnerved some investors. The fear is a return to the days of political interference under Lula's Workers' Party, or PT, which ruled Brazil for 13 years until 2016.

"They used Petrobras almost as an arm of the government," said a large shareholder, who asked not to be named. "If they do what they're saying they will with Petrobras, it will be very bad. Without a doubt, it is better as a focused company."

A worry is that a diversification push requiring extra investments could hit profit margins and cash generation.

Yet others hope that Lula, who governed Brazil for two terms between 2003 and 2010, will prove pragmatic on economic matters and avoid radical interventions. "The challenge we have is understanding what are actual proposals and what is campaign rhetoric," said another shareholder.





Sources: company; S&P Capital IQ

Fuel and fire: customers at a Petrobras petrol station in Brasília, where presidential rivals Jair Bolsonaro (top) and Luiz Inácio Lula da Silva are arguing over the future of a group that was once the crown jewel of Brazil's economy
Gustavo Gomes/Bloomberg

During Lula's time in office, Petrobras found vast offshore oil and gas deposits known as "pre-salt" reserves that ranked among the largest discoveries in decades. But on the PT's watch, the group was at the centre of a labyrinthine graft scheme revealed by a probe code-named *Lava Jato*, or Operation Car Wash. Senior company executives and politicians were found to have received kickbacks in exchange for awarding inflated contracts to construction firms.

Petrobras suffered losses of R18bn ($3.4bn) as a result of the cartel, Brazil's federal audit court estimated in 2020.

The US Department of Justice described it as "the largest foreign bribery case in history". Dozens of businessmen and politicians were jailed, including Lula, though he maintained his innocence and his two convictions were later annulled. Other Car Wash cases against the former president were either dropped, expired or suspended.

Mismanagement and meddling also took a toll. Under Lula's chosen successor, Dilma Rousseff, Petrobras was forced to keep fuel prices artificially low in a bid to tame inflation. A former CEO estimated this cost the group $40bn.

Elsewhere, refinery projects went over budget and unfinished. Borrowings exceeded $130bn by 2015, making Petrobras the most indebted company in the sector. Since these crises, the group has tightened compliance and reduced its gross debt to $54bn. It has looked to offload assets such as mature fields, petrol stations and refineries, concentrating instead on exploration and production in the Atlantic Ocean.

"The company has gone through a trajectory of recovery. Not only financially, but also in governance and credibility," said chief financial officer Rodrigo Araujo Alves.

The Bolsonaro era has not been without tumult either. The rightwing populist president has regularly attacked Petrobras over fuel costs and fired three CEOs in little over a year.

Brazil produces enough crude for its own needs, but lacking refining capacity to meet domestic demand relies on shipments of derivative products from abroad. "Oil is a global market — there is no room for artificial prices [or] price controls," said Alves. With around one-fifth of diesel consumed in the country coming from overseas, "the importers need to be able to buy at the international price and sell in Brazil".

Lula's advisers have sought to soothe market concerns. A way to implement his pledge to "Brazilianise fuel prices" is through reference values formulated by a government agency, with vendors free to follow or ignore them, according to PT senator Jean Paul Prates.

While Lula has railed against the sale of public-owned enterprises, Prates played down the possibility of renationalisating assets divested by Petrobras.

"What we're going to try to do is recover a vision of Petrobras for the future," he said. "There is no reason to fear the return of President Lula."

One issue for investors is that fertilisers, refining and biofuels all have lower returns than exploration and production, according to Marcelo de Assis at consultancy Wood Mackenzie.

'[Petrobras] has gone through a trajectory of recovery financially and in governance and credibility'

Petrobras says that oil extracted from the pre-salt zones has lower carbon emissions per barrel than the world average. But given that exploratory drilling there has disappointed in recent years, de Assis echoed criticisms that the company was not doing enough to prepare for a changing energy landscape. "Brazil has an opportunity to start the [energy] transition now, but we really need a change in Petrobras today," he said.

Privatisation is viewed as the best possible outcome by lots of analysts and investors. By removing the threat of government intrusion, they believe it would untether the company's share price. "It would take the company to completely different level," said one of the shareholders.

Yet the process is at an early stage and even if Bolsonaro wins it is likely to be an unpopular move, face legal and political hurdles and take years, say experts.

If the polls are correct and Lula wins, investors can find some comfort in legal reforms and new corporate governance norms at Petrobras approved after Car Wash. These are designed to prevent governments using state-controlled enterprises for political gain and oblige ministers to reimburse costs incurred as a result of enforced subsidies.

But as controlling shareholder, the state can still effectively shape strategy by replacing the board. "Petrobras is still protected at this point, but again a lot can be changed," said de Assis.

Citi. "We really wanted to fit this properly. We don't usually do a move like this."

Gutiérrez-Orrantia said: "Jens and I are fully aligned on the ambition and growth potential for the franchise and what it will take to succeed."

Falco said Citi was looking to capitalise on the downturn in the market to hire senior bankers in Europe. Citi has recently hired veteran Deutsche Bank dealmaker Patrick Frowein and JPMorgan Chase banker Barry Weir to senior roles in its European advisory business.

'Jens [Welter] is one of the best consumer bankers around. We have been talking for a long time'

Citi has also been adding senior dealmakers to its consumer and retail advisory business, including Goldman Sachs banker Chuck Adams last year.

In contrast, Credit Suisse has suffered a swath of senior departures from its investment bank over the past two years, as scandals have hit the group's share price and led senior staff to take rival offers. Welter will join Citi after three months' gardening leave.

New chief executive Ulrich Körner, who was installed by chair Axel Lehmann over the summer, is in the middle of planning a wholesale revamp of the 166-year-old lender, which will involve paring back the investment bank and cutting thousands of jobs.

The latest plans under consideration, which will be unveiled by the bank's third-quarter results on October 27, include splitting the investment bank into three and resurrecting a "bad bank" holding pen for high-risk assets and businesses for sale, the Financial Times reported last week.

Credit Suisse board members have recently proposed offering senior managers equity in the investment bank as a means of retaining staff. The idea has been widely viewed as heralding a future spin-off of the bank's advisory business, though people with knowledge of the matter said that was not an immediate priority.

Credit Suisse shares hit an all-time low yesterday of below SFr4 after dropping 17 per cent in the past week following market fears the bank was preparing a capital raise. Shares are down more than 56 per cent this year.

Retail

Two arrested on fraud charges linked to trading frenzy over '$100mn deli' in New Jersey

MARK VANDEVELDE — NEW YORK
STEFANIA PALMA — WASHINGTON

A New Jersey sandwich shop with a valuation of $100mn, which became a symbol of stock market exuberance, was at the centre of an international conspiracy that defrauded investors and wrecked the ambitions of two high-school teachers, according to an indictment unsealed in US federal court.

Federal agents in North Carolina arrested Peter Coker, 80, and James Patten, 63, on securities fraud charges related to their alleged role in inflating the share price of Hometown International. Coker's 53-year-old son Peter Coker Jr also faces charges and is still at large.

The deli gained notoriety on Wall Street in April last year after Hometown International was named by hedge fund manager David Einhorn as an example of the "quasi-anarchy" that he said had taken hold in financial markets.

"The pastrami must be amazing," Einhorn quipped at the time.

Hometown's share price soared from $1 in October 2019 to nearly $14 by April 2021, even as revenue hovered at about $40,000 and lawyers for the company acknowledged it was having "limited success operating its . . . delicatessen".

Prosecutors said the inflated valuation was the result of co-ordinated trades designed to create the false impression there was real market interest in the securities. They added that some of the trades were placed by the defendants, using brokerage accounts belonging to friends and associates.

Last January, an account belonging to a Staten Island resident who was an associate of Patten was used to sell shares at a price of $13.99, prosecutors said. The buyer, who lives in New Jersey, turned out to be a close relative of Patten's romantic partner, they added.

Prosecutors claimed some of the allegedly manipulative transactions were placed by an unindicted co-conspirator based in Hong Kong. They said Coker Jr also lives in Hong Kong.

The charges filed by New Jersey prosecutors, together with a parallel civil action by the Securities and Exchange Commission, shed light on one of the strangest episodes to emerge from the financial frenzy that seized Wall Street during the coronavirus pandemic.

The saga began in 2014, when two employees at Paulsboro High School began making plans to open a delicatessen in the dusty refinery town. Patten, who had known one of the teachers since his youth, offered to lend a hand, prosecutors alleged. "Unbeknownst to the deli owner . . . Patten and his associates began positioning Hometown International as a vehicle for a reverse merger that would yield substantial profit to them," prosecutors said on Monday.

Hot stuff: shares in Hometown International, operator of a sandwich shop, soared to give it a $100mn valuation despite its sales of $40,000
Google Street View

Shares in Hometown International began changing hands on OTC Marketplace, a trading venue for illiquid small-cap stocks, in October 2019. By last year, shareholders included the endowments of Duke and Vanderbilt universities.

The universities invested via a Hong Kong-based hedge fund that saw Hometown as a kind of special purpose acquisition vehicle that would merge with a company seeking a stock market listing, the Financial Times reported last year.

In an email Coker Jr allegedly sent last January, he seemed to envisage a similar strategy. "The 'announcement of [a reverse merger] deal' would lead to a 'massive' increase in the trading volume of [Hometown]," prosecutors wrote, summarising the email.

"Such manipulative schemes diminish the trust investors must have in the integrity of the markets," said Scott Thompson, associate director of enforcement at the SEC's Philadelphia regional office, in a statement.

Patten is charged with wire fraud and money laundering, which carry a maximum sentence of 20 years. He also faces charges of securities fraud and conspiracy to manipulate securities prices along with the Coker duo. The defendants could not be reached for comment.

The school workers who founded the deli quit after "rais[ing] significant concerns" with Patten regarding the negative news on its listing, prosecutors said.

Hometown merged with Makamer Holdings, a bioplastics company, this year and has ceased operating the deli.

COMPANIES & MARKETS

Currencies. Mini-budget fallout

Odey and rival fund managers profit from pound's tumble

Crypto

Mashinsky quits as head of Celsius Network

SCOTT CHIPOLINA AND KADHIM SHUBBER

Alex Mashinsky, head of crypto lender Celsius Network, resigned yesterday with an apology to customers for the "difficult financial circumstances" that the company's bankruptcy had left them in.

Celsius filed for bankruptcy protection in July, saying it had a $1.2bn hole in its balance sheet, making it one of the highest profile casualties of the crash in crypto markets this year.

The lender has hundreds of thousands of customers who deposited crypto with the company, which promised double-digit interest rates

Short positions are based on forex trade underestimating longevity of high UK inflation

LAURENCE FLETCHER — LONDON

Hedge fund managers including Crispin Odey are among those profiting from steep falls in sterling and UK government bonds as investors take flight on fears over the sustainability of the country's public finances.

The founder of Odey Asset Management is one of several leading hedge fund managers who believe the pound could now fall to parity against the dollar or below.

Both his group and other trend-following hedge funds have been running short positions — bets on falling prices — against the pound and longer dated gilts for some time.

Odey's bets — based on the belief that the market had badly underestimated how long inflation could stay high — are now paying off handsomely.

His flagship European hedge fund is now up about 145 per cent this year.

"I don't think you can start getting bullish on sterling," Odey told the Financial Times, expressing his belief the pound could hit one-to-one against the dollar. "It's so close [to parity]", he said.

The adverse market reaction to chancellor Kwasi Kwarteng's tax-cutting, high borrowing plan last week has hit both sterling and the gilts market as investors fretted about its impact on inflation, government debt and Britain's hefty current account deficit.

After the chancellor — who at one stage worked for Odey — suggested at the weekend there could be further tax cuts, sterling hit an all-time low of $1.035 on Monday.

"It's been helpful," Odey said about his short sterling position. "It [sterling and gilts] is all part of the same story of higher inflation . . . The market has been a long way from where inflation was."

The pound is now down more than 4 per cent against the dollar since Kwarteng's fiscal plan on Friday while UK gilts are on course to post their worst month on record dating back to 1979.

Odey described his bets against gilts as "the gifts that keep on giving".

The fund manager has donated significant sums of money to Conservative party causes over the course of the past decade.

He has given more than £800,000 to pro-Brexit campaigns, including £32,000 to the UK Independence party when it was led by Nigel Farage.

Odey donated £10,000 to Boris Johnson's Tory leadership campaign in 2019 but was criticised by Labour party politicians after it was revealed that he was betting against the pound.

He told the FT that suggestions he donated to the campaign to profit from a potential chaotic Brexit outcome were "crap". Many of the bearish bets on sterling have also been run by so-called managed futures hedge funds, a sector running $390bn, according to data provider HFR.

These strategies try to latch on to trends in global markets.

The pound's fall from more than $1.40 in June last year has provided a strong trend for funds to follow.

Funds have held a short sterling position for well over a year, according to Société Générale's Trend Indicator, which models the positions of such funds, and in 2022 it has been the second most profitable bet for them behind only wagers against Japan's currency.

Rotterdam-based Transtrend, which manages $6.3bn in assets, is shorting sterling against several other currencies and also betting against British fixed income instruments.

Such bets together have been a big contributor to the fund's gains of 7.4 per cent this month while so far this year the fund is up about 30 per cent.

Many in the market are bracing themselves for further falls.

"Buying sterling here is like licking honey from the razor's edge," said Hugh Hendry, founder of Eclectica Asset Management, which wound down its hedge fund in 2017.

"It would be remiss of the foreign exchange community not to allow for [sterling] to trade back at parity with the dollar and possibly trade below that level in the short term."

Pilar Gomez-Bravo, director of fixed income for Europe at MFS Investment Management, has been shorting the pound for some time and increased this bet to the maximum allowed in her portfolio following Kwarteng's announcement last week.

She believes the pound could fall to parity with the dollar "and keep going unless there is a policy response" from the Bank of England or the government, although she added that she expected such a response to come.

Odey said he expected the pound to "bounce around now" and that both sterling and gilts were getting closer to the point at which being short was no longer attractive.

He said his bet against the pound was not magnified by using debt and had been bigger in the past.

Odey said he did not have a trading advantage because Kwarteng previously worked as a consultant to Odey Asset Management.

"There's a mad idea that one's behind every twist and turn," said Odey. "All I can do is catch the wind now and again."

Additional reporting by Sebastian Payne in Liverpool

Sterling slides against the dollar

$ per £

Source: Refinitiv

Braced for falls: Crispin Odey, above, at one stage employed chancellor Kwasi Kwarteng as a consultant at Odey Asset Management

FT montage

'Buying sterling here is like licking honey from the razor's edge'

on some assets, and who now face significant losses on their savings.

The sudden resignation came two months into a bankruptcy process that has yet to produce clarity for Celsius customers over when and how much of their money they can expect to get back.

Celsius said Mashinsky would be replaced by Chris Ferraro, the company's chief financial officer and a former executive at JPMorgan Chase.

"I regret that my continued role as chief executive has become an increasing distraction and I am very sorry about the difficult financial circumstances members of our community are facing," Mashinsky said in a letter to the Celsius board. He remains a director of the Celsius parent company.

'I am very sorry about the difficult financial circumstances members of our community are facing'

Mashinsky, a former telecoms entrepreneur who founded Celsius in 2017, added that he was committed to helping Celsius "flesh out and promote" a plan for the company to return assets to creditors "in the fairest and most efficient way".

In recent weeks, leaks of meetings at Celsius have indicated that the company may propose a restructuring that involves giving customers a crypto token substitute for their claims while launching a new business based on providing custodian services for crypto.

Celsius's collapse rocked crypto markets. It was the first major crypto business to freeze customer accounts in June, firing the starting gun on a markets crisis that has felled several digital assets start-ups.

Rival crypto broker Voyager Digital, another business that offered interest on crypto tokens, also fell into bankruptcy.

Mashinsky has faced intense criticism as a result of the bankruptcy, with angry customers filing letters to court claiming they had been misled during the weekly YouTube appearances that he used to promote Celsius.

The complaints were echoed by the Vermont state securities regulator, which alleged in a court filing that Celsius operated what could be said to resemble a Ponzi scheme for at least two years before its collapse.

Crypto

FTX $1.4bn bid wins auction to buy assets of bankrupt platform Voyager

SCOTT CHIPOLINA

Crypto exchange FTX US has won the auction to purchase the assets of Canada's Voyager Digital, the bankrupt digital assets lender, with a bid of just over $1.4bn.

The agreement, revealed late on Monday, ends a two-week sale process after Voyager filed for bankruptcy protection in July in the wake of the collapse in crypto market prices.

Voyager, a popular digital asset lender, offered customers high yields for depositing funds on its platform but halted withdrawals when it was stricken in the crypto market downturn.

In particular, Voyager was caught out by the collapse of Three Arrows Capital, incurring losses of more than $650mn on a loan to the crypto hedge fund. Court documents showed that the lending platform had more than 100,000 creditors and billions of dollars in liabilities.

The deal also marks a further expansion of billionaire Sam Bankman-Fried's influence on crypto markets.

The FTX founder has been looking at assets that have been laid low by the market collapse. FTX agreed a deal to support lender BlockFi in July, with an option to buy for $240mn.

Voyager had previously rebuffed an approach by the billionaire to buy the assets, describing an offer as a "lowball bid dressed up as a white knight rescue".

Bankman-Fried was already a crucial player at Voyager. His Alameda Research trading company had borrowed $377mn worth of cryptocurrency from Voyager, its second-largest loan after the one extended to Three Arrows.

Alameda also lent $75mn to Voyager this year as it became distressed. It also owned almost a tenth of Voyager's stock, which was in effect worthless and which was delisted in Toronto in August.

The winning bid was valued at approximately $1.4bn, comprising the fair market value of all Voyager cryptocurrency at a "to-be-determined date in the future", Voyager said in a statement. The current value of all Voyager cryptocurrency is estimated to be $1.3bn.

"FTX US's bid maximises value and minimises the remaining duration of the company's restructuring by providing a clear path forward for the debtors to consummate a Chapter 11 plan and return value to their customers and other creditors," Voyager said in a statement. The deal will be subject to approval from a bankruptcy court in New York next month.

Voyager added that the company received multiple bids and, based on the results of the auction, "determined that the sale transaction with FTX is the best alternative for Voyager stakeholders".

Wave Financial, a Los Angeles and London-based crypto investment management company, said it had also made a bid for the assets.

The deal furthers the crypto reach of billionaire Sam Bankman-Fried

Derivatives

ICE to accept European energy groups' carbon allowances as margin payments

PHILIP STAFFORD

Intercontinental Exchange plans to accept allowances generated by the €1tn carbon market as collateral in its European futures venue, in an effort to relieve pressure on utilities and traders hit by the region's energy crisis.

Ice Clear Europe is consulting with members about accepting allowances for companies wanting to hedge against or bet on the price of carbon falling, according to a circular published late on Monday.

It follows a push from authorities and exchanges to find flexibility within the market to ease the burden on stretched energy companies using futures and struggling with volatile price moves.

The cost of buying and selling gas, electricity and power has fluctuated wildly since Russia's invasion of Ukraine and been exacerbated by droughts across the continent.

Utilities that have hedged their power sales on futures markets must make regular margin payments to clearing houses to insure those deals. A clearer sits between buyer and seller to prevent a default from infecting the market.

But clearing houses typically demand assets that are easy to buy and sell such as cash or sovereign bonds. The leap in prices has raised costs and few energy groups can afford to make the payments. That has created a liquidity crisis and forced governments including Finland's and Germany's to step in.

ICE said it hoped its move would give market participants more options and flexibility "as well as assisting the energy markets with the current liquidity pressures".

The exchange wants to give participants flexibility and help 'with the current liquidity pressures'

The clearing house aims to free up scarce collateral from the European carbon market, the world's biggest. Utilities typically hold a surplus of carbon allowances because each year they have to "give up" a certain amount to cover their pollution. However, they can sell the rest for profit. Last year, the EU handed out just over 1.5bn allowances.

ICE is asking members if they will accept European carbon allowances as initial margin for traders wanting to cover a potential market fall as a future and an option. Initial margin is held by clearing houses to cover potential losses from a default.

The tweaks only require a change to the ICE clearing house rule book and can be implemented in two weeks with regulatory approval.

European authorities have played down their ability to intervene and change legislation for fear of extending financial stability risk to clearing houses. But the price of carbon has fallen by more than a fifth since the start of the war in Ukraine, to €70 a tonne, in part on fears the EU may flood the market with allowances.

Last year, ICE moved trading of carbon emissions from London to Amsterdam in the wake of the UK's departure from the single market. However, clearing of carbon remained in London.

Traders often trade markets such as gas, crude and carbon in conjunction and consolidate their positions at one clearing house, to save themselves additional margin payments.

COMPANIES & MARKETS

The day in the markets

What you need to know

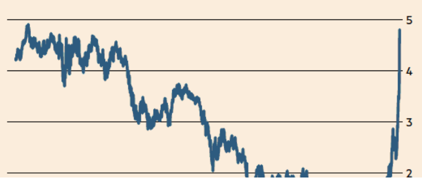
- Renewed selling in UK bonds ricochets across global markets
- Core government debt yields rise from US to Germany
- Wall Street's S&P 500 hits lowest level since November 2020

UK bonds sold off strongly yesterday on a third day of turbulent trading, a move that ricocheted across global markets and pulled US and European government debt sharply lower.

The benchmark 10-year gilt rose 26 basis points to hit 4.5 per cent, a fresh 14-year high, after the Bank of England's

UK 30-year gilt yields soar

Per cent



Europe can learn to live without Russian gas

Pierre Andurand

Markets Insight

Russia has historically supplied about 30 per cent of the EU and UK's gas consumption by pipeline. Those

temperatures of 22C to levels already experienced in recent history.

A 1982 study found the average indoor temperature in the UK was about

above most analysts' expectations. The industrial sector in the EU+ group has switched 35 per cent of its natural gas consumption to oil. Extra wind and year high, after the Bank of England's chief economist Huw Pill said the loosening of fiscal policy announced last week would "require a significant monetary response".

The pound and UK government debt have sold off sharply since chancellor Kwasi Kwarteng announced £45bn worth of unfunded tax cuts on Friday.

The pound on Monday reached an all-time low against the dollar and gilts across maturities sold off.

The magnitude of the selling in the UK has also intensified tremors across global markets, which have already been shaken by concerns about interest rate rises.

The US S&P 500 yesterday shed gains of as much as 1.7 per cent and was down 0.5 per cent by lunchtime.

The fall left the benchmark US equities barometer at its lowest level on an intraday basis since November 2020.

European equities closed at their lows of the day as bonds began selling. The region-wide Stoxx Europe 600 ended the day down 0.1 per cent.

The biggest moves yesterday were among long-dated debt with the 30-year gilt yield rising as much as 51bp to 5.04 per cent, its highest level since 2002.

The rise in long-term bonds suggested that investors were "now worried that the BoE may not be acting quickly enough to control inflation", said Jim Reid, a strategist at Deutsche Bank.

He added that investors were also concerned about more debt coming into the market with a 30-year deal expected to take place later this week.

The moves in the UK have reverberated across global markets with German and Italian bonds falling sharply, as well as a significant, though more muted, move in the US.

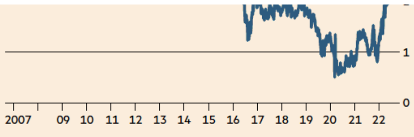
The German 10-year Bund yield rose 15bp to 2.25 per cent, its highest level since 2011.

Italian bond yields rose for the second consecutive day after a coalition of far-right politicians won Italy's elections.

The yield on Rome's 10-year bonds rose as high as 4.7 per cent, its most elevated level since 2013.

In the US, the 10-year Treasury yield rose to 3.97 per cent, close to breaking through the key 4 per cent level.

Nikou Asgari and Kate Duguid



Source: Refinitiv

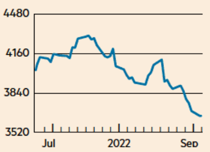
Markets update

	US	Eurozone	Japan	UK	China	Brazil
Stocks	**S&P 500**	**Eurofirst 300**	**Nikkei 225**	**FTSE100**	**Shanghai Comp**	**Bovespa**
Level	3654.58	1539.06	26571.87	6984.59	3093.86	108457.24
% change on day	-0.01	-0.11	0.53	-0.52	1.40	-0.60
Currency	**$ index (DXY)**	**$ per €**	**Yen per $**	**$ per £**	**Rmb per $**	**Real per $**
Level	113.630	0.962	144.735	1.078	7.159	5.350
% change on day	-0.415	-0.311	0.263	-0.093	0.195	-0.119
Govt. bonds	**10-year Treasury**	**10-year Bund**	**10-year JGB**	**10-year Gilt**	**10-year bond**	**10-year bond**
Yield	3.955	2.226	0.249	4.503	2.706	12.647
Basis point change on day	15.540	11.600	0.120	24.500	-1.700	3.900
World index, Commods	**FTSE All-World**	**Oil - Brent**	**Oil - WTI**	**Gold**	**Silver**	**Metals (LMEX)**
Level	369.61	85.61	77.93	1643.35	18.64	3473.50
% change on day	-0.01	1.84	1.59	-0.01	-1.92	-1.74

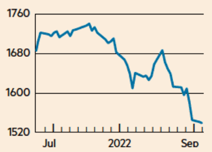
Yesterday's close apart from: Currencies = 16:00 GMT; S&P, Bovespa, All World, Oil = 17:00 GMT; Gold, Silver = London pm fix. Bond data supplied by Tullett Prebon.

Main equity markets

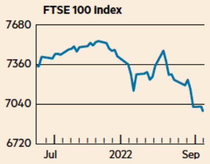
S&P 500 index



Eurofirst 300 index



FTSE 100 index



Biggest movers

%	US		Eurozone		UK	
Ups	Cf Industries Holding	5.41	Saipem	3.82	Glencore	3.28
	Royal Caribbean	4.47	Renault	3.48	Hargreaves Lansdown	3.04
	Norwegian Cruise Line Holdings Ltd	4.37	Telecom Italia	3.41	Flutter Entertainment	2.40
	Vertex Pharmaceuticals	3.75	A.p. Moller - Maersk B	3.15	Antofagasta	2.29
	Mosaic (the)	3.70	Tenaris	3.02	Smurfit Kappa	2.07
Downs	Global Payments	-2.37	B. Sabadell	-6.47	Rightmove	-8.85
	Estee Lauder Companies (the)	-2.31	Terna	-5.49	SSE	-7.30
	Cms Energy	-2.22	Enel	-5.40	Taylor Wimpey	-7.22
	Edison Int	-2.18	Grifols	-4.98	Unite	-7.05
	Consolidated Edison	-2.15	Snam	-3.92	Kingfisher	-6.58

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

Car-rental business **Hertz** rallied on news that it had signed a memorandum of understanding with BP for the development of a national network of electric-vehicle charging stations.

BP Pulse, the energy major's EV subsidiary, would manage Hertz's charging infrastructure and the customisation of its "Omega" software, an energy-management tool.

A contract extension pushed **SkyWater Technology** higher. The Department of Defence awarded the chipmaker up to $99mn to continue an initiative to broaden the "production capabilities for strategic radiation-hardened electronics", it said.

Another contract extension buoyed drugmaker **Eagle Pharmaceuticals**, which secured up to $50.3mn from US government agencies for the development of ENA-001, a medicine aimed at treating drug overdoses.

A cut to its full-year guidance weighed on polymer materials manufacturer **Avient**, which forecast earnings of $2.70 per share, down from an earlier estimate of $3.50.

The announcement that it was returning more money to investors sent **Beauty Health** rallying, with the group behind the Hydrafacial skin treatment authorising a share buyback programme of up to $200mn. *Ray Douglas*

Europe

Italian payments group **Nexi** rose off the back of a well-received strategic update at its capital markets day.

It said the shift from cash to digital payments on the continent should allow the group to generate net revenues and core profits of 9 per cent and 14 per cent, respectively, through to 2025.

Nexi hinted that cash generation of about €2.8bn during this period might be used to "return capital to shareholders through buyback or dividends".

German bioenergy group **Verbio Vereinigte Bioenergie** jumped after unveiling "record" full-year results, it said.

Revenue increased 77 per cent year on year to €1.8bn while core profits leapt 203 per cent to €503.3mn.

Underpinning this performance was "a global increase in demand for biofuels and from the improved environment for advanced biofuels in Europe", it said.

A downgrade weighed on **Hugo Boss** with Deutsche Bank lowering its rating for the German fashion group from "buy" to "hold".

Tailwinds that had benefited the company during the past few months were "fading", said the broker, which was concerned that "European consumers, especially in key markets like Germany and the UK, were being hit with skyrocketing inflation rates".

Ray Douglas

London

Waste management group **Biffa** surged on accepting a 410p per-share bid from affiliates of US private equity firm Energy Capital Partners.

The offer that was 29 per cent higher than Monday's closing price but below the 445p bid mooted in June from the buyout group.

The approval of a lower price "could be the outcome of a weak macro environment and the recent sterling devaluation", explained Citi.

The news helped lift Biffa's peer, **Renewi** — a company that traded at an "unjustified" discount to its larger rival, said Liberum analyst Alexandro da Silva O'Hanlon, who highlighted the latter's "green credentials" and "growth opportunities".

A cut to its full-year outlook sent **Saga** tumbling.

The group, which provides services such as travel and insurance to the over-50s, expected its underlying pre-tax profit to land between £20mn and £30mn, down from an earlier range of £35mn to £50mn. The revision was blamed on "inflationary pressures within the insurance market".

Merchant banker **Close Brothers** dived after posting a 13 per cent year-on-year slide in adjusted operating profit, dragged lower by its Winterflood Securities business. *Ray Douglas*

tion by pipeline. Those exports have already been cut by 75 per cent. If Moscow stops them entirely, will Europeans freeze to death in the winter, as Russian propagandists have been warning?

Almost certainly not. In fact, it looks as though Europeans have a great deal more capacity in managing the situation than the fearmongers thought.

Much of European gas demand comes from heating. If Europeans just lower thermostats in their homes by an average of 3C — down to 19C this winter — that could make a big difference.

The International Energy Agency estimated in a March report that a 1C drop in average thermostat levels from 22C in the winter would save 10bn cubic metres of gas in EU and UK demand.

But let's look at the impact of a 3C reduction by focusing on a group of nine European countries for which data are the most detailed: Germany, the UK, France, Italy, Belgium, Netherlands, Austria, the Czech Republic and Slovakia. In 2021, this EU+ group represented 69 per cent of EU and UK demand.

Rising imports of liquefied natural gas and a switch by industry to using more oil have cut much of the 2023 deficit caused by the loss of Russian imports.

A reduction to an average of 19C would solve two-thirds of the remaining deficit for these nine countries. And if accompanied by a 5 per cent cut in power usage — which could be achieved by switching it off in unused rooms and buildings — the deficit would disappear.

How uncomfortable would a 3C lowering of indoor temperature be? It would only involve reducing current indoor temperature in the UK was about 16C in 1978. A 1996 study from the UK Department for the Environment, Transport and the Regions found that indoor temperatures hovered at about 18C in the winter. Therefore, 19C is not a very high price to pay given what is at stake with Russia's behaviour.

Furthermore, this inconvenience would have to last only a couple of years, as Europe attracts more of a growing LNG supply while increasing solar and windpower generation.

Imports to the EU+ group of natural gas from Russia via pipelines are expected to fall from 103bn cubic metres in 2021 to 42bn cubic metres in 2022 — a drop of 61bn cubic metres. Let's assume that they fall to zero from October 2022 onwards.

> A 1C drop in average thermostat levels from 22C would save 10bn cubic metres of gas demand

This will be partly offset by LNG imports from elsewhere. These have gone up more than the IEA or other analysts believed possible a few months ago.

For 2022, the EU+ is expected to import 41bn cubic metres more LNG from elsewhere than in 2021, covering 67 per cent of the expected drop in Russian imports. From 2023 onwards, we can safely assume the countries will further import between 30 and 50 per cent of global LNG production additions.

Industrial switching has also been consumption to oil. Extra wind and solar-power capacity is expected to help displace 3bn cubic metres a year of natural gas, with potential to expand more.

But this is still not enough to avoid natural gas shortages going forward.

Without any further demand reduction, a deficit is expected for the EU+ group of 28bn cubic metres in 2023 — with Russian supply down 103bn cubic metres, LNG imports up 50bn cubic metres and industrial switching of 30bn cubic metres to oil. On the IEA figures, a 3C drop in average thermostat levels would cut that by 21bn cubic metres.

To avoid social unrest, governments in the EU and UK have chosen to shield consumers from most of the increase in wholesale natural gas prices. As a result, we should not expect a significant drop in customer demand unless there are widespread public awareness campaigns on ways to save energy, such as lowering our thermostats.

The hardest adjustment will be in the coming six months. If Europe can do what is needed to reduce demand, it will have proven both that it is more resilient than thought, and that it can live without Russian gas.

This will take a lot of froth out of the market, and bring significantly lower prices, as the situation will then ease every year. On top of a potential $100bn revenues from natural gas exports to Europe, Russia will have lost much of its ability to blackmail European countries over energy.

Pierre Andurand is founder and chief investment officer of Andurand Capital Management

MARKET DATA

WORLD MARKETS AT A GLANCE

FT.COM/MARKETSDATA

Change during previous day's trading (%)

S&P 500	Nasdaq Composite	Dow Jones Ind	FTSE 100	FTSE Eurofirst 300	Nikkei	Hang Seng	FTSE All World $	$ per €	$ per £	¥ per $	£ per €	Oil Brent $ Sep	Gold $
-0.01%	0.37%	-0.15%	-0.52%	-0.11%	0.53%	0.03%	-0.01%	-0.311%	-0.093%	0.263%	-0.112%	1.54%	-0.01%

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

AMERICAS

Aug 28 - - — Index — All World
S&P 500 New York

Aug 28 - Sep 27 — Index — All World
S&P/TSX COMP Toronto

EUROPE

Aug 28 - Sep 27 — Index — All World
FTSE 100 London

Aug 28 - Sep 27 — Index — All World
Xetra Dax Frankfurt

ASIA

Aug 28 - Sep 27 — Index — All World
Nikkei 225 Tokyo

Aug 28 - Sep 27 — Index — All World
Kospi Seoul

4,057.66 → 3,654.58	19,873.29 → 18,501.61	7,479.74 → 6,984.59	12,892.99 → 12,139.68	28,479.01 → 26,571.87	2,426.89 → 2,223.86
Day -0.01% Month -13.28% Year -17.28%	Day -0.08% Month -8.97% Year -10.66%	Day -0.52% Month -7.39% Year 1.28%	Day -0.72% Month -7.25% Year NaN%	Day 0.53% Month -8.13% Year -12.86%	Day 0.13% Month -10.78% Year -29.19%
Nasdaq Composite, New York	IPC, Mexico City	FTSE Eurofirst 300, Europe	Ibex 35, Madrid	Hang Seng, Hong Kong	FTSE Straits Times, Singapore
12,141.71 → 10,843.23	47,272.11 → 44,938.95	1,667.67 → 1,539.06	7,989.60 → 7,445.70	20,170.04 → 17,860.31	3,222.26 → 3,165.50
Day 0.37% Month -14.34% Year -27.66%	Day 0.57% Month -7.14% Year -12.29%	Day -0.11% Month -10.53% Year -11.92%	Day -1.82% Month -10.60% Year -14.91%	Day 0.03% Month -9.59% Year -28.27%	Day -0.52% Month -2.32% Year 3.25%
Dow Jones Industrial, New York	Bovespa, São Paulo	CAC 40, Paris	FTSE MIB, Milan	Shanghai Composite, Shanghai	BSE Sensex, Mumbai
32,283.40 → 29,217.48	112,298.86 → 109,945.65	6,222.28 → 5,753.82	21,841.88 → 20,961.38	3,236.22 → 3,093.86	58,833.87 → 57,107.52
Day -0.15% Month -13.23% Year -15.43%	Day -0.60% Month -2.95% Year -0.58%	Day -0.27% Month -11.42% Year -12.43%	Day -1.16% Month -6.68% Year -18.20%	Day 1.40% Month -5.04% Year -14.39%	Day -0.07% Month -4.07% Year -3.04%

Country	Index	Latest	Previous
Argentina	Merval	136002.55	138148.26
Australia	All Ordinaries	6696.50	6667.50
	S&P/ASX 200	6496.20	6469.40
	S&P/ASX 200 Res	5050.80	4919.00
Austria	ATX	2712.11	2721.15
Belgium	BEL 20	3390.90	3389.04
	BEL Mid	8798.88	8851.19
Brazil	IBovespa	108457.24	109114.16
Canada	S&P/TSX 60	1112.48	1114.61
	S&P/TSX Comp	18312.98	18327.04
	S&P/TSX Div Met & Min	1190.66	1201.57
Chile	S&P/CLX IGPA Gen	27991.46	28075.81
China	FTSE A200	10466.70	10324.97
	FTSE B35	9000.71	8988.96
	Shanghai A	3242.51	3197.92
	Shanghai B	283.41	276.03
	Shanghai Comp	3093.86	3051.23
	Shenzhen A	2081.12	2038.86
	Shenzhen B	1158.66	1133.74
Colombia	COLCAP	1261.61	1260.21
Croatia	CROBEX	2013.05	2011.29
Cyprus	CSE M&P Gen	68.46	68.68
Czech Republic	PX	1144.92	1151.08
Denmark	OMXC Copenhagen 20	1530.59	1523.01
Egypt	EGX 30	9827.80	9895.04
Estonia	OMX Tallinn	1693.06	1697.24
Finland	OMX Helsinki General	9942.32	9914.03
France	CAC 40	5753.82	5769.39
	SBF 120	4428.86	4439.49
Germany	M-DAX	22342.60	22450.37
	TecDAX	2655.13	2654.10
	XETRA Dax	12139.68	12227.92
Greece	Athens Gen	798.00	792.73
	FTSE/ASE 20	1918.11	1904.20
Hong Kong	Hang Seng	17860.31	17855.14
	HS China Enterprise	6150.47	6137.78
	HSCC Red Chip	3473.14	3444.56
Hungary	Bux	38549.03	38528.86
India	BSE Sensex	57107.52	57145.22
	Nifty 500	14727.30	14725.70
Indonesia	Jakarta Comp	7112.45	7127.50
Ireland	ISEQ Overall	6416.67	6404.08
Israel	Tel Aviv 125	1968.83	1992.90
Italy	FTSE Italia All-Share	22826.57	23019.17
	FTSE Italia Mid Cap	34509.61	34903.11
	FTSE MIB	20961.38	21207.25
Japan	2nd Section	7228.27	7239.06
	Nikkei 225	26571.87	26431.55
	S&P Topix 150	1603.75	1595.71
	Topix	1930.17	1935.49
Jordan	Amman SE	2476.46	2481.33
Kenya	NSE 20	1746.03	1737.96
Kuwait	KSX Market Index	6633.44	6603.51
Latvia	OMX Riga	1083.81	1086.41
Lithuania	OMX Vilnius	898.02	900.86
Luxembourg	LuxX	1285.34	1281.73
Malaysia	FTSE Bursa KLCI	1410.87	1413.04
Mexico	IPC	45062.56	44808.56
Morocco	MASI	12259.05	12250.74
Netherlands	AEX	642.72	640.41
	AEX All Share	876.60	873.13
New Zealand	NZX 50	11214.49	11434.82
Nigeria	SE All Share	49026.62	49190.34
Norway	Oslo All Share	1017.37	1006.88
Pakistan	KSE 100	41518.23	41151.54
Philippines	Manila Comp	6020.07	6259.54
Poland	Wig	47870.10	47185.13
Portugal	PSI 20	5443.99	5415.93
	PSI General	4280.18	4282.36
Romania	BET Index	10773.48	10622.15
Russia	Micex Index	2436.57	2445.30
	RTX	1245.71	1212.57
Saudi-Arabia	TADAWUL All Share Index	10909.18	11161.38
Singapore	FTSE Straits Times	3165.50	3181.97
Slovakia	SAX	346.11	346.11
Slovenia	SBI TOP	-	-
South Africa	FTSE/JSE All Share	64025.95	63625.66
	FTSE/JSE Res 20	56996.93	56214.92
	FTSE/JSE Top 40	57621.38	57289.97
South Korea	Kospi	2223.86	2220.94
	Kospi 200	290.20	289.77
Spain	IBEX 35	7445.70	7583.50
Sri Lanka	CSE All Share	9861.62	9844.21
Sweden	OMX Stockholm 30	1829.37	1811.78
	OMX Stockholm AS	700.01	697.14
Switzerland	SMI Index	10126.43	10072.62
Taiwan	Weighted Pr	13826.59	13778.19
Thailand	Bangkok SET	1610.58	1621.25
Turkey	BIST 100	3294.08	3260.15
UAE	Abu Dhabi General Index	9827.93	9911.11
UK	FT 30	2264.90	2280.50
	FTSE 100	6984.59	7020.95
	FTSE 4Good UK	6282.81	6333.60
	FTSE All Share	3810.44	3841.45
	FTSE techMARK 100	5979.70	6008.39
USA	DJ Composite	9859.34	9880.16
	DJ Industrial	29217.48	29260.81
	DJ Transport	12067.30	11999.40
	DJ Utilities	937.40	953.48
	Nasdaq 100	11282.87	11254.11
	Nasdaq Cmp	10843.23	10802.92
	NYSE Comp	13583.97	13580.39
	S&P 500	3654.58	3655.04
	Wilshire 5000	39246.09	36408.34
Venezuela	IBC	8795.59	8815.84
Vietnam	VNI	1166.54	1174.35
Cross-Border	DJ Global Titans ($)	399.17	399.04
	Euro Stoxx 50 (Eur)	3333.55	3342.56
	Euronext 100 ID	1119.80	1119.10
	FTSE 4Good Global ($)	8782.48	8778.11
	FTSE All World ($)	368.61	369.85
	FTSE E300	1539.06	1540.75
	FTSE Eurotop 100	3024.27	3025.05
	FTSE Global 100 ($)	2321.40	2320.46
	FTSE Gold Mine ($)	1326.79	1360.68
	FTSE Latibex Top (Eur)	4440.00	4432.20
	FTSE Multinationals ($)	2405.48	2429.52
	FTSE World ($)	667.69	667.92
	FTSEurofirst 100 (Eur)	4023.41	4044.57
	FTSEurofirst 80 (Eur)	4569.34	4591.70
	MSCI ACWI Fr ($)	560.43	567.86
	MSCI All World ($)	2408.44	2438.50
	MSCI Europe (Eur)	1572.60	1576.27
	MSCI Pacific ($)	2352.75	2423.15
	S&P Euro (Eur)	1521.95	1528.16
	S&P Europe 350 (Eur)	1575.30	1574.78
	S&P Global 1200 ($)	2654.67	2653.65
	Stoxx 50 (Eur)	3332.97	3322.24

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

STOCK MARKET: BIGGEST MOVERS

AMERICA

ACTIVE STOCKS	stock traded m's	close price	Day's change
Tesla	88.2	282.18	6.17
Apple	54.6	151.58	0.81
Nvidia	34.5	124.74	2.46
Amazon.com	31.9	114.55	-0.61
Advanced Micro Devices	30.1	67.15	0.85
Microsoft	21.8	236.76	-0.69
Alphabet	11.8	97.78	-0.39
Alphabet	9.4	98.27	-0.54
Netflix	8.0	224.71	0.64
Occidental Petroleum	7.8	58.29	0.41

BIGGEST MOVERS	Close price	Day's change	Day's chng%
Ups			
Cf Industries Holding	95.25	4.89	5.41
Royal Caribbean	46.01	1.97	4.47
Norwegian Cruise Line Holdings Ltd	13.98	0.59	4.37
Vertex Pharmaceuticals	287.15	10.37	3.75
Mosaic (the)	48.23	1.72	3.70
Downs			
Global Payments	109.16	-2.65	-2.37
Estee Lauder Companies (the)	227.10	-5.36	-2.31
Cms Energy	62.11	-1.41	-2.22
Edison Int	61.79	-1.38	-2.18
Consolidated Edison	91.17	-2.00	-2.15

Based on the constituents of the S&P500

LONDON

ACTIVE STOCKS	stock traded m's	close price	Day's change
Shell	353.9	2243.50	32.00
Diageo	347.5	3857.50	86.50
Rio Tinto	300.5	4781.50	104.00
Bp	286.5	431.10	1.00
Astrazeneca	277.0	9923.00	-223.00
Glencore	233.4	471.40	14.95
Relx	225.5	2218.00	36.00
Reckitt Benckiser	207.5	6096.00	96.00
British American Tobacco	206.4	3374.50	-12.00
Unilever	184.8	4078.50	2.88

BIGGEST MOVERS	Close price	Day's change	Day's chng%
Ups			
Biffa	406.00	88.20	27.75
Network Int Holdings	298.40	13.20	4.63
Hargreaves Lansdown	896.00	38.16	4.45
Entain	1125.00	42.00	3.88
Clarkson	2630.00	90.00	3.54
Downs			
Close Brothers	913.00	-110.00	-10.75
Persimmon	1208.00	-142.00	-10.52
Warehouse Reit	106.40	-11.60	-9.83
United Utilities	888.80	-91.60	-9.34
Kingfisher	218.60	-22.40	-9.29

Based on the constituents of the FTSE 350 index

EURO MARKETS

ACTIVE STOCKS	stock traded m's	close price	Day's change
Roche Gs	528.8	328.28	7.04
Nestle N	484.4	111.65	-0.21
Novartis N	441.3	78.12	0.43
Unicredit	289.1	10.65	-0.23
Asml Holding	256.6	456.20	9.00
Intesa Sanpaolo	233.8	1.73	-0.04
Enel	205.8	4.30	-0.25
Eni	173.3	10.75	0.02
Totalenergies	170.9	48.36	1.34
Abb Ltd N	158.8	26.77	0.27

BIGGEST MOVERS	Close price	Day's change	Day's chng%
Ups			
Roche I	394.23	14.07	3.70
A.p. Møller - Mærsk B A/s	1936.23	59.16	3.15
A.p. Møller - Mærsk A A/s	1877.06	56.47	3.10
Totalenergies	48.36	1.34	2.84
Neste	43.29	1.13	2.68
Downs			
Enel	4.30	-0.25	-5.40
Santander	2.43	-0.09	-3.70
Vonovia Se Na O.n.	21.00	-0.60	-2.78
Orsted A/s Dk 10	11.53	-0.30	-2.57
Bbva	4.64	-0.12	-2.44

Based on the constituents of the FTSEurofirst 300 Eurozone index

TOKYO

ACTIVE STOCKS	stock traded m's	close price	Day's change
Nippon Yusen Kabushiki Kaisha	630.6	9270.00	-90.00
Tokyo Electron	551.3	38370.00	-330.00
Softbank .	519.5	5030.00	-36.00
Sony	499.9	9632.00	-50.00
Mitsui O.s.k.lines,	473.5	3170.00	-15.00
Toyota Motor	461.7	1986.00	23.00
Nintendo Co.,	402.4	60680.00	1190.00
Mitsubishi Ufj Fin,.	378.7	692.60	5.40
Fast Retailing Co.,	367.4	81310.00	710.00
Keyence	348.3	49560.00	200.00

BIGGEST MOVERS	Close price	Day's change	Day's chng%
Ups			
Konami	7000.00	270.00	4.01
Hitachi Zosen	860.00	32.00	3.86
Mitsui Eng & Shipbuilding Co.,	401.00	11.00	2.82
Recruit Hldgs Co Ltd	4187.00	109.00	2.67
Mitsubishi Motors	598.00	15.00	2.57
Downs			
Rakuten .	619.00	-22.00	-3.43
Shionogi & Co.,	6653.00	-116.00	-1.71
Kawasaki Kisen Kaisha,	7000.00	-110.00	-1.55
Tokyu Fudosan Holdings	756.00	-10.00	-1.31
Kddi	4251.00	-54.00	-1.25

Based on the constituents of the Nikkei 225 index

UK MARKET WINNERS AND LOSERS

FTSE 100	Sep 27 price(p)	%Chg week	%Chg ytd	FTSE 250	Sep 27 price(p)	%Chg week	%Chg ytd
Winners				**Winners**			
Hargreaves Lansdown	896.00	6.2	-	Biffa	406.00	16.0	14.1
Haleon	278.80	5.0	-	Tp Icap	179.00	9.1	17.3
Airtel Africa	141.10	4.5	5.8	Harbourvest Global Private Equity	2330.00	8.9	-
Bae Systems	801.60	3.9	45.9	Aj Bell	284.60	5.6	-25.5
Aveva	3159.00	3.6	-7.3	Bh Macro	4985.00	4.7	33.0
Diageo	3857.50	2.8	-4.8	Capricorn Energy	237.40	2.4	28.7
Unilever	4078.50	2.5	2.8	Spectris	2786.00	2.2	-
Experian	2658.00	2.0	-	Spirent Communications	267.80	2.1	-3.1
Coca-cola Hbc Ag	1944.50	2.0	-24.7	Coats	56.00	1.4	-
3i	1117.00	1.6	-	Pz Cussons	193.40	1.3	-3.8
Smiths	1510.00	1.1	-5.1	Renishaw	3562.00	1.2	-
Croda Int	6554.00	1.1	-35.4	Hikma Pharmaceuticals	1241.00	0.8	-
Losers				**Losers**			
Segro	694.00	-18.1	-	Warehouse Reit	106.40	-25.3	-
Land Securities	485.30	-17.8	-	Urban Logistics Reit	127.50	-22.7	-32.3
Jd Sports Fashion	102.65	-16.5	-52.7	Tritax Eurobox	61.30	-20.9	-
British Land	334.40	-14.8	-	Tritax Big Box Reit	125.70	-19.9	-
Rightmove	500.60	-14.6	-	Home Reit	83.70	-19.7	-
Unite	818.00	-14.3	-	Derwent London	1876.00	-19.0	-
Natwest	232.20	-13.8	-4.6	Moonpig	150.60	-18.6	-
Taylor Wimpey	88.92	-13.7	-	Aston Martin Lagonda Global Holdings	149.80	-18.4	-
Lloyds Banking	43.29	-11.7	-	Assura	49.86	-18.3	-29.0
United Utilities	888.80	-11.6	-	Great Portland Estates	409.20	-18.2	-0.1
Severn Trent	2324.00	-11.0	-21.3	Workspace	401.80	-17.9	-
Barratt Developments	360.30	-11.0	-	Wizz Air Holdings	1681.50	-17.8	-

FTSE SmallCap	Sep 27 price(p)	%Chg week	%Chg ytd	Industry Sectors	Sep 27 price(p)	%Chg week	%Chg ytd
Winners				**Winners**			
Pendragon	27.10	17.8	20.4	Beverages	29216.43	0.8	-6.2
Avon Protection	990.00	17.2	-	Aerospace & Defense	4619.51	-1.3	10.6
Ten Entertainment	220.00	16.4	-14.1	Food & Drug Retailers	4065.45	-2.1	-7.2
Rps	237.00	14.5	88.0	Health Care Equip.& Services	10689.10	-2.8	29.8
Esken	5.00	7.5	-	Tobacco	35813.42	-3.0	22.5
Hostelworld	75.60	6.9	7.8	Oil & Gas Producers	7729.26	-3.9	35.5
Ricardo	458.00	6.5	0.6	Pharmaceuticals & Biotech.	18678.66	-4.3	-0.4
Hollywood Bowl	200.00	5.3	-	Media	8495.16	-4.5	-
City Of London Investment	422.50	5.2	-	General Retailers	3206.79	-4.8	11.1
Int Personal Finance	88.00	4.1	-	Equity Investment Instruments	10995.41	-5.2	-
Jpmorgan Global Core Real Assets	112.00	2.3	22.4	General Financial	12101.74	-5.3	5.1
Trustpilot	75.00	2.1	-	Mobile Telecommunications	2551.10	-5.3	-11.2
Losers				**Losers**			
Saga	101.80	-33.2	-	Real Estate Investment Trusts	2006.06	-23.5	-
Restaurant	33.08	-22.5	-	Real Estate & Investment Servic	2026.04	-18.0	-
Abrdn Eur Logistics ome	76.20	-22.2	-	Household Goods	8978.81	-15.4	-
On The Beach	107.20	-21.2	-	Automobiles & Parts	1433.65	-13.8	-
Industrials Reit	131.50	-20.3	-	Gas Water & Multiutilities index	5183.49	-13.0	-
Residential Secure ome	91.60	-18.9	-	Electricity	9648.13	-13.0	-3.8
Impact Healthcare Reit	97.50	-18.3	-	Food Producers	4903.83	-11.9	-
Hyve	52.00	-17.3	-43.8	Industrial Transportation	2867.24	-11.0	-
Civitas Social Housing	63.00	-17.0	-	Chemicals	11070.69	-9.7	-
Nanoco	42.40	-16.5	-	Industrial Engineering	12680.45	-8.5	-
Luceco	86.40	-16.0	-	Construction & Materials	6194.91	-8.3	-
Picton Property ome Ld	72.00	-15.6	-	Nonlife Insurance	2943.37	-8.3	-

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

CURRENCIES

Sep 27	Currency	DOLLAR Closing Mid	DOLLAR Day's Change	EURO Closing Mid	EURO Day's Change	POUND Closing Mid	POUND Day's Change
Argentina	Argentine Peso	146.5575	0.5995	141.0034	0.1757	157.9164	0.4135
Australia	Australian Dollar	1.5479	0.0074	1.4892	0.0029	1.6678	0.0055
Bahrain	Bahrainin Dinar	0.3771	-	0.3628	-0.0010	0.4063	-0.0006
Bolivia	Bolivian Boliviano	6.9100	-	6.6481	-0.0190	7.4456	-0.0110
Brazil	Brazilian Real	5.3503	-0.0064	5.1475	-0.0208	5.7650	-0.0154
Canada	Canadian Dollar	1.3727	0.0042	1.3206	0.0003	1.4790	0.0023
Chile	Chilean Peso	979.2000	-12.5750	942.0911	-14.8236	1055.0928	-15.1295
China	Chinese Yuan	7.1590	0.0139	6.8877	-0.0063	7.7139	0.0036
Colombia	Colombian Peso	4547.3550	72.3500	4375.0235	57.3125	4899.7991	70.8292
Costa Rica	Costa Rican Colon	639.9700	2.5600	615.7169	0.7116	689.5709	1.7431
Czech Republic	Czech Koruna	25.6523	0.0949	24.6801	0.0211	27.6404	0.0615
Denmark	Danish Krone	7.7301	0.0228	7.4372	0.0008	8.3292	0.0123
Egypt	Egyptian Pound	19.4897	-0.0461	18.7511	-0.0980	21.0002	-0.0808
Hong Kong	Hong Kong Dollar	7.8500	0.0001	7.5525	-0.0215	8.4584	-0.0125
Hungary	Hungarian Forint	421.0581	-2.6607	405.1012	-3.7241	453.6922	-3.5418
India	Indian Rupee	81.5775	-0.0400	78.4859	-0.2627	87.9002	-0.1731
Indonesia	Indonesian Rupiah	15122.5000	-5.0000	14549.4120	-46.3795	16294.5799	-29.4987
Israel	Israeli Shekel	3.5010	-0.0155	3.3683	-0.0245	3.7723	-0.0222
Japan	Japanese Yen	144.7350	0.3800	139.2499	-0.0310	155.9527	0.1795
..One Month		144.7346	0.3792	139.2499	-0.0312	155.9523	0.1788
..Three Month		144.7336	0.3772	139.2495	-0.0319	155.9512	0.1767
..One Year		144.7281	0.3662	139.2465	-0.0380	155.9523	0.1710
Kenya	Kenyan Shilling	120.7000	0.0500	116.1258	-0.2834	130.0548	-0.1383
Kuwait	Kuwaiti Dinar	0.3108	0.0001	0.2990	-0.0008	0.3348	-0.0004
Malaysia	Malaysian Ringgit	4.6107	0.0077	4.4360	-0.0052	4.9681	0.0010
Mexico	Mexican Peso	20.3215	-0.0155	19.5514	-0.0708	21.8965	-0.0491
New Zealand	New Zealand Dollar	1.7660	0.0139	1.6991	0.0086	1.9029	0.0122
Nigeria	Nigerian Naira	435.5000	-	418.9958	-1.1966	469.2534	-0.6937
Norway	Norwegian Krone	10.7634	0.0376	10.3555	0.0068	11.5976	0.0235
Pakistan	Pakistani Rupee	233.8750	-1.7800	225.0118	-2.3601	252.0015	-2.2933
Peru	Peruvian Nuevo Sol	3.9350	0.0224	3.7859	0.0108	4.2400	0.0180
Philippines	Philippine Peso	58.9800	0.4900	56.7448	0.3107	63.5512	0.4348
Poland	Polish Zloty	4.9663	0.0429	4.7780	0.0277	5.3512	0.0384
Romania	Romanian Leu	5.1402	0.0187	4.9454	0.0039	5.5386	0.0119
Russia	Russian Ruble	58.9500	1.3250	56.7160	1.1164	63.5189	1.3359
Saudi Arabia	Saudi Riyal	3.7615	0.0010	3.6189	-0.0094	4.0530	-0.0049
Singapore	Singapore Dollar	1.4376	0.0030	1.3831	-0.0011	1.5490	0.0009
South Africa	South African Rand	17.9575	-0.1088	17.2770	-0.1543	19.3493	-0.1460
South Korea	South Korean Won	1421.4500	-9.8500	1367.5810	-13.4096	1531.6194	-12.8935
Sweden	Swedish Krona	11.3236	0.0429	10.8944	0.0103	12.2012	0.0283
Switzerland	Swiss Franc	0.9897	-0.0012	0.9522	-0.0039	1.0665	-0.0029
Taiwan	New Taiwan Dollar	31.7760	-0.0770	30.5718	-0.1616	34.2388	-0.1337
Thailand	Thai Baht	37.9750	0.0812	36.5359	-0.0260	40.9182	0.0272
Tunisia	Tunisian Dinar	3.3276	0.0161	3.2015	0.0064	3.5855	0.0121
Turkey	Turkish Lira	18.4810	0.0290	17.7806	-0.0228	19.9134	0.0019
United Arab Emirates	UAE Dirham	3.6731	-0.0001	3.5339	-0.0101	3.9577	-0.0059
United Kingdom	Pound Sterling	0.9281	0.0014	0.8929	-0.0012	-	-
..One Month		0.9281	0.0014	0.8927	-0.0012	-	-
..Three Month		0.9281	0.0013	0.8924	-0.0012	-	-
..One Year		0.9272	0.0011	0.8901	-0.0014	-	-
United States	United States Dollar	-	-	0.9621	-0.0027	1.0775	-0.0016
..One Month		-	-	0.9619	-0.1170	1.0775	-0.0016
..Three Month		-	-	0.9615	-0.1170	1.0776	-0.0016
..One Year		-	-	0.9599	-0.1169	1.0766	-0.0019
Vietnam	Vietnamese Dong	23740.0000	15.0000	22840.3324	-50.7678	25580.0271	-21.6114
European Union	Euro	1.0394	0.0030	-	-	1.1199	0.0015
..One Month		1.0392	0.0030	-	-	1.1198	0.0015
..Three Month		1.0388	0.0030	-	-	1.1194	0.0015
..One Year		1.0371	0.0030	-	-	1.1171	0.0014

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

FTSE ACTUARIES SHARE INDICES

UK SERIES www.ft.com/equities

Produced in conjunction with the Institute and Faculty of Actuaries

	£ Strlg Sep 27	Day's chge%	Euro Index	£ Strlg Sep 26	£ Strlg Sep 23	Year ago	Div yield%	Cover	P/E ratio	X/D adj	Total Return
FTSE 100 (100)	6984.59	-0.52	6096.65	7020.95	7018.60	7063.40	3.85	1.96	13.27	226.47	7131.65
FTSE 250 (250)	17304.11	-2.36	15104.27	17722.83	17972.69	23608.63	3.39	1.20	24.51	429.05	14310.61
FTSE 250 ex Inv Co (174)	17352.43	-2.45	15146.45	17788.72	18058.63	24777.43	3.58	1.39	20.08	462.91	14644.99
FTSE 350 (350)	3844.23	-0.79	3355.52	3874.70	3881.56	4081.23	3.79	1.86	14.20	120.40	7788.57
FTSE 350 ex Investment Trusts (271)	3779.61	-0.73	3299.11	3807.47	3812.82	3974.53	3.85	1.92	13.49	121.01	3957.62
FTSE 350 Higher Yield (131)	3330.47	-0.92	2907.07	3361.39	3381.75	3175.51	5.29	1.89	10.03	132.01	7585.08
Non Financials (335)	4637.79	-0.58	4048.19	4664.89	4664.04	4889.43	3.74	1.68	15.89	139.03	8341.96

Hourly movements	8.00	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.00	High/day	Low/day
FTSE 100	7042.94	7056.51	7010.24	6986.88	7009.59	7039.75	7027.67	7025.72	7038.37	7073.15	6984.59
FTSE 250	17793.31	17851.15	17672.11	17612.33	17629.05	17669.46	17590.89	17497.41	17486.89	17874.41	17304.11
FTSE SmallCap	6064.31	6060.34	6043.49	6025.68	6018.30	6020.69	6012.27	5998.87	5987.44	6065.26	5965.30
FTSE All-Share	3853.69	3861.57	3834.74	3821.97	3832.69	3847.69	3839.64	3835.66	3840.90	3869.21	3810.44

Time of FTSE 100 Day's high:07:42:30 Day's Low15:35:29 FTSE 100 2010/11 High: 7672.40(10/02/2022) Low: 6959.48(07/03/2022)
Time of FTSE All-Share Day's high:07:48:00 Day's Low15:45:59 FTSE 100 2010/11 High: 4296.96(10/02/2022) Low: 3810.44(27/09/2022)
Further information is available on http://www.ftse.com © FTSE International Limited. 2013. All Rights reserved. "FTSE®" is a trade mark of the London Stock Exchange Group companies and is used by FTSE International Limited under licence. † Sector P/E ratios greater than 80 are not shown. For changes to FTSE Fledgling Index constituents please refer to www.ftse.com/indexchanges. ‡ Values are negative.

FT 30 INDEX

	Sep 27	Sep 26	Sep 23	Sep 22	Sep 21	Yr Ago	High	Low
FT 30	2264.90	2280.50	2280.50	2336.00	2373.90	0.00	2880.10	2259.50
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
2280.5	2305.9	2285.6	2281.2	2289.1	2295.4	2287.1	2282.1	2288.5	2312	2264.9

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

FT WILSHIRE 5000 INDEX SERIES

FTSE SECTORS: LEADERS & LAGGARDS

Year to date percentage changes

Oil & Gas Producers	35.44	FTSE All{HY-}Share Index	-9.45	Consumer Services	-23.38
Oil & Gas	34.78	Utilities	-10.79	Industrials	-23.68
Tobacco	22.28	Health Care Eq & Srv	-11.09	FTSE 250 Index	-26.31
Aerospace & Defense	9.87	Telecommunications	-11.36	Household Goods & Ho	-26.60
Banks	2.05	Gas Water & Multi	-12.95	Construct & Material	-26.67
Mining	1.83	Media	-15.04	Food Producers	-26.82
Personal Goods	0.17	Software & Comp Serv	-15.87	Support Services	-27.32

FTSE GLOBAL EQUITY INDEX SERIES

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

FTSE 100 SUMMARY

FTSE 100	Closing Price	Day's Change	FTSE 100	Closing Price	Day's Change
3I Group PLC	1117	35.28	International Consolidated Airlines Group S.A.	101.64	0.88
Admiral Group PLC	1976.5	-34.50	Intertek Group PLC	3757	-36.00
Airtel Africa PLC	141.10	2.40	Jd Sports Fashion PLC	102.65	-0.20
Anglo American PLC	2642.5	-27.50	Kingfisher PLC	218.60	-22.40
Antofagasta PLC	1074	28.92	Land Securities Group PLC	485.30	-28.90
Ashtead Group PLC	3893	26.23	Legal & General Group PLC	233.40	-8.66

UK STOCK MARKET TRADING DATA

For all queries e-mail ft.reader.enquiries@morningstar.com

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

POWERED BY MORNINGSTAR

UK RIGHTS OFFERS

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

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

UK COMPANY RESULTS

Company		Turnover		Pre-tax		EPS(p)		Div(p)		Pay day	Total	
Afentra	Int	0.000	0.000	2.946L	2.444L	0.013L	0.011L	0.00000	0.00000	-	0.000	0.000
Animalcare Group	Int	38.286	39.121	3.440	0.791	4.000	0.500	2.00000	2.00000	Nov 18	4.400	4.000
Aquila European Renewables Income Fund	Int			22.369	6.051	0.055	0.019	1.28100	1.25000	Sep 2	2.500	2.500
Barr (A G)	Int	157.900	135.300	24.700	24.400	18.980	12.780	2.50000	2.00000	Oct 28	12.500	2.000
Billington Holdings	Int	46.189	37.733	1.299	0.763	8.700	5.100	0.00000	0.00000	-	3.000	4.250
Card Factory	Int	198.000	116.900	14.300	6.500L	3.400	1.500L	0.00000	0.00000	-	0.000	0.000
Close Brothers Group	Pre	1008.000	1022.100	232.800	265.200	110.400	134.800	44.00000	42.00000	Nov 22	66.000	60.000
Cornerstone FS	Int	1.896	0.837	3.026L	1.190L	13.050L	6.490L	0.00000	0.00000	-	0.000	0.000
Crimson Tide	Int	2.324	2.015	0.860L	0.286	0.130L	0.050	0.00000	0.00000	-	0.000	0.000
Curzon Energy	Int	0.000	0.000	0.408L	0.346L	0.004L	0.003L	0.00000	0.00000	-	0.000	0.000
Diaceutics	Int	7.528	5.966	1.131L	0.537L	0.910L	0.400L	0.00000	0.00000	-	0.000	0.000
Digitalbox	Int	1.877	1.345	0.220L	0.099	0.180L	0.080	0.00000	0.00000	-	0.000	0.000
ECSC Group	Int	2.770	3.007	0.784L	0.302L	7.100L	3.200L	0.00000	0.00000	-	0.000	0.000
Ergomed	Int	69.917	56.042	9.150	8.314	14.800	13.600	0.00000	0.00000	-	0.000	0.000

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

UK RECENT EQUITY ISSUES

Issue date	Issue price(p)	Sector	Stock code	Stock	Close price(p)	+/-	High	Low	Mkt Cap (£m)
09/02	11.00		ZAMZ	Zamaz PLC	11.00	1.00	12.00	10.86	7788.7

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

MARKET DATA

FT500: THE WORLD'S LARGEST COMPANIES

FT 500: BOTTOM 20

	Close price	Prev price	Day's change	change %	Week change	change %	Month change %
Booking Holdings	1670.00	1669.25	0.75	0.04	-226.63	-11.9	-19.77
LlydsBkg	43.29	44.70	-1.41	-3.15	-5.71	-11.7	-3.68
Fresenius SE	21.77	22.04	-0.27	-1.23	-2.85	-11.6	-14.47
EOG Res	105.88	105.18	0.70	0.67	-13.75	-11.5	-10.65
Carnival	9.23	8.90	0.33	3.65	-1.20	-11.5	-6.08
UnibailR	42.93	43.80	-0.88	-2.00	-5.45	-11.3	-23.61
GenMotors	34.69	35.04	-0.35	-1.00	-4.37	-11.2	-12.42
Fresenius Med	28.95	29.42	-0.47	-1.60	-3.63	-11.1	-13.45
Enel	4.30	4.55	-0.25	-5.40	-0.54	-11.1	-13.45

Based on the FT Global 500 companies in local currency

BONDS: HIGH YIELD & EMERGING MARKET

	Red date	Coupon	S*	M*	F*	Bid price	Bid yield	Day's chge yield	Mth's chge yield	Spread vs US
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

	Red date	Coupon	S*	M*	F*	Bid price	Bid yield	Day's chge yield	Mth's chge yield	Spread vs US
The Goldman Sachs Group, Inc.	02/31	3.00	BBB+	A3	A	121.70	0.93	0.00	0.02	-
Finland	04/31	0.75	AA+	Aa1	AA+	111.08	-0.27	0.00	-0.05	-0.87
Yen										
Mexico	06/26	1.09	-	Baa1	BBB-	98.73	1.34	-0.02	-0.14	0.27
£ Sterling										
innogy Fin B.V.	06/30	6.25	BBB	Baa2	A-	128.68	3.20	0.00	-0.01	0.40
innogy Fin B.V.	06/30	6.25	BBB	Baa2	A-	137.45	2.19	-0.03	0.02	-

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

INTEREST RATES: MARKET

Sep 27	Short term		7 Days notice		One month		Three month		Six month		One year	
Euro	0.51	0.81	0.38	0.68	0.47	0.77	0.98	1.28	1.64	1.94	2.29	2.59
Sterling					0.45	0.55	0.58	0.68	0.71	0.86	0.90	1.05
US Dollar	2.86	3.06	2.91	3.11	2.97	3.17	3.51	3.71	4.05	4.25	4.48	4.68
Japanese Yen	-0.15	0.05	-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	188.53	-1.35	-5.30	-14.22	-5.82	-14.26
Corporates(£)	302.43	-2.70	-8.47	-23.59	-10.01	-24.05
Corporates(€)	206.02	-0.45	-2.90	-14.70	-4.09	-15.39
Eurozone Sov(€)	213.07	-0.51	-3.36	-16.25	-4.31	-16.97
Gilts(£)	254.58	-3.24	-12.00	-29.18	-13.92	-28.58
Overall(£)	263.10	-3.03	-10.91	-27.32	-12.70	-26.98
Overall(€)	207.74	-0.49	-3.21	-15.78	-4.20	-16.49
FTSE						
Sterling Corporate (£)	-	-	-	-	-	-
Euro Corporate (€)	104.47	-0.05	-	-	0.54	-1.73
Euro Emerging Mkts (€)	568.59	-11.11	-	-	-19.69	-24.87
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	671.46	17.54	-	-	671.46	598.01
Europe 5Y	137.69	3.65	-	-	137.69	121.70
Japan 5Y	108.79	-0.49	-	-	111.00	100.33
Senior Financials 5Y	150.68	3.84	-	-	150.68	133.08
Markit CDX						
Emerging Markets 5Y	328.72	10.98	-	-	328.72	288.27
Nth Amer High Yld 5Y	-	-	-	-	-	-
Nth Amer Inv Grade 5Y	109.72	3.87	-	-	109.72	98.24

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

VOLATILITY INDICES

	Sep 27	Day Chng	Prev	52 wk high	52 wk low
VIX	32.43	0.17	32.26	38.93	14.73
VXD	28.05	0.87	27.18	45.37	3.27
VXN	37.06	0.13	36.93	44.05	15.70
VDAX	31.52	0.52	31.00	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	99.89	2.98	0.07	0.28	0.60	2.96
	05/32	1.25	78.20	4.00	0.08	0.31	0.41	-
	02/50	1.00	83.57	2.17	0.08	0.27	0.60	1.98
Austria	02/29	0.50	87.58	2.63	0.08	0.39	0.92	2.84
	02/47	1.50	79.11	2.68	0.07	0.14	0.44	2.15
Belgium	06/27	0.80	93.24	2.33	0.08	0.40	0.89	2.73
	06/47	1.60	77.82	2.86	0.06	0.14	0.29	2.05
Canada	03/25	1.25	94.21	3.77	0.06	0.04	0.30	2.97
	06/30	1.25	86.57	3.24	0.12	0.07	0.21	1.91
	12/48	2.75	94.48	3.06	0.06	-0.01	0.07	1.18
Denmark	11/29	0.50	87.28	2.47	0.06	0.36	0.77	2.57
	11/52	0.25	55.48	2.32	0.07	0.15	0.51	1.82
Finland	09/24	0.00	96.00	2.10	0.05	0.34	1.04	2.74
	09/29	0.50	87.08	2.55	0.08	0.38	0.86	2.73
France	05/28	0.75	91.38	2.40	0.08	0.39	0.85	2.66
	05/48	2.00	85.31	2.81	0.05	0.17	0.35	2.03
Germany	08/29	0.00	87.09	2.03	0.07	0.37	0.83	2.42
	08/50	0.00	59.07	1.91	0.04	0.13	0.38	1.65
Greece	01/23	3.50	100.74	1.30	0.02	0.12	0.76	1.66
	01/28	3.75	97.98	4.18	0.06	0.30	0.89	3.90
Ireland	10/22	0.00	99.93	1.38	-0.10	0.11	0.91	1.97
	05/26	1.00	95.70	2.25	0.09	0.40	0.93	2.68
	02/45	2.00	86.21	2.84	0.07	0.20	0.40	2.15
Italy	02/25	0.35	93.43	3.29	0.11	0.55	1.18	3.47
	05/30	0.40	89.09	1.95	0.21	0.43	0.98	2.76
	03/48	3.45	87.29	4.27	0.09	0.24	0.48	2.61
Japan	04/25	0.05	100.00	0.05	0.02	0.02	0.04	-0.02
	12/29	0.10	98.95	0.25	0.05	0.04	0.09	0.27
	12/49	0.40	79.53	1.29	0.04	0.06	0.18	0.65
Netherlands	07/27	0.75	93.46	2.20	0.05	0.38	0.85	2.66
	01/47	2.75	109.13	2.26	0.04	0.18	0.39	2.02
New Zealand	05/31	1.50	80.96	4.15	0.00	0.14	0.31	2.21
	09/40	2.50	114.25	2.59	0.00	0.08	0.25	1.77
Norway	08/30	1.38	85.73	3.47	0.11	0.15	0.16	2.04
Poland	01/23	2.50	98.52	7.18	0.06	0.03	0.34	6.85
	07/27	2.50	81.87	7.06	0.33	0.56	0.39	5.57
	04/47	4.00	70.28	6.44	0.40	0.43	0.45	3.95
Portugal	04/27	4.13	106.81	2.52	0.14	0.44	0.86	2.83
Spain	10/22	0.45	99.93	1.20	0.03	0.13	0.64	1.82
	10/29	0.60	85.21	2.94	0.09	0.39	0.82	2.81
	10/46	2.90	91.84	3.40	0.06	0.17	0.39	2.25
Sweden	06/30	0.13	115.52	-0.47	0.05	0.28	0.50	1.21
	03/39	3.50	120.02	2.06	0.08	0.17	0.23	1.43
Switzerland	04/28	4.00	114.51	1.26	0.03	0.24	0.58	1.65
	06/29	0.00	91.96	1.25	0.03	0.26	0.58	1.54
United Kingdom	07/23	0.75	97.38	4.04	0.52	1.12	1.50	3.76
	07/27	1.25	86.35	4.43	0.40	1.30	1.87	3.82
	07/47	1.50	55.62	4.48	0.41	0.98	1.55	3.23
United States	-	-	-	-	-	-	-	-
	03/25	0.50	90.85	4.39	0.14	0.46	0.98	3.71
	02/30	1.50	84.30	3.97	0.18	0.43	0.90	2.60
	02/50	0.25	69.69	1.63	0.12	0.22	0.66	-

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

GILTS: UK CASH MARKET

Sep 27	Price £	Red Yield	Change in Yield Day	Week	Month	Year	52 Week High	Low	Amnt £m
	-	-	-	-	-	-	-	-	-
Tr 0.75pc '23	97.34	4.10	2.50	32.69	62.70	1476.92	100.88	97.34	34.36
Tr 0.125pc '24	94.34	4.52	2.96	34.52	54.79	1089.47	99.44	94.34	34.76
Tr 2pc '25	93.15	4.51	2.73	41.38	73.46	902.22	105.99	93.15	39.04
Tr 0.125pc '26	86.33	4.59	2.91	40.37	75.19	782.69	98.77	86.33	34.53
Tr 1.25pc '27	85.80	4.57	3.39	38.91	78.52	649.18	104.30	85.80	40.07
Tr 0.875pc '29	78.30	4.49	4.42	38.15	78.88	468.35	102.36	78.30	42.65
Tr 4.25pc '32	98.95	4.38	6.05	33.13	67.82	351.55	135.62	98.95	39.43
Tr 4.25pc '36	96.26	4.63	6.44	31.16	59.66	309.73	145.94	96.26	30.97
Tr 4.5pc '42	95.62	4.84	8.28	32.60	61.87	284.13	169.96	95.62	27.72
Tr 3.75pc '52	82.60	4.86	9.95	35.75	68.75	285.71	180.27	82.60	24.55
Tr 4pc '60	87.32	4.73	11.03	37.90	71.38	297.48	213.01	87.32	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	Sep 27	Day's chg %	Total Return	Return 1 month	Return 1 year	Yield
1 Up to 5 Years	78.93	-0.28	2268.78	-3.79	-7.91	4.56
2 5 - 10 Years	138.80	-1.38	2922.68	-11.17	-20.55	4.48
3 10 - 15 Years	143.47	-2.86	3296.32	-15.27	-29.03	4.59
4 5 - 15 Years	138.96	-1.79	3012.00	-12.29	-23.12	4.53
5 Over 15 Years	184.16	-6.69	3145.91	-26.93	-47.27	4.79
7 All stocks	124.54	-2.89	2766.39	-15.04	-29.32	4.69

Index Linked	Sep 27	Day's chg %	Month chg %	Year's chg %	Total Return	Return 1 month	Return 1 year
1 Up to 5 Years	314.39	-0.37	-4.14	0.36	2651.44	-4.12	1.50
2 Over 5 years	434.44	-10.88	-33.28	-50.11	3307.05	-33.24	-49.91
3 5-15 years	408.99	-4.49	-17.23	-22.73	3302.59	-17.19	-22.16
4 Over 15 years	449.80	-15.35	-42.13	-61.07	3324.66	-42.09	-60.97
5 All stocks	425.30	-9.09	-29.26	-44.91	3302.12	-29.22	-44.64

Yield Indices	Sep 27	Sep 26	Yr ago		Sep 27	Sep 26	Yr ago
5 Yrs	4.50	4.32	0.54	20 Yrs	4.80	4.44	1.29
10 Yrs	4.52	4.28	0.95	45 Yrs	4.64	4.18	1.13
15 Yrs	4.68	4.38	1.19				

Real yield	inflation 0% Sep 27	Dur yrs	Previous	Yr ago	inflation 5% Sep 27	Dur yrs	Previous	Yr ago
Up to 5 yrs	0.61	1.56	0.37	-3.50	-0.07	1.57	-0.32	-3.90
Over 5 yrs	1.48	17.80	0.84	-2.36	1.45	17.86	0.81	-2.38
5-15 yrs	1.01	8.54	0.47	-2.86	0.90	8.55	0.36	-2.97
Over 15 yrs	1.61	24.51	0.93	-2.31	1.59	24.53	0.91	-2.32
All stocks	1.46	14.81	0.84	-2.37	1.42	14.90	0.79	-2.40

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

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

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COMMODITIES

www.ft.com/commodities

Energy		Price*	Change	Agricultural & Cattle Futures		Price*	Change
Crude Oil†	Nov	77.89	1.18	Corn♦	Dec	673.00	6.75
Brent Crude Oil‡		85.61	1.55	Wheat♦	Dec	877.75	19.75
RBOB Gasoline†	Oct	2.44	0.06	Soybeans♦	Nov	1425.50	14.25
Natural Gas†	Nov	7.07	0.06	Soybeans Meal♦	Oct	434.30	1.70
Base Metals (♠ LME 3 Months)				Cocoa (ICE Liffe)⊕	Dec	1925.00	28.00
Aluminium		2114.50	-19.50	Cocoa (ICE US)♥	Dec	2257.00	14.00
Aluminium Alloy		1675.00	-905.00	Coffee(Robusta)⊕	Nov	2183.00	-21.00
Copper		7291.00	-1.00	Coffee (Arabica)♥	Dec	226.60	2.80
Lead		1756.50	4.50	White Sugar⊕		530.70	-3.50
Nickel		21645.00	-410.00	Sugar 11♥		17.89	0.27
Tin		20690.00	290.00	Cotton♥	Oct	94.19	-0.30
Zinc		2857.00	-47.00	Orange Juice♥	Nov	182.85	4.35
Precious Metals (PM London Fix)				Live Cattle♣	Oct	143.63	-0.63
Gold		1643.35	-0.20	Feeder Cattle♣	May	134.88	-
Silver (US cents)		1863.50	-36.50	Lean Hogs♣	Oct	90.13	-2.50
Platinum		864.00	-10.00				
Palladium		2067.00	-31.00		Sep 26	% Chg Month	% Chg Year
Bulk Commodities							
Iron Ore		96.74	0.62	S&P GSCI Spt	600.31	-9.93	12.01
Baltic Dry Index		1807.00	-6.00	DJ UBS Spot	111.04	-9.15	13.92
Richards Bay ICE Futures		294.50	1.50	TR/CC CRB TR	283.73	-9.21	20.19
				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 Sep 26	Yield Sep 26	Prev	Month return	Value stock	Market	No of stocks
Can 4.25%' 26	111.15	1.481	1.365	-0.65	5.25	72104.42	8
Fr 0.25%' 24	104.18	-1.977	-2.191	-2.61	17.92	244932.53	17
Swe 1.00%' 25	123.80	-0.759	-0.808	-0.66	35.15	213253.51	6
UK 0.125%' 24	101.46	-0.848	-1.151	-4.48	15.24	506924.30	31
UK 2.50%' 24	362.68	-0.080	-0.410	-4.90	6.82	506924.30	31
UK 2.00%' 35	229.33	0.515	0.005	-14.86	9.08	506924.30	31
US 0.625%' 24	97.59	2.519	2.253	-1.66	40.98	1552195.78	46
US 3.625%' 28	109.14	1.883	1.625	-5.52	16.78	1552195.78	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	4.00	1.97	0.03	Netherlands	2.20	0.17	-1.77
Austria	2.63	0.60	-1.34	New Zealand	4.15	2.12	0.18
Canada	3.24	1.21	-0.73	Norway	3.47	1.44	-0.50
Denmark	2.47	0.44	-1.50	Portugal	2.52	0.49	-1.45
Finland	2.55	0.52	-1.42	Spain	2.94	0.91	-1.03
Germany	2.03	0.00	-1.94	Sweden	-0.47	-2.50	-4.44
Italy	1.95	-0.08	-2.02	Switzerland	1.25	-0.78	-2.72
Japan	0.25	-1.78	-3.72	United States	3.97	1.94	0.00

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

Why opera has tuned into the modern world

'Last Days', which draws on the life of Kurt Cobain, is the latest opera inspired by real-life characters and recent history. By Hugh Morris

Clockwise, from main: Nirvana singer Kurt Cobain; Mark-Anthony Turnage's 'Anna Nicole'; John Adams's 'Nixon in China'
Getty Images; Alamy Stock Photo

Relevance is a perennial concern for the opera world, and the new season at London's Royal Opera House — with three operas on contemporary history — seems to be placing it at the top of its agenda. Making their house debut are *History of the Present*, which marks the 25th anniversary of the Good Friday Agreement; *Least Like the Other*, a portrait of Rosemary Kennedy, the younger sister of John F Kennedy; and *Last Days*, Oliver Leith and Matt Copson's adaptation of a film based on the final few days of Nirvana lead singer Kurt Cobain.

Framing an opera about a living or recently dead figure raises important problems for its creators. How can it explore figures that audiences already know and have strong opinions about? And how does it deal with subjects who have the power to fight back?

Last Days proposes one answer: blur everything in sight, thus avoiding the concerns of history altogether. "If you're expecting it to be a Kurt Cobain opera, you'll be extremely disappointed," says Leith, a London-based composer who grew up with Nirvana records. "There's no grunge." He has opted instead for music that captures a sense of the beautified everyday, where every instrument — strings, saws, kettles and kettledrums — can sing (or at least, rustle at pitch).

That saturation of singing things adds to the estrangement felt by the central character, Blake, who can only mumble. "There's a kind of Brechtian alienation going on there," Copson says, "which is already there in opera as a form. You have to buy into the idea of everyone singing." Leith adds, "Blake is like a first-time opera visitor, asking, 'What the fuck is going on?'"

Part of *Last Days*' abstraction derives from its source. Gus Van Sant's art-house film of the same name from 2005 avoids conventional storytelling, focusing instead on the everyday movements of central character Blake as he stumbles confusedly through his life. The canonical understanding of Cobain's final days — involving an escape from rehab in Los Angeles, a return to his native Seattle, the acquisition of a shotgun and his suicide — is only referenced on occasion. "Our interest was not in it as a Kurt Cobain biopic," Leith says of the film. "It was in its tone, and its everydayness."

The trend for operas that deal with contemporary historical settings really began with John Adams's 1987 *Nixon in China*. Why the sudden change? Opera had approached near-contemporary subjects and settings for years — think of the rough-and-ready Paris of Puccini's *La bohème* — but none as immediately relevant as this. For Adams and director Peter Sellars, exploring the mythology of America's contemporary history chimed with seeing operatic archetypes in everyday life. "As Americans, we're obsessed with our president, because that person embodies our national psyche," Adams said in 2011.

Aside from dramatic concerns, there's a noticeable box office draw for contemporary historical operas — *Last Days* has sold out its run this year, as did Mark-Anthony Turnage's *Anna Nicole*, about former Playboy model Anna Nicole Smith, and *Nixon* has become one of Adams's most reprised stage works. Drawing on popular culture as a route into deeper questions helps opera houses avoid accusations of stuffiness.

In *Nixon*, Adams balances iconic moments with less-public events. Nixon's visit to China in 1972 was dubbed the media event of the century, but Alice Goodman's libretto was able to pit the well-publicised events — the touchdown of the presidential aircraft, the trip to the Peking Opera — with the bits the media didn't see, leading to touching moments such as the scene in Act Three as Nixon and Mao reminisce from their beds about their experiences. Drama leans further into myth.

Where Leith and Copson aim for detachment and Adams opts for mythologising, Turnage zoomed in on his subject in 2011's *Anna Nicole*. "The trouble with a lot of operatic subjects is their distance from today," Turnage said ahead of the premiere. "I'm not against using myth or history, and obviously I'm aware that both can have relevance to me and to now. But in reality, it hardly ever grabs me like that."

> 'If you're expecting it to be a Kurt Cobain opera, you'll be disappointed. There's no grunge'

The tale of Anna Nicole Smith is certainly striking: it is a classic operatic plot of rise and demise, of money, sex, pathetic tragedy and a scandalous marriage, with farce aplenty. Yet with it comes empathy towards the characters caught up in her whirlwind life. It's a far cry from Thomas Adès's frosty depiction of the comparably scandalous Margaret, Duchess of Argyll, and her coterie in *Powder Her Face*, but both pieces provoke via their salaciousness.

While Smith is dealt an even hand by Turnage and Richard Thomas's libretto, critical barbs are reserved for the media. In the original production, dancers wearing TV-camera headdresses followed Anna Nicole around incessantly, pointing directly to the media attention that contributed to her downfall.

The knowledge of the death of a central character is what carries both *Anna Nicole* and *Last Days*. But what happens when the subject is still very much alive? While following the dimensions of musical rather than opera, *Jerry Springer: The Opera* is the most infamous example of the consequences of fictionalising the present; its full-hearted embrace of profanity and irreverence towards religion led to performances being picketed by religious groups around the UK, and its 2005 BBC broadcast elicited nearly 50,000 complaints, then a record number.

Co-writer Stewart Lee, interviewing Springer in 2003, found his subject surprisingly unflustered by the show. The chat-show host "is a fictionalised character", said Springer, "and I've worked pretty hard at developing this persona in *The Jerry Springer Show* that would not be me so that I could keep this separation in my life, yet this persona has been going on for 13 years." Even when drawing directly on reality, then, there is still a heavy element of fiction and myth.

With these operas, "relevance" is a Trojan horse: although they have familiar settings, they avoid purely factual recreations of historical figures and moments. What intrigues is exactly how they obscure the literal, how recent events pass through blurry, mythical, surreal and hyper-real lenses and in turn reveal the dramas' own truths. The Metropolitan Opera's programme notes called *Nixon* "a media event about a media event" and there's an element of that in all these operas — where the subject is less important than the strange space between us and them.

'Last Days', October 7-11, roh.org.uk

Playing cards adapt to suit the times

GAMING
Tom Faber

In 'Card Shark', a game for Nintendo Switch, players cheat their way to the top of French society

In 1889, Nintendo was established by Fusajiro Yamauchi to produce *hanafuda*: Japanese playing cards, which often feature elegant designs of flowers and foliage. The company became the biggest *hanafuda* manufacturer in Kyoto, selling many decks to the yakuza. Nintendo then branched into taxi services, ramen noodles and toys before finally arriving at video games in the 1970s. It still makes *hanafuda* cards today, now bearing the likenesses of Mario and Pokémon, beloved stars from its gaming empire.

Playing cards are a social technology that has long offered an excuse to get a group of people around a table to join in some light-hearted entertainment and let their defences down. While today this role is often fulfilled by video games — groups of young men often best express their feelings over a game of *FIFA* — playing cards have not disappeared, and still find their way into all manner of video game genres.

In *Card Shark*, one of this year's best indie titles for the Nintendo Switch, you join a con artist and must cheat your way to the top of 18th-century French society through the medium of card tricks. Meanwhile, *Inscryption*, winner of several major awards when it was released last year, subverts a simple card game into something new by lurching nightmarishly into a postmodern horror story. More than a millennium after they were first used, playing cards can still surprise and delight us. What gives them this endurance, when the 21st century the hearts, diamonds, clubs and spades we today view as standard. They also decided that each king should resemble a historical monarch: King David for spades, Alexander the Great for clubs, Charlemagne for hearts and Julius Caesar for diamonds.

For players of a certain generation, it's likely that their first introduction to digital games was *Solitaire*, which was built into early Windows PCs. Digital technology has expanded this game's horizons dramatically: while the physical version is a simple affair to be enjoyed alone, video game versions allow players to compete against friends online or test out *The Zachtronics Solitaire Collection*, where indie designer Zach Barth offers seven wildly original takes on the game.

> There is something soothing about the strict rules and predictable patterns of card games

Collectible trading card games such as *Pokémon*, *Magic: The Gathering* and *Yu-Gi-Oh!* have capitalised on the principle

But the influence of cards is more notable in the popular genre of "deck-building" games. These titles such as *Slay the Spire* and the enormously popular *Hearthstone*, from *World of Warcraft* creator Blizzard, prove particularly compelling because they augment cards with all the capabilities of digital technology, offering seamless online multiplayer modes, visual pyrotechnics and an eternally expanding set of possible cards from which to choose.

Sometimes custom card games are added as side-quests within larger fantasy adventures — the game-within-a-game of *Gwent* in *The Witcher 3* and *Final Fantasy*'s *Triple Triad* and *Tetra Master* were so popular that they have spawned spin-off releases with their own dedicated communities. In the sprawling freedom of an open-world game, there is something soothing about the strict rules and predictable patterns of these card games, where you can while away a few quiet minutes between quests.

The enduring presence of cards is credit to their adaptability. Cards are not a game in themselves but a highly flexible medium which can be used as metaphors for combat, vehicles for strategy or links to a long lineage of play at a very young age.

Rosie Levine grew up in Beijing between the ages of four and nine in the late 1990s because her mother worked in China at the time. She returned to the country as a student in 2012, and then worked in Beijing from 2014 to 2018 — a period when many western foreigners with a long history in China soured on the country as Xi tightened the political screws and the country grew more nationalistic. "I had the early experience in China and then deepened that when I was in college. I was able to see a lot and travel a lot," Levine says.

But China's turn to a more authoritarian attitude is eroding the emotional bonds for many westerners. Levine, who now works at the United States

very different China that treated itself differently, treated America differently'
Rosie Levine

exchanges went into deep freeze for a while. Some foreign scholars who touched upon Tiananmen or other topics the party considers taboo were banned from ever visiting China again, such as Andrew Nathan, an expert in Chinese politics at Columbia University and co-editor of *The Tiananmen Papers*, a book based on a collection of secret documents about the massacre.

However, when the reform and opening policy picked up steam in the 1990s, researchers from abroad were able to do a wide range of fieldwork including opinion polls and focus groups in different regions of China and access archives and other sources for their work.

But gradually, the Communist party started limiting their access. First it pro-

economics tend to pick dissertation topics they considered "safe" to ensure they can complete the necessary research in China and get their degree.

The tougher political environment and the travel restrictions are undermining some of the west's strongest China expertise. "Some senior scholars who started studying China many years ago, some of the people they got to know and interviewed early on later became high-ranking politicians, opening doors and providing insights," Lü says. But, he adds, the understanding gained through those connections is getting rare now.

'Engagement is now a dirty word'

The movement has not all been in one direction. Although political restric-

China's maritime militia, a force made up mostly of commercial fishing vessels

Reuters; Bettmann Archive/ Getty Images

increase in the flow of Chinese students to the US has slowed to a trickle since 2018, with an only 0.8 per cent increase in 2019-20, the last pre-Covid year. In 2020-21, the first full Covid year and newest data available, the number of Chinese students in the US dropped almost 15 per cent.

Such rapid changes force the question of how the west can preserve some of the China expertise it has built in the past half century. For Berris, this is a new mission. Having in the past briefed officials at the US military's Indo-Pacific Command, her team has for the first time approached other parts of the security services. "They are open to learning more about China and why [it] may be acting the way it is," she says.

The FT View

FINANCIAL TIMES
'Without fear and without favour'

ft.com/opinion

Meloni's election victory merits concern but not panic

Italy's economy and politics will constrain its probable new prime minister

A despondent Italian electorate, on a record-low turnout, has once more chosen change. Voters hope that a rightwing coalition led by Giorgia Meloni and her hard-right Brothers of Italy party will be the ones to deliver it. But the very reasons that propelled a party with roots in the Neo-Fascist movement to the mainstream — a stagnant economy and a political system where little has changed in 20 years, no matter who is in power — should also constrain Meloni.

There are certainly reasons to worry about Meloni, whose coalition includes the League, led by Matteo Salvini, Italy's former hard-right frontman and Forza Italia, whose Silvio Berlusconi has shrugged off years' worth of legal woes to emerge as kingmaker. Their coalition captured 44 per cent of the vote in Sunday's general election, with Meloni poised to be come Italy's first female prime minister. Her strident rhetoric chimes with a worrying rightwing lurch across the EU, which Brussels will have to contend with as it tries to promote — and even enforce — the rule of law across the bloc. Both the Brothers of Italy and the League voted against a recent European Parliament resolution condemning Hungary's erosion of democratic standards under Viktor Orbán, for instance.

The sheer size of the economic challenge that the new government must meet is another reason to fret. Italy's growth forecasts for next year have been slashed to below 1 per cent, making it harder to manage debt that tops 150 per cent of GDP, despite efforts of the outgoing prime minister, Mario Draghi. Yet Meloni — far less credible than her predecessor — must also manage soaring inflation and rising interest rates that spell out a cost of living crisis.

The European Commission on Tuesday approved the next €21bn of a €200bn EU pandemic recovery fund earmarked for Italy. Future tranches are contingent on continuing structural reforms, which the country needs to grow. The European Central Bank's new bond-buying programme would equally come with strings attached. Meloni has so far struck a moderate tone but will an instinctively nationalist and statist government really have the appetite for such reforms? Her choice of finance minister will be pivotal. The hope must be she chooses a competent technocrat who can work with Brussels.

There are reasons not to panic. Indeed, the financial markets' reaction has largely been a shrug. The coalition's win, though decisive, was far below the two-thirds majority required to change the constitution without a referendum. Italy's checks and balances in the shape of the presidency and the constitutional court seem safe, for now.

The EU can take some comfort, scant as it is, that things could be worse. Meloni's Atlanticism and strong support for Ukraine makes her premiership easier for Brussels to swallow. But Salvini and Berlusconi remain Kremlin apologists. This could well be troublesome for Meloni. A spat over Russia's war in Ukraine was one reason Draghi's unity government derailed. Moreover, the dire economic situation gives Meloni little room for radical change, which she seems to sense: her political fate is tied to that of the economy. She need only look to the UK to see the repercussions of reckless tax cuts in this climate.

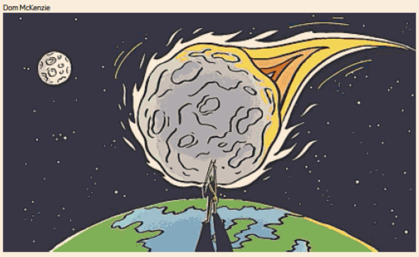
The country's checks and balances in the shape of the presidency and constitutional court seem safe, for now

Italy's new government may be the first since Benito Mussolini to be led by the hard-right, but firebrands have served as junior coalition partners without much consequence. For all of Salvini's repugnant invective against migrants, he was unable to change much as interior minister. A Meloni-led government may seem objectionable to many. But she has proved she is electable. She must now show that she can govern.

Opinion Science

Take deflecting asteroids off humanity's worry list

Dom McKenzie



Anjana Ahuja

It was, literally, a striking achievement. In the early hours of Tuesday, a Nasa spacecraft slammed into a small asteroid 11mn km from Earth, its second-by-second odyssey into oblivion captured on camera and livestreamed to a world audience.

The impact was meant to shunt the rock, Dimorphos — one half of a two-asteroid binary system — into a slightly tighter orbit around its bigger partner, Didymos. The orbital tweak is yet to be confirmed but, if successful, it will demonstrate that, in principle at least, humans have the knowhow to deflect asteroids heading our way.

"What amazed and delighted me was that everything worked so well," said Professor Alan Fitzsimmons, an astrophysicist at Queen's University Belfast, who will now analyse images of the impact gathered from telescopes in South Africa, Chile and Hawaii and is involved in a 2027 follow-up European Space Agency mission to the same asteroid.

Relief at being able to avert this catastrophe contrasts with a sanguine approach to other threats

While it could take months to see if the orbital period has shifted by sec-

demonstration of technical chutzpah. While most space jaunts are geared towards avoiding calamitous encounters with asteroids, planets or space debris, engineering a deliberately destructive pas-de-deux between two speeding objects in the vast emptiness of space requires exquisite precision.

The 570kg Dart spacecraft, launched last year and guided by autonomous navigation, was travelling at about 6km/s, equivalent to 14,000mph, and designed to lock on to its target less than an hour before impact. The asteroid bullseye, meanwhile, flies through space at more than twice that speed. To see the boulder-strewn surface of Dimorphos in razor-sharp detail as Dart descended to its fate, was awe-inspiring.

More profoundly, though, the mission compels us to confront the agency we have over our destiny. Dart was humanity's first attempt at intentionally moving a celestial object, affording us a smidgen of influence over cosmic forces hitherto outside our control. Its success does not mean we can now play billiards with space rocks but it does suggest a viable line of planetary defence should heavenly forces conspire against us, as they did against the dinosaurs.

Relief at being able to avert asteroid-induced catastrophe contrasts, though, with our relatively sanguine approach to other threats. A planetary disaster caused by an asteroid impact might happen once in a million years, suggests Lord Rees, Britain's Astronomer Royal, co-founder of the Centre for the Study of Existential Risk at Cambridge university and author of *If Science is to Save Us*. But, "there are other substantial threats that could happen this century."

Letters

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Budgetary aid is what Ukraine needs, not an IMF programme

The killing of thousands of Ukrainian soldiers and citizens and the destruction of the country's infrastructure by Russia is causing a dramatic loss of revenues and increase of military and other public expenditures.

But it would be wrong to expect the IMF to step in now with a fully fledged reform programme, as Gillian Tett argues for in her column "The IMF must step up to help Ukraine" (Opinion, September 16).

In normal times the IMF would assist the Ukraine government with a programme aimed at reducing its budgetary deficit with appropriate policy steps, and institutional and governance reforms. Monetary support would be released to the country in accordance with an agreed upon programme and time schedule, subject to conditionalities.

Helping to rebuild Ukraine's infrastructure, clearly a multiyear endeavour, would be the responsibility of the World Bank, the European Bank for Reconstruction and Development, as well as other development banks.

Such IMF "standby" programmes are typically worked out and negotiated over weeks, often months. It would be naive to expect Ukrainian government officials to focus their work on detailed reforms required under such programmes at a time of war and emergencies. And to design instead a programme with somehow watered down conditionalities, supported by the IMF, would create the illusion of an implementation capability that Ukraine currently does not have, due to being forced to fight a war.

As long as the war continues, Ukraine needs — and deserves — budgetary support in the form of grants and long-term and low interest loans from the EU, the US and the rest of the international community. Once the war is over, a multiyear IMF standby programme will need to be agreed upon, which will help Ukraine build a modern market economy worthy of membership in the EU.

Ulrich Hewer
Washington, DC, US

A currency board could cure Sri Lanka's problems

While it's laudable to provide financial aid to lessen the blow of rising food and energy costs in emerging countries, in citing the example of Sri Lanka, Soofian Zuberi seems to overlook the fact it was the Sri Lankan government's own misguided agricultural policies with respect to fertiliser imports that was the proximate cause for the country's current lamentable state (Opinion, September 23).

Short-term debt moratoria (as Zuberi suggests) are one thing, but debt forgiveness would surely be the really constructive next step. As for IMF programmes, Sri Lanka has had 16 interventions since 1950. What are the odds on the next one doing the trick?

An alternative conclusion is that Sri Lanka has a governance problem. Sri Lanka's currency-board peg to the Indian rupee was suspended in 1950, and this exercise in swapping an exchange-rate policy for a monetary policy (which hands the powers of the printing press to the government) might be the real cause of the country's malaise. The success of currency boards in countries such as Estonia and Bulgaria in the 1990s with respect to stabilising the currency and halting inflation might suggest this could in fact be Sri Lanka's best bet for long-term prosperity and stability.

Charles Crowson
London W9, UK

Tycoon predictions about Italy poll may be overdone

In an article on Italian politics ("Italy at risk of turning back on Brussels in favour of east Europe, tycoon warns", Interview, September 22) you quote Carlo De Benedetti's view that Giorgia

For one thing Italy, unlike Hungary, is in the euro area and relies on ECB support for a sizeable part of its sovereign debt.

Marek J. Svoboda
Frankfurt, Germany

Why it's an exciting time for gamers and creators

I'm a huge fan of *Age of Empires II* and have even competed in and attended LAN tournaments — so Chris Allnutt's article ("Gaming nostalgia proves lucrative", Report, September 21) resonated with me.

That said, *Age of Empires II*'s popularity is only partly due to nostalgia and mostly down to the fact good games always prevail. Improvements in the graphics are minimal these days, as they simply don't need all the bells and whistles.

More people than ever are playing historic titles, but it doesn't mean

Tackling climate change is a case of all hands on deck

John Burn-Murdoch's Data Points column makes the point that economic forces are decoupling growth from emissions, but he underestimates the role played by states and major power co-operation in making this happen ("Economics may take us to net zero all on its own", Data Points, September 23).

The revolution in clean electricity did not take place with the market "acting on its own". Major state intervention was a critical factor in California's early boost for wind using the Public Utility Regulatory Policies Act of 1978, coupled with supply of Danish-made turbines and Germany's early demand for solar, which, in due course, turbocharged Chinese manufacturing at scale. This created a virtuous cycle of lower costs.

In the "flatter" world of the past, open trade and co-operation between major powers — even if unintended — were key factors in the green dividends we are now seeing. Such co-operation will be critical today for the scale-up of sectors beyond electricity such as industry and aviation, where we must move quickly to decarbonise to get to net zero by mid-century.

As 1.5C appears to be locked in and a 2C future likely, latest research indicates that extremely dangerous climate "tipping points" that were foreseen in a 3C world, are likely at even 2C of warming. The recent floods in Pakistan and the continuing massive drought in the American Southwest are indicators that, while aspects of green growth are here, climate devastation will probably prove more nimble.

There is no alternative to "all hands on deck" — including a pushback against barriers to climate co-

A slice of French history in 28 Place Vendôme, Paris

If I remember correctly, Charvet, the French shirtmaker, already had a store in the Place Vendôme, and only moved to Number 28 in the early 1980s, not in 1877 as you say in the HTSI article "Cuff love: inside Charvet, the original Parisian shirtmaker" (September 17).

Prior to that, Number 28 was the Paris headquarters of Bank of America. I worked there briefly myself in the early 1980s before the building was sold, and we moved to new offices on Avenue de la Grande Armée.

Place Vendôme has a venerable history. Built on the grounds of the Hotel de Vendôme, it was the idea of the Marquis de Louvois, Louis XIV's war minister, who wished to honour the king.

Following the death of Louis XIV in 1715, with France's finances stretched, his successor Louis XV turned for help to Scottish financier John Law who convinced the king to replace coins with paper money issued by a purpose-created bank — which some consider the world's first central bank. Law also created a commercial company, Compagnie des Indes, responsible for commerce with Canada and La Louisiane, that would guarantee the bills.

Law became very rich, and acquired Number 28. The "system" however was ill-conceived, and speculation and mismanagement led to his eventual bankruptcy.

Carlos Gutierrez Valdivieso
Lima, Peru

Kwarteng's mini-budget echoes '1066 and All That'

May I thank your columnists in FT Weekend for their analysis of the Kwasi the orbital period has shifted by seconds or minutes, Fitzsimmons added, "I'm more confident today than I was 24 hours ago that if a small asteroid was on a collision course with Earth, we could do something about it."

The good news, then, is that we can now apparently guard against the menace that killed off the dinosaurs 66mn years ago. The not-so-good news is that bigger existential risks to humanity lie closer to home.

Asteroids are rocky objects, smaller than planets, that orbit the Sun (comets, in contrast, are made of ice, rock and gas). Most of the million-plus known specimens lie in the main asteroid belt between Mars and Jupiter. Of biggest concern are potentially hazardous ones, which are at least 140m across and have orbits that come within 7.5mn km of Earth — big and close enough to strike Terra Firma but small enough to evade early detection. That made Dimorphos the perfect target: about the right size (160m), and too distant to pose a risk.

One reason why the Double Asteroid Redirection Test, or Dart, mission captivated the public was its dazzling

happen this century".

While he regards asteroid deflection technology as prudent, Rees worries more about the misuse of biotechnology (particularly experiments that create toxic viruses), artificial intelligence, pandemics and, of late, nuclear aggression. His worst nightmare, he confesses, is a lone fanatic who slips through the governance net: "Technology gives even small groups of people the power to cause a global catastrophe, such as the release of a virus, cyber attacks on power grids or a breakdown in AI. Village idiots now have global range."

When HG Wells summed up the risks to civilisation, he, too, toyed with the prospect of "some great unexpected mass" rushing "upon us out of space". But also that "some pestilence may presently appear . . . there may come some drug or a wrecking madness into the minds of men". Our ability to calculate our way out of an asteroid strike will count for little if we cannot restrain our own wrecking madnesses first.

The writer is a science commentator

Carlo De Benedetti's view that Giorgia Meloni of the Brothers of Italy party "is too close to Hungary and Poland" and that were a government under Meloni to be elected in Italy, it "will shift Italy's alliance toward the Visegrad bloc" of certain eastern European countries.

If De Benedetti is implying that the Visegrad group is made up only of nationalist rightwing governments bent on undermining Brussels, then he is wrong. It might be the case for Viktor Orbán's Hungary but the other member countries, even Poland with its rule of law differences with Brussels, have proved themselves to be solidly pro-EU.

Meloni has some similarity with Orbán in that like him she is capable — at least judging by her campaign rhetoric — of playing a double game of being against much that the EU stands for, while supporting her country remaining in the EU (and the euro) for its huge economic and financial benefits. Even accepting that comparison, however, she may take an occasional dig at Brussels now, but it is premature to speculate what she will do in government.

historic titles, but it doesn't mean they're stuck in the past. Gamers are known for embracing online platforms to view and upload videos and spark conversations.

What's more, the trend for nostalgia exists in other mass-market entertainment but is received less positively. Reddit (populated with gamers) is filled with complaints about film reboots, with accusations that Hollywood is running out of ideas. This might partly explain why the gaming market is worth more than film and music. Clearly, ideas — old or new — are executed well.

Now, it's easier than ever for communities to come together; a niche old title can have a virtual following of thousands, and online platforms harness this. Tournaments like Red Bull Wololo: Legacy are important, but they aren't the be-all and end-all. It's a hugely exciting time for gamers and content creators because we can build relationships face-to-face but also nurture our community online.

Charley Portet
Head of Strategy, Fruitlab
London EC1, UK

against barriers to climate co-operation between the US and EU on one hand, and China on the other. Unfortunately, such barriers are only growing thanks to a new cold war environment among the great powers.

Sarang Shidore
Director of Studies and Senior Research Fellow, Quincy Institute for Responsible Statecraft, Washington, DC, US

Galbraith's trickle-down economics is not so polite

The castigation of trickle-down economics by the British Labour party's shadow chancellor Rachel Reeves is much too polite ("Trickle-down economics is no substitute for a growth plan", Opinion, September 23). She might have recalled the economist John Kenneth Galbraith's summary of it as "the less than elegant metaphor that if one feeds the horse enough oats, some will pass through to the road for the sparrows". For oats read "tax cuts", for horse read "the rich" and sparrows "the rest of us".

Khalid Ikram
Potomac, MD, US

weekend for their analysis of the Kwasi Kwarteng fiscal event (September 24).

I now think that if history does pass a verdict on it, it will be similar to what RJ Yeatman and WC Sellar wrote of the Magna Carta in *1066 and All That*: "a Good Thing for All (except the Common People)".

It is sad to see another government turning from targeting the greatest good of the greatest number to promoting the greatest good of the greatest.

Leonard Bazar
London NW11, UK

The rejoin rejoinder

Tony Thirlwall says the Truss government should adopt an export-led growth strategy (Letters, September 23). I have a brilliant idea — join a large free-trade area covering goods and services right next door. Every applied economics book I've ever read has said lower sales costs mean better price competitiveness and more sales.

Abigail Perez
Edinburgh, UK

Opinion

Truss has learnt the hard way that Britain isn't America

WORLD AFFAIRS

Janan Ganesh

Into *Brideshead Revisited*, near the middle, Evelyn Waugh crowbars a scene on a cruise ship for the express purpose of mocking Americans. There is a character named "Senator Stuyvesant-Oglander". Each and every drink has ice in it. No one is able to tell friendship from desperate bonhomie. The crustiest of England's great novelists wrote better stuff, no doubt, but the passage is an illuminating fragment of a time when anti-Americanism was a Tory thing.

And one that had its uses. If nothing else, Britain's establishment was clear back then that America was a different country. A midsized archipelago couldn't look to a resource-rich market of continental magnitude for governmental ideas.

If anti-Americanism was bad, look what its opposite has done. Britain is in trouble because its elite is so engrossed with the US as to confuse it for their own nation. The UK does not issue the world's reserve currency. It does not have near-limitless demand for its sovereign debt. It can't, as US Republicans sometimes do, cut taxes on the hunch that lawmakers of the future will trim public spending. Reaganism was a good idea. Reaganism without the dollar, isn't. If UK premier Liz Truss has a programme, though, that is its four-word expression.

So much of what Britain has done and thought in recent years makes sense if you assume it is a country of 330mn people with $20tn annual output. The idea that it could ever look the EU in the eye as an adversarial negotiator, for instance. Or the decision to grow picky about Chinese inward investment at the same time as forfeiting the European market. Or the bet that Washington was going to entertain a meaningful bilateral trade deal. Superpowers get to behave with such presumption.

> So many recent UK actions make sense if you assume it has 300mn people and $20tn annual output

Why does Britain think that it can, too? Don't blame imperial nostalgia. (If it were that, France, Spain, the Netherlands, Belgium and Portugal would show the same hubris.) Blame the distorting effect of language. Because the UK's governing class can follow US politics as easily as their own, they get lost in it. They often confuse the two countries. What doesn't help is the freakish fact that Britain's capital, where its elites live, is as big as any US city, despite the national population being a fifth of America's. You can see why, from a London angle, the two nations seem comparable.

Reaganism without the dollar: this isn't one woman's arbitrary whim. It is the culmination of decades of (unreciprocated) US focus in a Robert Caro-hooked Westminster. You would think from British public discourse that Earth has two sovereign nations. If the NHS is fairer than the US healthcare model, it is the world's best. If Elizabeth II was better than Donald Trump, monarchy beats republicanism *tout court*. People who can't name a cabinet member in Paris or Berlin (where so much that affects Britain, from migrant flows to energy, is settled) will follow the US midterms in November. The EU is a, perhaps the, regulatory superpower in the world. UK politicos find Iowa more diverting.

The left is as culpable as Truss. From 2010 to 2015, critics of "austerity" urged the Tories to take the softer US approach. The cross-Atlantic comparison implied that then prime minister David Cameron had King Dollar behind him. Soon after came the importation of identity politics from a republic with a wholly different racial history.

The anti-Americanism of the Waugh generation was petulant. It was sourness at the imperial usurper dressed up as high taste. The snobs understood that America was alien, and inimitable. Tories who patronised the US — Harold Macmillan, Ted Heath — were quicker than much of the Labour party to see that Britain belonged with Europe.

Truss and her cohort of Tories have none of that snide but ultimately healthy distance from the US. Take her vaunted supply-side revolution. Like all armchair free-marketeers (she has never set up a business) she believes her nation is a blast of deregulation away from American levels of entrepreneurial vim. It isn't. The creator of a successful product in Dallas can expand to LA and Boston with little friction. The UK doesn't have a market of hundreds of millions of people. (It did, once, but the present chancellor of the exchequer voted to leave it.) Someone who glides over that point is also liable to miss the contrasting appeal to investors of gilts and Treasuries.

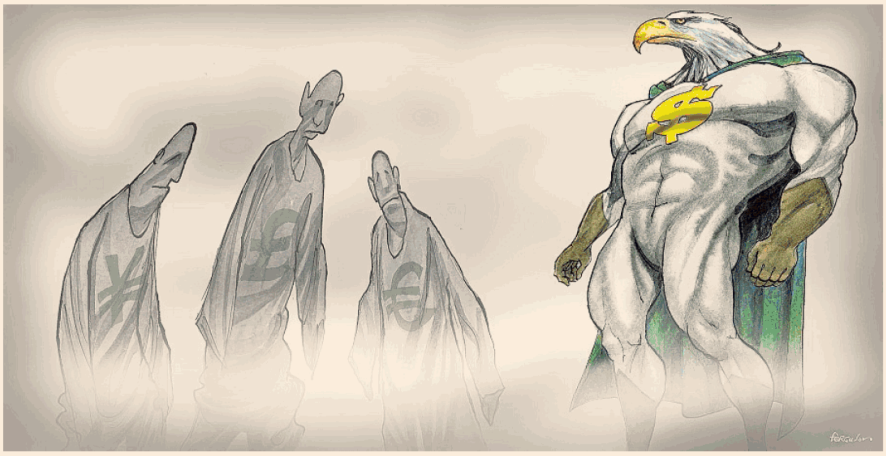
Some readers balked last month when I wrote that Truss might not last until the next election. Even I didn't think she would trip so soon. It is a kind of patriotism, I suppose, to mistake your nation for a superpower.

janan.ganesh@ft.com

Why the strength of the dollar matters

Martin Wolf Economics

The financial tide is going out as a rising US currency has recessionary effects elsewhere



In times of trouble, the dollar is the world's refuge and strength. This is true even when the US is the source of the trouble, as happened in the financial crisis of 2007-09. It is true again now. A series of shocks, including high inflation in the US, has triggered a familiar upward movement in the dollar. Moreover, this has not been just against the currencies of emerging economies, but also against those of high-income countries. Meanwhile, the general story of the dollar cycle underlies some specific ones. Messing up one's macroeconomic policies, especially fiscal management, proves particularly dangerous when the dollar is strong, interest rates are rising and investors seek safety. Kwasi Kwarteng, please note.

JPMorgan's estimate of the nominal effective exchange rate of the US dollar appreciated by 12 per cent between the end of last year and Monday. Over the same period, the yen's effective rate depreciated by 12 per cent, the pound's by 9 per cent and the euro's by 3 per cent. Against the dollar alone, movements are larger: sterling has depreciated by 21 per cent, the yen by 20 per cent and the euro by 16 per cent. The dollar is king of the castle. (See charts.)

So why has this happened? Does it imply constraints in industrial inputs and commodities; and, finally, Russia's invasion of Ukraine, which hit energy, particularly for Europe.

The results have included enhanced uncertainty, strong inflationary pressure in the US, a need for monetary policy, particularly that of the Federal Reserve, to catch up, and powerful recessionary forces, especially in Europe. With the Fed's tightening ahead of that of almost all its peers in the high-income countries, the dollar has strengthened. Meanwhile, the divergent outcomes of emerging economies are determined by how well their economies are managed, whether they export commodities and their indebtedness.

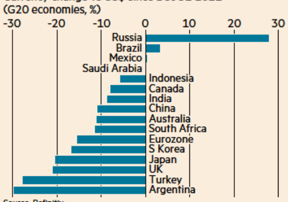
Within the G20, surprisingly, currencies of many emerging countries have fared better than those of the high-income ones. Russia's rouble has appreciated sharply. At the bottom are sterling, the Turkish lira and Argentine peso. What company the pound now keeps!

Does the dollar's strength matter?

Yes, it does, because, as a recent paper co-authored by Maurice Obstfeld, former chief economist of the IMF, notes, it tends to impose contractionary pressure on the world economy. The roles of US capital markets and the dollar

Nearly all G20 currencies have fallen against the US dollar

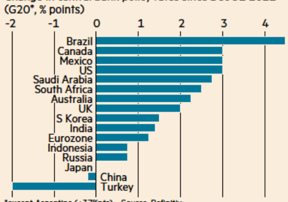
Currency change vs US$ since Dec 31 2021 (G20 economies, %)



Source: Refinitiv

The intervention rates of central banks have risen almost everywhere

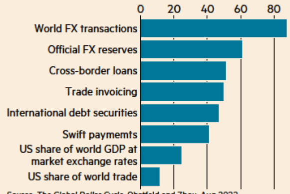
Change in central bank policy rates since Dec 31 2021 (G20*, % points)



*except Argentina (+37%pts) Source: Refinitiv

The dollar and US capital markets are more globally important than the US economy

The US dollar's share in global assets and transactions



Source: *The Global Dollar Cycle*, Obstfeld and Zhou, Aug 2022

tries care about their exchange rates, particularly when inflation is a worry: only the Bank of Japan can be happy about its weak currency. The danger is greater for those with heavy liabilities to foreigners, even more so if denominated in dollars. Sensible countries avoid this vulnerability. But many developing countries will now need help.

These recessionary forces emanating from the US and the rising dollar come on top of those created by the big real shocks. In Europe, above all, there is the way in which higher energy prices are simultaneously raising inflation and weakening real demand. Meanwhile, the determination of China's leader to eliminate a virus circulating freely in the rest of the world is hitting its economy. The Chinese Communist party may control the Chinese people. But it cannot hope to control the forces of nature in this way indefinitely.

What can be done? Not that much.

There is some talk of co-ordinated currency intervention, as happened in the 1980s, with the Plaza and then Louvre accords. This cannot be the case this time. Currency intervention aimed at weakening the dollar by just one or even several countries is unlikely to achieve that much.

A more important question is whether monetary tightening is going too far and, in particular, whether the principal central banks are ignoring the cumulative impact of their simultaneous shift towards tightening. An obvious vulnerability is in the eurozone, where domestic inflationary pressure is weak and a significant recession is probable next year. Nevertheless, as Christine overkill. But central banks have little option: they have to do "whatever it takes" to curb inflation expectations.

No one knows how much tightening that might need. No one knows either how far the debt overhang will help, by acting as a powerful transmission belt, or harm, by causing a financial meltdown. What is known is that the central banks' ability to support the markets and economy are for a while gone. In such a time the perceived sobriety of borrowers matters once again. This is true for households, businesses and, not matter? What can be done about it?

As to the why, the answer is that the world economy has suffered four linked shocks since 2020: the pandemic; a huge fiscal and monetary expansion; to post-pandemic supply side, in which pent-up (and lopsided) demand hit sup-

lar are far bigger than the relative size of its economy suggests. Its capital markets are those of the world and its currency is the world's safe haven. Thus, whenever financial flows change direction from or to the US, everybody is affected. One reason is that most coun-

What is known is that the central banks' ability to support the markets and economy are for now gone

vre accords, first to weaken the dollar and then to stabilise it. The difference is that the former, in particular, suited what the US then wanted. This made intervention credibly consistent with its domestic goals. Until the Fed is content with where inflation is going, that

Lagarde, ECB president, underlined last week: "We will not let this phase of high inflation feed into economic behaviour and create a lasting inflation problem. Our monetary policy will be set with one goal in mind: to deliver on our price stability mandate." This may turn out to be

least, governments. Even previously credible G7 governments, such as the UK's, are learning this truth. The financial tide is going out: only now do we notice who has been swimming naked.

martin.wolf@ft.com

The scramble for rare earths carries big geopolitical risks

Misha Glenny

The war in Ukraine has demonstrated just how inadvisable over-dependence on a single supplier can be. Russia's dominance in the European gas market turned into a geopolitical nightmare in the space of a few weeks.

Just imagine if a single country provided you with 90 per cent of your needs for essential commodities. Now imagine how you'd feel if that country was China. Actually, we don't need to use our imagination because that is exactly the reality for Europe's galloping consumption of rare earth metals.

About five years ago, the west started to wake up to this awkward situation and decided to do something about it. But, as the EU, UK and US scramble to diversify the supply chains of rare earths and other critical raw materials, they are discovering that it's not so easy. Left to its own devices, the market will never wean itself off Chinese production. Governments must intervene.

It's hard to overestimate the importance of China's mastery of critical raw materials. There is no green transition, no internet, no nano medical research, no advanced weaponry, basically virtually no technical solutions to our planetary problems, without them. The father of China's economic revolution, Deng Xiaoping, understood their importance, noting: "The Middle East has oil. China has rare earth metals."

Rare earth metals are not, in fact, rare. Most countries in the world have significant, if not always accessible, reserves of them. But extracting them involves overcoming two challenges. To mine just tiny quantities of the 17 rare earth metals requires removing tonnes of aggregate. Without stringent controls, this operation is highly polluting.

Then comes the separation of the metals followed by their preparation for use in high powered magnets, laser technology and the anti-counterfeiting device in euro banknotes. This is pricey and China can offer you the finished product for 30 per cent less than anyone else. Hence the market's lack of interest in factoring in geopolitical considerations.

Arresting the climate emergency is not just a question of ditching fossil fuels

It wasn't always like this. China's dominance was a product of successive US administrations' decision from the late 1980s onwards to turn China into the heartland of US manufacturing. One of the industries America shifted across the Pacific was rare earth mining and processing. Until this point, the US enjoyed a monopoly on both thanks to the rich seams in an area of the Mojave desert called Mountain Pass.

In 2017, the EU formed the European Raw Materials Alliance in order to start diversifying. At the time, China supplied it with a staggering 98 per cent of its rare earth requirements. Five years later, China still provides 90 per cent of rare earths globally — so progress of sorts, but at a snail's pace.

Nonetheless, the EU has struck up two strategic partnerships since forming the alliance. One is with Canada. The problem is that the second deal was with Ukraine, which has other issues to deal with right now. SecDev, a Canadian company that provides strategic advice, has investigated Ukraine's mineral assets. Its co-founder, Rob Muggah, explains that "Ukraine has deposits of 117 of the 120 widely used critical metals and metals. At least 40 of them are needed for the green transition. It is a resource superpower."

SecDev discovered, Muggah adds, "that about 2,000 of those deposits were under Russian control. And what that meant in terms of a headline was that about 20 per cent of all of Ukraine's resource wealth was in Russian hands."

Russia, too, is part of the scramble for rare earths. Olivia Lazard from the Carnegie Endowment has found evidence that Ukraine was a target for the Russian military not solely as a symbol of imperial decline, but also because of the significant strategic economic interests involved.

There are British, European, North American and Australian companies now investing systematically in mining and processing. But so far this is a drop in the ocean. Guillaume Pitron, author of *The Rare Metals War*, says that in the next three decades, "the world will consume more metals and minerals than all the metals and minerals we have consumed for the last 70,000 years".

Arresting the climate emergency is not just a question of ditching fossil fuels. It requires constructing an entirely new system of energy production and consumption, which itself contains huge risks to the environment if not done correctly. But the greatest risk is that the very resources which offer a faint promise for our survival will turn the world once more into a cauldron of geopolitical competition.

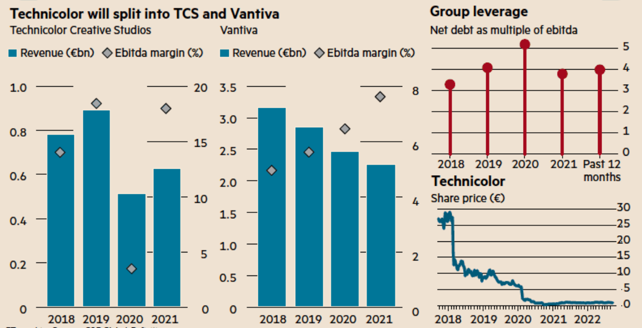
The writer is rector of the Institute for Human Sciences in Vienna and presenter of 'The Scramble for Rare Earths' on BBC Radio 4

Lex.

Twitter: @FTLex

Technicolor: Hollywood reboot

Technicolor is spinning off Technicolor Creative Services and renaming the slower-growing and less profitable rump business, Vantiva. The latter will retain 35 per cent of the spin off. The restructuring plan should reduce the group's debts, which are too high and have dragged shares lower in recent years.



FT graphic Sources: S&P Global; Refinitiv

Many an actor from the golden age of Hollywood was brought to life in Technicolor.

Now the pioneer of colour film, Technicolor Creative Studios, will again stand alone as a spin-off. Glowing market reviews are unlikely.

This deal is part of a long-running restructuring plan to separate TCS from the larger Technicolor.

Before the spin-off, Technicolor's share price had lost 93 per cent over the previous five years.

TCS produces special effects for television, film and games. This will split from the rump business, renamed Vantiva, a maker of set-top boxes and broadband routers.

Separately listed Vantiva will retain a chunk of TCS shares.

The logic for the split, which will hand 65 per cent of TCS to shareholders, is made clear from half-year results.

Revenues at TCS grew at 38 per cent and achieved ebitda margins of 15 per cent.

Vantiva expanded at just 13 per cent, with half that profitability.

An eventual re-rating for the new shares would make a nice bonus but restructuring €1.3bn of group debts is at the core of the transaction.

The first step to reducing this pile was to raise equity from shareholders via the issuance of €300mn in mandatory convertible notes. These converted last week.

After yesterday's moves TCS had an enterprise value of €1.4bn, 10 times this year's expected ebitda. TCS will carry more of the net debt at €623mn — about five times expected ebitda.

This faster-growing business hopes to cut its liabilities as free cash flow rises higher than €100mn annually by 2023.

Do not expect a box office smash soon. Even if TCS does deliver on its forecasts, a share overhang may be a problem.

Slower-growing Vantiva has plans to dispose of its 35 per cent holding in TCS to shrink its remaining debts of €375mn.

For long-suffering shareholders and creditors of Technicolor, this restructuring brings a minor blessing.

Other investors should avoid buying tickets to this show.

US earnings/strong dollar: buck starts here

A surging dollar creates good headlines for Americans looking to travel or send money abroad. But for US companies that generate a big chunk of their earnings overseas, the greenback's gain has become a serious pain.

The US Dollar Index, which tracks the buck against six other important currencies, is at a near 20-year high. It is up 19 per cent since the start of the year and continues rising. The euro has slipped below parity against the dollar for the first time in 20 years. Against the British pound, the dollar has gained over a quarter to near record highs, and is at a level against the Japanese yen not seen since 1998.

US companies derive about 30 per cent of their sales outside the US. But for techs that number hits over 50 per cent. A strong buck not only makes their goods more expensive overseas, but revenues earned abroad also get dinged when converted back into dollars. Even with currency hedging, the earnings pressure will remain.

Morgan Stanley reckons that every 1 per cent change in the Dollar Index knocks 0.5 per cent off company profits. Combined with the effects of higher inflation and a consumer demand dip, the appreciation should shave 10 per cent off of fourth-quarter S&P 500 earnings.

But why worry? Analysts see earnings per share from S&P 500 companies touching $218 this year then climbing to $259 in 2024, up nearly a quarter from 2021.

That seems optimistic given that companies already struggle with margin compression and the Federal Reserve remains committed to fighting inflation with more interest rate rises.

More domestically oriented US companies should have an easier go. The S&P 500 US Revenue Exposure index, which tracks the stocks in the benchmark with higher than average US revenue exposure, is down 14 per cent this year. That reflects jitters over a US recession and a sudden drop-off in consumer demand. Even so, it has performed better than the S&P 500 Foreign Revenue Exposure index, down nearly twice as much.

The strong dollar may serve as a handy excuse for disappointing earning results. Just as some retailers will blame the weather instead of boring clothing for weak turnover, currency fluctuations offer a useful distraction from a company's more fundamental problems. Investors would do well not to accept such a defence at face value.

Sterling weakness/HK stocks: utility bills

The pound's plunge has rightly worried UK investors. But the impact is also big for those groups in Asia with exposure to the country. Hong Kong-listed stocks are among the most affected.

Consider Hong Kong-listed banks. The UK and Europe accounted for more than a fifth of HSBC's profits before tax last year. In June, UK credit exposure was a quarter of the group. HSBC earnings are sensitive to movements in the pound because they have high liquidity balances in sterling. Peer Standard Chartered's UK underlying pre-tax profit was about 9 per cent last year.

Local utility companies could feel the biggest impact. Power Assets, the majority shareholder of Hongkong Electric Company — one of Hong Kong's two main electricity-generation companies — has a significant amount of assets in the UK. It holds 41 per cent of Northern Gas Networks, which owns the North of England gas distribution network. It also has holdings of UK electricity-generating group Seabank.

Power Assets' parent group, Cheung Kong Infrastructure Holdings, is another one that is impacted. The UK accounts for about a third of CKIH's profit. Other groups with links to CKIH include conglomerate CK Hutchison and developer CK Asset, all connected to local billionaire Li Ka-shing. Both have heavy UK investment exposure.

That explains the weakness in all their stock prices. These have fallen more than 6 per cent in just the past two days. The weaker the pound, the less cash that flows to these groups.

These companies report their earnings in Hong Kong dollars, pegged to the US dollar.

When the pound fell to $1.30 in 2019, that sparked profit warnings by these Hong Kong groups.

They have little to look forward to at home too, with analysts expecting the economy to contract this year, down from expectations for 0.3 per cent growth. The former colony's ties to Britain are too close for comfort for Asian investors.

DocuSign: on the dotted line

In the bonfire of the cloud software-as-a-service companies, DocuSign is suffering more than most. Sales growth at the electronic signature software group has collapsed.

Over the past 12 months, the share price is down 80 per cent. Even Zoom, the stock best known for Covid-19 gains and losses, has not fallen that far.

Allan Thygesen, former executive at Google parent Alphabet, arrives to save the day as new chief executive. His appointment alone should steady the company following the former CEO's abrupt departure in June. Perhaps his prior experience can help DocuSign to explore new revenue streams, too.

DocuSign's core e-signature service is still convenient for online transactions. But Zoom has expanded its services more broadly. Its latest additions are new email and calendar applications.

DocuSign has 1.28mn customers, adding 44,000 in the last quarter. But the jump in users during lockdowns was a one-off. Last year billings, which includes deferred revenue, rose 37 per cent. This year they are forecast to grow just 7 per cent.

More worrying, its services do not appear compelling enough to tempt customers to spend much more. The net dollar retention ratio, which compares recurring revenue for subscriptions, has fallen from 124 per cent two years ago to 110 per cent.

Ex-CEO Dan Springer took the group public in 2018, saying he felt "pretty good" about future profitability. It remains unprofitable.

In the last earnings, DocuSign posted $622mn in revenue, more than a fifth up on the previous year and beating expectations. But this still makes for a poor comparison to the previous year.

Rival Adobe's recent purchase of design software company Figma for $20bn reduces the odds that it will make a similar bid for DocuSign. Subscriptions are steady and DocuSign has a reassuring $1.1bn cash on hand.

But new CEO Thygesen needs to prioritise net retention rates before the share price has any hopes of recovery.

UK insurance: motoring up

A steady hand on the wheel is a given for Saga's cruise ships. But its car-insurance unit shows signs of veering off course. The over-50s market specialist yesterday slashed its profit guidance by two-fifths as a result of the rising cost of motoring claims.

Shares lost up to a quarter in reply, leaving them at an all-time low that valued Saga at just £150mn, from £2bn five years ago. Car-insurance peers Admiral and Direct Line slid too.

The rising cost of accident repairs is a reverse for the sector. The group did well when cars were kept off the road during the pandemic. Parts shortages, rising energy and labour costs and high prices for used cars have since hit earnings. Underlying profit before tax would now be £20mn-£30mn, two-fifths less than previously expected, Saga said. Share prices across the board have fallen 40-60 per cent since the start of the year.

But signs of policy price rises hint that an inflection point is near. Motor-claim inflation currently runs at 13 per cent, up from 9 per cent in July, Saga said. Admiral already says it expects inflation of 11 per cent during 2022. The market leader has taken action. Admiral increased prices for new policies by 16 per cent in the first half.

The wider market should expect something similar. Thomas Bateman at Berenberg says UK motor insurance should increase another 15 per cent to cover claim inflation.

Indeed, prices have risen on average by 3 per cent per month between June and August, ONS data say. That should halt any further losses from rising costs.

Valuations do not reflect any optimism. Direct Line and Admiral trade at eight and 15 times forward earnings, respectively, near their decade lows.

A tight correlation between valuations and UK motor prices exists, notes UBS. A sector knocked out of kilter by customer accidents might also then be a haven for investors during these choppy economic times.

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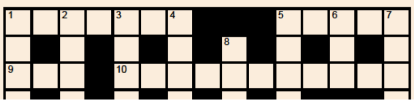
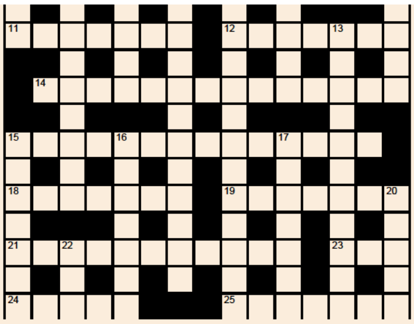
CROSSWORD

No 17,211 Set by MONK



ACROSS
1 Greatest foreign character, in principle (7)
5 Chance magistrate will crush resistance (5)
9 It's been burnt when hot (3)
10 Engineer sent unopened incoming



goods for dispatch (11)
11 My southern accent, oddly meek (5,2)
12 Anything but bloody American baroque cinema (7)
14 US *Homeland* broadcast boring criminal drug tycoon (4,3,7)
15 Recipient of charge after attack on drunken toerags (7,7)
18 First day of month gripped by a cold – not if this (7)
19 Fly back stuff – it's a puzzle (7)
21 Scientist's mobile phone empire (11)
23 Examine old soldier (3)
24 Finished by noon, article mostly lacking (5)
25 Strips spelling courses (7)

DOWN
1 Humble carers taking lowest income (5)
2 This repeatedly makes a female kiss and smooch more animatedly (1-10)
3 After changing top from small to medium, dupes mates (7)
4 Right to stop girls chasing £500 – they'll turn nuts (6,8)
5 Cake placed on earthenware in Japanese theatre (7)
6 The last things you'd see in the cow pasture – would include me (3)
7 Vulgar jerk ultimately restless about son (7)
8 In came finalist, playing this rag (9,5)
13 Machine-powered muscle finally yielded and split (5-6)
15 Concede after quarrel in Bath, say (3,4)
16 Not in favour of entertaining forward old merchant (7)
17 Tense doctor in row over thread? Sort of (7)
20 Dull, hard, second subject (5)
22 Go with power base, suppressing pressure (3)

JOTTER PAD

Solution 17,210