FINANCIAL TIMES

MONDAY 22 MAY 2023

EUROPE

AI brings steep learning curve to classrooms
THE BIG READ, PAGE 17

Redundancies don't always spell disaster
PILITA CLARK, PAGE 13

China slaps ban on US chipmaker after G7 rebuke ramps up tensions

- Leaders attack Beijing tactics
- Micron barred from 'key' infrastructure
- Zelenskyy lobbies nations

DEMETRI SEVASTOPULO, KANA INAGAKI AND HENRY FOY — HIROSHIMA
ELEANOR OLCOTT — HONG KONG

China has hit America's biggest semiconductor manufacturer with sales curbs after a weekend of mounting geopolitical tensions as the G7 stepped up criticism of Beijing's military ambitions and "coercive" economic policy.

Hours after a G7 summit of advanced economies ended in Hiroshima, Japan, yesterday, China's Cyberspace Administration banned operators of key infrastructure from using products from Micron Technology, its first big move against an American memory chip group.

Micron "posed significant security risks to China's critical information infrastructure supply chain", the CAC said in a statement. The move follows a seven-week investigation widely seen as retaliation for US efforts to curb China's access to key technology. Last October, Washington introduced expansive chip export controls and the Netherlands and Japan have since followed.

Paul Triolo, an expert on China tech at consultancy Albright Stonebridge, said: "This could be really bad for Micron. It depends how broad China's definition of critical information infrastructure is, but this could include the financial sector, transportation, energy and data centres."

The move came the day after G7 members — the US, UK, Canada, Japan, Germany, France and Italy — issued a communique rebuking Beijing over issues including its military activities in the East and South China seas and its human rights record in Tibet and Xinjiang. They also called for peace across the Taiwan Strait.

In a separate statement, the G7 said the world had witnessed "a disturbing rise in incidents of economic coercion". It said members would create a mechanism to "increase our collective assessment, preparedness, deterrence and response to economic coercion" and would step up co-ordination on detecting and responding to economic coercion.

The summit was attended by Ukrainian president Volodymyr Zelenskyy, who sought to stoke opposition to Russia's invasion of his country. He confronted Indian prime minister Narendra Modi and Brazilian president Luiz Inácio Lula da Silva, who have maintained ties with Moscow.

China, which has refused to condemn Russia's invasion, has tried to position itself as a peacemaker in the conflict. But Zelenskyy and the G7 are seeking support for Ukraine's own peace proposal, rather than China's.

Despite the tensions, US president Joe Biden said yesterday that he anticipated an imminent "thaw" in relations with Beijing.

Talks between the two countries shut down after a "silly balloon" carrying spying equipment flew over North America in February, before being shot down by the US military, Biden said. "Everything changed in terms of talking to one another. I think you're gonna see that begin to thaw very shortly."

Biden also said his administration was considering lifting sanctions against Chinese defence minister Li Shangfu. US officials had previously said privately that the administration would not remove the sanctions, which were imposed in connection with China importing fighter jets and missiles from Russia.

However, Biden also reiterated Washington's support for Taiwan's self-defence. "We're going to continue to put Taiwan in a position that they can defend themselves. And there is clear understanding among most of our allies that, in fact, if China were to act unilaterally, there would be a response," he said.

G7 and Ukraine reports page 2

Joe Biden speaking in Hiroshima says he expects a 'thaw' in ties with Beijing. He also reiterated US support for Taiwan's self-defence Kiyoshi Ota/Getty Images

> Whether a foreign policy for the middle class, or a new global industrial policy, the fresh US course is very different to the 'market knows best' strategy of old

Rana Foroohar
Page 19

Briefing

▸ Allen & Overy to merge with Shearman & Sterling
The UK "magic circle" law firm and its US counterpart have said the new business will have $3.4bn in revenues and 4,000 lawyers, in one of the biggest transatlantic legal tie-ups.— PAGE 6

▸ Rolls chief slams division
New boss Tufan Erginbilgic has said Rolls-Royce's power systems arm had been "mismanaged", pointing to the challenges facing the engineering group.— PAGE 8

▸ Meta eyes Magic Leap
Facebook's parent has entered talks with the augmented reality start-up that could yield a deal on intellectual property and contract manufacturing of AR kit.— PAGE 6

▸ Bhutan makes bitcoin bet
The tiny Himalayan kingdom has invested in bitcoin mining and drone technology as it turns to new businesses in search of fast growth and returns.— PAGE 4

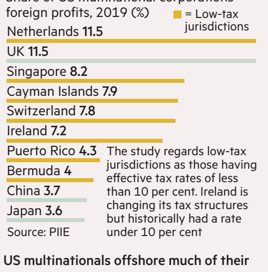
▸ Martin Amis dies at 73
Writer Martin Amis, son of novelist Kingsley Amis and once dubbed "the erstwhile Mick Jagger of British letters", has died of cancer.— OBITUARY, PAGE 2

▸ Business Life and Lex
The Lex column, Business Life and the crossword can be found today on Page 13.

Datawatch

Offshored profits

Share of US multinational corporations' foreign profits, 2019 (%)



The study regards low-tax jurisdictions as those having effective tax rates of less than 10 per cent. Ireland is changing its tax structures but historically had a rate under 10 per cent

Source: PIIE

US multinationals offshore much of their profit to low-tax jurisdictions. Seven of the top 10 most popular locations had low effective tax rates, accounting for more than half of companies' foreign profits. In 2000, they made around 30 per cent

Dimon rides high despite a tumultuous year for banks

Analysis ▸ PAGE 6

US corporate bond deals accelerate as companies fret over debt ceiling fracas

HARRIET CLARFELT — NEW YORK

US companies are rushing to borrow money in the bond market, bringing forward deals in case the country's debt ceiling stand-off causes financial turmoil over the summer.

Highly rated companies have issued bonds worth $112bn so far this month, according to data from Dealogic, up from $46bn in May 2022 and more than triple the amount sold in April. Excluding 2020, when ultra-low interest rates sparked a $196bn borrowing frenzy, corporate issuance this month is the highest in May for seven years.

Bankers who handle corporate bond deals say borrowers are making the most of a relatively buoyant market to tap investors before any possible volatility erupts if the US government runs out of cash. While the government is widely expected to avoid default, it is locked in a stand-off with Republicans over the US federal borrowing limit.

"It's fair to say that there's been some acceleration" in issuance, said Richard Zogheb, head of global debt capital markets at Citi. This reflects "a combination of 'let's avoid the nonsense of the debt ceiling' and 'let's take advantage of what's a pretty good market'," he added.

Broader worries about the economy are playing into decision-making about timings, according to market participants. The Federal Reserve has raised rates from near zero to a target range of 5-5.25 per cent in the past 14 months, intensifying investors' concerns that the US could enter a downturn.

Maureen O'Connor, global head of high-grade debt syndicate at Wells Fargo, said: "Economic uncertainty in the form of classic recessionary headwinds is what's pushing issuers earlier in the year. And then the debt ceiling more imminently has probably thrown gasoline on that fire, which is why we're seeing so much volume in May."

Teddy Hodgson, co-head of global investment-grade syndicate at Morgan Stanley, said it was "almost a no-brainer for companies to accelerate things".

"We have seen issuers pulling forward financings to take advantage of favourable market conditions," said Dan Mead, head of the investment-grade syndicate at Bank of America Securities. Companies are also "cognisant that there's a lot of event risk out there", he said.

Treasury secretary Janet Yellen has warned that the government could run out of money and risk defaulting on its debt as soon as June 1.

Biden urges Republicans page 4

World Markets

STOCK MARKETS

	May 19	Prev	%chg
S&P 500	4191.13	4198.05	-0.16
Nasdaq Composite	12661.89	12688.84	-0.21
Dow Jones Ind	33421.31	33535.91	-0.34
FTSEurofirst 300	1857.19	1844.71	0.68
Euro Stoxx 50	4398.96	4367.45	0.72
FTSE 100	7756.87	7742.30	0.19
FTSE All-Share	4228.25	4221.45	0.16
CAC 40	7491.96	7446.89	0.61
Xetra Dax	16275.38	16163.36	0.69
Nikkei	30808.35	30573.93	0.77
Hang Seng	19450.57	19727.25	-1.40
MSCI World $	2840.12	2820.92	0.68
MSCI EM $	978.16	975.83	0.24
MSCI ACWI $	655.94	651.81	0.63
FT Wilshire 2500	5423.49	5372.45	0.95
FT Wilshire 5000	42278.71	41883.15	0.94

CURRENCIES

	May 19	May 12		May 19	May 12
$/€	1.079	1.086	€/$	0.927	0.921
$/£	1.244	1.247	£/$	0.804	0.802
£/€	0.867	0.871	€/£	1.153	1.148
¥/$	138.505	135.305	¥/€	149.406	146.975
¥/£	172.266	168.733	£ index	80.134	80.327
SFr/€	0.973	0.974	SFr/£	1.122	1.119

CRYPTO

	May 19	Prev	%chg
Bitcoin ($)	26882.00	26819.00	0.23
Ethereum	1814.80	1801.25	0.75

COMMODITIES

	May 19	May 12	%Week
Oil WTI $	71.71	70.35	1.93
Oil Brent $	75.64	74.39	1.68
Gold $	1960.30	2015.95	-2.76

GOVERNMENT BONDS

Yield (%)	May 19	May 12	Chg
US 2 yr	4.25	4.21	0.04
US 10 yr	3.66	3.63	0.03
US 30 yr	3.92	3.90	0.02
UK 2 yr	3.94	3.95	-0.02
UK 10 yr	4.14	4.09	0.05
UK 30 yr	4.37	4.34	0.03
JPN 2 yr	-0.06	-0.06	0.00
JPN 10 yr	0.40	0.38	0.02
JPN 30 yr	1.24	1.22	0.01
GER 2 yr	2.76	2.75	0.01
GER 10 yr	2.43	2.44	-0.02
GER 30 yr	2.60	2.63	-0.03

Prices are latest for edition
Data provided by Morningstar

Austria	€4.50	Morocco	Dh50
Bahrain	Din1.8	Netherlands	€4.30
Belgium	€4.50	Norway	NKr45
Croatia	Kn33.91/€4.50	Oman	OR1.60
Cyprus	€4.20	Pakistan	Rupee350
Czech Rep	Kc125	Poland	Zl 25
Denmark	DKr46	Portugal	€4.20
Egypt	E£80	Russia	€5.00
France	€4.50	Serbia	NewD530
Germany	€4.50	Slovenia	€4.20
Greece	€4.20	Spain	€4.20
Hungary	Ft1450	Switzerland	SFr6.70
India	Rup220	Tunisia	Din7.50
Italy	€4.20	Turkey	TL80
Luxembourg	€4.50	UAE	Dh24
Malta	€4.20		

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No: 41,329 ★

Printed in London, Liverpool, Glasgow, Dublin, Frankfurt, Milan, Madrid, New York, Chicago, San Francisco, Tokyo, Hong Kong, Singapore, Seoul, Dubai

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INTERNATIONAL

Ukraine

Kyiv denies Putin claim of Bakhmut victory

Zelenskyy says battle for city, the bloodiest since invasion, is not yet over

MAX SEDDON — RIGA
CHRISTOPHER MILLER AND ROMAN OLEARCHYK — KYIV

Vladimir Putin has hailed his first major victory since the early days of the invasion of Ukraine, claiming Russian forces had captured the eastern city of Bakhmut, despite Kyiv insisting the battle "was not over".

Russia's president said the Wagner paramilitary group had seized the Ukrainian city with help from Russia's armed forces after a bloody, months-long battle that claimed more than 100,000 casualties and reduced the city to ruins. "All who distinguished themselves will be put forward for state awards," the Kremlin said in a statement released yesterday.

But Russia's claims that the city had fallen were flatly denied by Volodymyr Zelenskyy, Ukraine's president. "Bakhmut is not occupied by the Russian Federation as of today," he said at the G7 summit of advanced economies in Japan.

The battle of Bakhmut has been the longest and bloodiest fought in Ukraine since Putin launched his full-scale invasion in February 2022. Heavy fighting erupted there last May but intensified in autumn and through winter.

It was not immediately clear whether Russia had captured the whole city. Ukraine's military said that fighting continued on Bakhmut's western outskirts and Kyiv's counter-attacks on Russian forces continued on the northern and southern flanks, where they have gained 10 square miles of territory over the past week.

While stressing the control of the city was still contested, Zelenskyy argued that any victory would in any event be Pyrrhic. "You have to understand, there is nothing. They destroyed everything. There are no buildings," Zelenskyy said. "It's a pity, it's a tragedy, but for today Bakhmut is only in our hearts . . . There is just ground and a lot of dead Russians. But they came to us."

The siege of the city was led by Yevgeny Prigozhin, Wagner's founder, who has been embroiled in a bitter public spat over supplies with Russia's general staff for most of this year. The caterer turned warlord said on Saturday that his group had captured Bakhmut without any significant support from the regular armed forces.

Prigozhin recorded his video in front of the Bakhmut railway station, more than two miles from the western front of the city he claimed to have seized. Artillery fire was still audible nearby.

Ukraine's military denied Russia had taken control of the city. "Over the past 24 hours the enemy carried out unsuccessful attacks," the Ukrainian military said yesterday. "The battle for the city of Bakhmut is not over."

Serhiy Cherevatyi, a military spokesman for Ukraine's eastern command, told the Financial Times by phone on Saturday that while Russian forces control most of Bakhmut, heavy fighting was still under way on Chaikovskoho Street, a main road into the city, and a handful of blocks along its western and northwestern edge.

Wagner had not established full control of Bakhmut, he insisted, despite Prigozhin's claims. Cherevatyi argued that over the course of the battle "the Ukrainian army has broken Wagner".

Though it holds little strategic value, Bakhmut is the first significant prize for Russia since the invasion began to stall last year. Bakhmut was the centrepiece of an offensive, led by Valery Gerasimov, chief of Russia's general staff, aimed at reversing embarrassing retreats late last year from areas Putin had attempted to annex for Russia only weeks before.

G7. Diplomacy

Zelenskyy confronts doubters at Hiroshima

Ukraine president presses his case with leaders of powers maintaining ties with Russia

KANA INAGAKI, HENRY FOY, DEMETRI SEVASTOPULO AND JIM PICKARD
HIROSHIMA

With the skeleton of Hiroshima's A-Bomb Dome as a backdrop, Japanese prime minister Fumio Kishida ended the G7 summit with a call for global peace and a world without nuclear weapons, after being upstaged by Volodymyr Zelenskyy.

Only a few weeks earlier, Kishida had thought "the hurdle was too high" for the Ukrainian president to attend the gathering in person. But Zelenskyy was determined to make his first visit to Asia since the start of Russia's invasion, according to people involved in the preparations.

Whether by accident or design, the timing of Zelenskyy's arrival in Hiroshima presented a rare opportunity to meet, or ambush, non-G7 leaders in attendance from Brazil and India, two developing powers that have maintained ties with Moscow.

It was also the perfect setting to garner support for Ukraine's plans to end the war, which have been vying with rival proposals by China and others that seek a ceasefire without calling for Russia's full withdrawal, according to Japanese and European officials.

"By having President Zelenskyy in Hiroshima to take part in discussions, we were able to deliver a message with urgency that the threat of nuclear weapons cannot be used to change the status quo by force and, more importantly, that these weapons must never be used," Kishida said.

When Zelenskyy joined the meeting of G7 leaders yesterday, some speakers including French president Emmanuel Macron proposed the drafting of a "joint communication" to fully align the group behind the Ukrainian peace plan.

Termed the "Hiroshima peace principles" by one diplomat, it would have stood in contrast to the Chinese alternative and other proposals being suggested by various parties. The intention was to make it clear the G7 was in lockstep and to impress this upon their invited guests, not least India and Brazil.

"We are here in the city of peace and as such it's a very good place to discuss the possibility of peace [in Ukraine]," said a European Commission official at the summit.

Peace plea: Japan's Prime Minister Fumio Kishida with Volodymyr Zelenskyy after laying flowers at the Hiroshima memorial yesterday
Eugene Hoshiko/POOL/EPA-EFE/Shutterstock

But as the summit drew to a close, plans for a declaration fizzled out. However, its key messages were broadcast nonetheless. At his news conference, Kishida laid out four basic principles on which the participants had agreed, including the importance of the UN Charter and the rule of law, as well as achieving the original aim of projecting solidarity with Ukraine.

"This war isn't just European," Macron told reporters ahead of yesterday's talks. "It's the opportunity to discuss, exchange and convince partners of this enlarged G7 . . . India, Brazil, Indonesia and several other countries from the south, who have sometimes not exchanged as much with Ukraine.

"This allows Zelenskyy to express himself to powers of the world who at times are exposed to just one discourse," Macron added, making reference to the upcoming summit of the Brics countries of Brazil, Russia, India, China and South Africa. After arriving on Saturday, Zelenskyy held bilateral talks with the G7 members as well as the leaders of India and South Korea.

India's prime minister Narendra Modi, with Zelenskyy beside him, said: "The continuing war in Ukraine is a huge problem for the entire world. India and I will do everything we can for a resolution."

It was the first time the two leaders had met since Russia's full invasion of Ukraine last February. Modi, who was seated next to Zelenskyy in the final session at the summit, greeted the Ukrainian leader with a warm handshake and joked with him as members of the press were ushered out of the room.

Later at the summit table, Modi also called for UN reform, noting that the organisation was not able to take any effective action since Russia was a member of its Security Council, according to officials who witnessed the discussions.

A meeting with Brazilian president Luiz Inácio Lula da Silva proved more difficult. Zelenskyy ultimately left Japan without speaking directly to Lula,

> 'The solidarity in supporting Ukraine against the invasion by Russia was a common message'

a leader who rolled out the red carpet for Russia's foreign minister Sergei Lavrov during his visit to Brasília.

Asked whether he was disappointed that the meeting did not happen, Zelenskyy said: "I think he [Lula] should be the one disappointed." Macron even made a personal plea for Lula to take the meeting, according to one person briefed on their conversation.

But several Brazilian officials disputed the idea that Lula declined a meeting, saying there was simply a scheduling clash. One said Lula had agreed to a meeting on Sunday at a time requested by Ukraine. The Brazilian team had even secured a Ukraine flag to display in the room in the ANA Crowne Plaza Hotel where the two leaders came face to face. "We were available," the Brazilian official said.

Despite the differences on each country's stance against the war, Mark Brown, the prime minister of Cook Islands who was also invited to the summit, said all the participants were aligned in upholding the rule of law.

"The level of support to Ukraine, of course, varies from country to country . . . but the solidarity in supporting Ukraine against the invasion by Russia was a common message," Brown told the Financial Times. "We've seen conflict in Europe today. And we don't want it to escalate to a nuclear conflict. And Hiroshima reminded us of the price that was paid," he added.

Kori Schake, head of foreign and defence policy at the American Enterprise Institute, said Zelenskyy's attendance was important from a US domestic and an international perspective.

"It's hugely significant to give Ukrainians heart as they fight on, show Russia the breadth of support for Ukraine, cement pledges of assistance and show recalcitrant Republicans in Congress that withholding further assistance won't just be injurious to Ukraine but damaging to US leadership," she said.

After laying flowers in memory of at least 80,000 people who died after the US dropped an atomic bomb on Hiroshima in 1945, Zelenskyy said photos of the city's destruction echoed Bakhmut and other Ukrainian cities destroyed by Moscow's invasion. "Our dream is to win this war and to have peace," said Zelenskyy. "That is why it is important to seek for solidarity on Ukraine in Hiroshima."

Additional reporting by Michael Pooler

Climate targets

Summit fails to agree action on fossil fuels amid Japanese opposition

CAMILLA HODGSON — LONDON

Climate experts criticised the G7 group of advanced economies for failing to commit to tougher action on fossil fuels after Germany and Japan prevailed on the continued use of gas and coal, respectively.

In their final communique, the leaders of the G7, including the UK, US, France, Italy and Canada, said they were committed to achieving a "fully or predominantly" decarbonised power sector by 2035, and "accelerating" the phaseout of unabated coal power but failed to set a deadline for the latter.

Using the context of the Russian invasion of Ukraine and resulting energy crisis, the G7 also stressed the "important role that increased deliveries of [liquefied natural gas] can play". It also said that "publicly supported investment in the gas sector can be appropriate as a temporary response" to the crisis.

Alden Meyer, a senior associate at E3G, a think-tank, said Germany's "insistence on more public investment in gas" and Japan's "resistance to phasing out coal power" generation "undercut the G7's leadership at a time when it is desperately needed".

The lack of a coal phaseout date and the inclusion of the word "predominantly" put Japan behind its peers, as other countries were all taking concrete

> The lack of a coal phaseout date put Japan behind its peers, as they take concrete steps to becoming coal-free

steps to becoming coal free, E3G said.

The G7 countries had "chosen to remain on a fossil-fuelled collision course", said May Boeve, executive director of campaign group 350.org. The Climate Action Network, made up of 1,900 civil society organisations, said the "weak commitments, riddled with loopholes" were an "unacceptable disregard to the growing warnings from scientists worldwide".

The tussle over energy policy among the G7 nations has also led to rising criticism from other poorer climate-vulnerable countries over backtracking by leading economies on their climate targets. A group of countries led by Chile, the Netherlands and New Zealand had called on the G7 to lead global efforts to phase out fossil fuels and accelerate the rollout of renewables.

While the G7 energy and environment ministers pledged to decarbonise the power sector by 2035 in talks ahead of the final meeting on Saturday, they were unable to set a timeline for an exit from coal as a result of Japan's opposition.

The G7 host country is heavily reliant on coal, oil and gas following the 2011 tsunami and Fukushima nuclear disaster that followed, and it has insisted the shift to clean energy must be what it describes as "realistic".

The leaders said they would work towards "ending the construction" of new unabated coal-fired power plants.

The lengthy final communique noted the importance of improving energy efficiency and the need to "significantly accelerate" the rollout of renewable sources.

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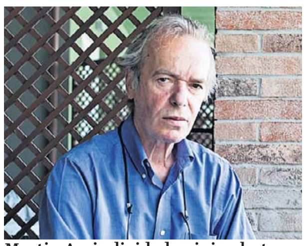
Published by: The Financial Times Limited, Bracken House, 1 Friday Street, London EC4M 9BT. Tel: +44 20 7873 3000; Fax: +44 20 7407 5700. Editor: Roula Khalaf.

Germany: Demirören Media, Hurriyet AS-Branch Germany, An der Brucke 20-22, 64546 Morfelden-Walldorf, +49 6105 327100. Responsible Editor, Roula Khalaf. Responsible for advertising content, Jon Slade.
Italy: Monza Stampa S.r.l., Via Michelangelo Buonarroti, 153, Monza, 20900, Milan. Tel. +39 039 28288201 Owner, The Financial Times Limited; Rappresentante e Direttore Responsabile in Italia: I.M.D.Srl-Marco Provasi - Via G. Puecher, 2 20037 Paderno Dugnano (MI), Italy. Milano n. 296 del 08/05/08 - Poste Italiane SpA-Sped. in Abb.Post.DL. 353/2003 (conv. L. 27/02/2004-n.46) art. 1 .comma 1, DCB Milano.
Spain: Bermont Impresion, Avenida de Alemania 12, CTC, 28821, Coslada, Madrid. Legal Deposit Number (Deposito Legal) M-32596-1995; Publishing Director, Roula Khalaf; Publishing Company, The Financial Times Limited, registered office as above. Local Representative office; C/ Infanta Maria Teresa 4, bajo 2, 28016, Madrid. ISSN 1135-8262.
UAE: Masar Printing & Publishing, P.O. Box 485100, Dubai. Editor in Chief: Roula Khalaf.
France: Publishing Director, Jonathan Slade, 46 Rue La Boetie, 75008 Paris, Tel. +33 (0)1 5376 8256; Fax: +33 (01) 5376 8253; Commission Paritaire N° 0919 C 85347; ISSN 1148-2753.
Turkey: Dunya Super Veb Ofset A.S. 100. Yil Mahallesi 34204, Bagcilar- Istanbul, Tel. +90 212 440 24 24.
Sweden: Responsible Publisher - Christer Norlander

Obituary

Provocative novelist at the heart of new golden age

Martin Amis
Writer
1949-2023



Martin Amis divided opinion but was undeniably an influential figure

"If you've read my novels, you already know absolutely everything about me," wrote Martin Amis in *Inside Story*, his 15th and final novel, published in 2020.

But in saying that, the British writer, who died at his Florida home on Friday, at the age of 73 of cancer of the oesophagus, was only continuing the dance between fiction and reality that was a hallmark of his stories from the start. In *Inside Story*, for instance, Amis comes full circle and returns almost 50 years on to the figure of a teenage girlfriend, "Rachel", who was the subject of his 1973 debut *The Rachel Papers*.

That novel, published when its author was 24, won the Somerset Maugham Award. Amis was immediately in the spotlight as the son of Kingsley Amis, then one of the most famous novelists in Britain (Kingsley won the Booker Prize in 1986; Martin never did).

Amis was born in London in 1949, to Kingsley and his wife Hilary Bardwell; he had an older brother Philip, and younger sister Sally, who died in 2000. His parents separated in 1963.

Once the younger Amis discovered literature, there was no holding him back. A "congratulatory first" at Oxford led to a first job at the Times Literary Supplement, followed by the literary editorship of the New Statesman, then a powerhouse of young talent whose offices housed, besides Amis, the future novelist Julian Barnes, the poet and critic James Fenton and the essayist and polemicist Christopher Hitchens.

This tight circle of eager young male writers became the nucleus of Britain's new literary golden age. They were outspoken, deliberately outrageous, revelling in the sexual revolution of the 1960s and 70s, fiercely ambitious and ferocious in their criticism of their elders, especially more senior women writers.

True literary heroes, for Amis, lay across the Atlantic: Vladimir Nabokov, Saul Bellow, Philip Roth. And he was out to shock. *The Rachel Papers* was swiftly followed by *Dead Babies* (1975). Literary pyrotechnics were in fashion and Amis, eager to capture the zeitgeist, provided dazzling, witty, sardonic, multi-faceted prose in his best-known works. These included *Money* (1984), a satire about Thatcher's consumerist society, *London Fields* and *The Information*.

Time's Arrow (1991) used reverse chronology to reconstruct the life of a Holocaust doctor, one of several times that Amis tackled Nazism, genocide and Stalinism as subjects. Another was 2002's *Koba the Dread*, and later *The Zone of Interest*, about a Nazi commandant living next to Auschwitz: Jonathan Glazer's film version of the book had its debut at the Cannes film festival last week. Other explorations into the dark reaches of human nature included *House of Meetings*, again about Stalin's reign in Russia.

Amis was also notably erudite, and his five volumes of collected journalism and criticism, mixed with memoir and social commentary, investigated everything from his literary idols to film and sport, John Travolta to Donald Trump.

Even though there were often stretches of several years between novels, Amis was seldom out of the limelight and his views always ignited fiery reactions: an example was his response to the 9/11 attacks, trenchantly expressed in the press, and subsequent remarks that were taken to be Islamophobic.

In 2003, his novel *Yellow Dog* brought some unfavourable reviews, and that year Amis moved to Uruguay with his second wife Isabel Fonseca and their two daughters. Following their return to London, and despite his earlier views on America, he relocated from London to Cobble Hill, Brooklyn around 2010.

Amis was previously married to Antonia Phillips; they have two sons. He also had a daughter with Lamorna Seale, although he was unaware of her until she was a teenager.

Novelist, essayist, commentator, teacher and influencer; a writer always surprising and controversial, always dividing opinion and at the nexus of critical argument: it would be hard to overstate Amis's importance in the literary landscape of the English-speaking world over the past 50 years.

Jan Dalley

Europeans turn to price controls in fight against rising food bills

Surging inflation prompts politicians to impose caps despite retailers' protests

IAN JOHNSTON — BRUSSELS
MARTON DUNAI — BUDAPEST

Europe's retailers and governments are locked in their fiercest tussle over food costs for 50 years, with policymakers resorting to price controls to tackle the worst cost of living crisis for a generation.

Despite lower energy prices easing overall pressures, growth in the cost of food has continued to soar, prompting increasingly unconventional market interventions from politicians trying to assuage public anger.

Food prices in the EU rose 16.6 per cent in the year to April, according to Eurostat, far in excess of a headline inflation rate of 8.1 per cent. Some of the biggest surges have been in staples, with the cost of eggs rising 22.7 per cent over the period, whole milk 25 per cent and sugar 54.9 per cent.

"We haven't had price controls in a general pattern in the western world since the 1970s," said Lars Jonung, a Swedish economist and expert on the caps.

Central and eastern European states hardest hit by rising prices, such as Hungary and Croatia, have moved to cap the cost of essentials to shield the most vulnerable, who tend to spend more of their income on food.

Nora, 32, a mother of three in Budapest, said it was "nice" that price controls had made products such as whole milk cheaper. But she noted that supermarkets had started limiting purchases, meaning she had to visit multiple stores or shop every day to take advantage.

Greece has taken an alternative approach to limit prices by capping retailers' profit margins on food and other essentials.

In richer economies, France has negotiated a looser agreement with supermarkets to offer a selection of items at the lowest possible price.

Spain is one of several countries to have cut value added tax on food. Others, such as Italy, are coming under pressure to cap the cost of beloved foodstuffs such as pasta.

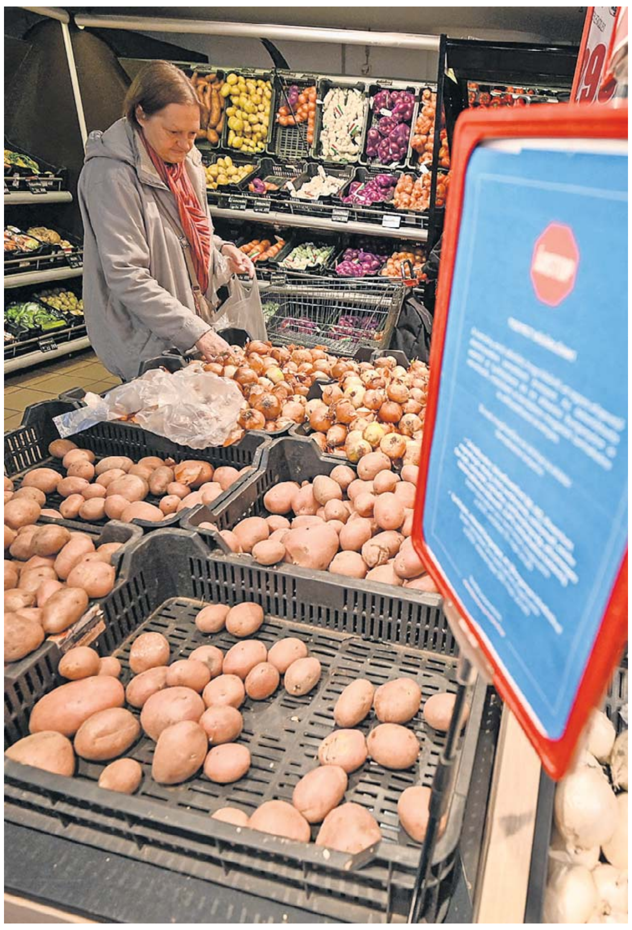
Pressure on retailers to toe the line on price rises has been exacerbated by a sharp fall in the cost of agricultural commodities over the past year. The UN's Food Price Index was 19.7 per cent lower in April compared with the same month last year.

"While some price hikes may be justified, there is growing suspicion that others are just opportunistic excuses by businesses to inflate prices," said Monique Goyens, director-general of the Bureau Européen des Unions de Consommateurs, which represents 46 consumer organisations from across the continent

She has urged governments to "adopt strong measures to protect consumers against spiralling prices".

Test Achats, a Belgian consumer protection body, has called for a measure similar to France's original anti-inflation basket proposal, which was tougher than that which Paris has been able to implement. AK of Austria has also called for "price regulation" of foods.

But retailers say that they are not to blame and that, far from price gouging, are having to take the hit on capped goods.



Price check: a sign in a Budapest store tells customers of an extension of controls on items such as potatoes and eggs — Attila Kisbenedek AFP/Getty Images

Kodály Delikátesz, a small supermarket in Pécs, southern Hungary, has grouped capped products under a sign that warns customers against buying "products of the dictatorship", saying the wholesale price of certain items was higher than the capped retail price.

The operator of the store said: "The regulation forces us to sell at a loss."

Large businesses operating in Hungary, such as Lidl, Spar and Auchan of France, have claimed the same.

"If you are procuring sugar, you're paying 500 forints (€1.35) per kilo and you have to sell it for 300 forints (€0.85)," said a representative of an international retailer. "You make a negative margin for each unit sold, which is completely absurd in a sector like retail that is characterised by high volumes and low margins."

While the measures have been successful in keeping a lid on the cost of essentials, economists think they are a poor fix for high food prices.

A World Bank report last week called on European governments to provide more "targeted policy interventions and social safety nets" to support those suffering from the cost of living crisis.

But the multilateral lender stressed that price controls and subsidies were "suboptimal as they distort price signals for consumers and producers".

György Matolcsy, Hungary's central bank governor, went further in a parliamentary hearing in December. "You can't win this battle with old tools," he said.

'As an instrument to reduce inflation, price controls do not work. But they are addictive'

"Price caps and all similar ideas already proved ineffectual during socialism."

Péter Virovácz, analyst at ING Bank, said: "You may cap one type of milk, but the inflation basket contains dozens of types."

But the struggles faced by people hit by the soaring cost of their weekly shop mean economists fear politicians will continue to resort to price controls regardless of their effectiveness.

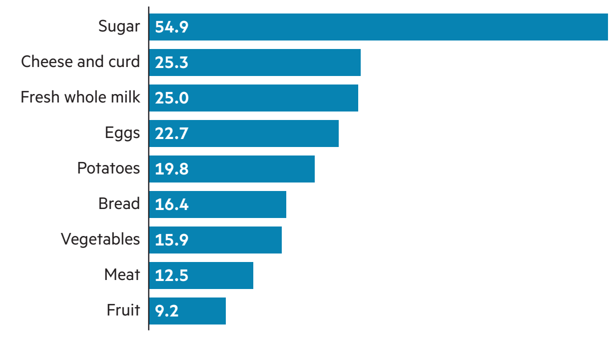
"As an instrument to reduce inflation, price controls do not work," said Jonung. "But they are addictive and it's difficult to kick the habit."

Additional reporting by Leila Abboud

Martin Sandbu see Opinion

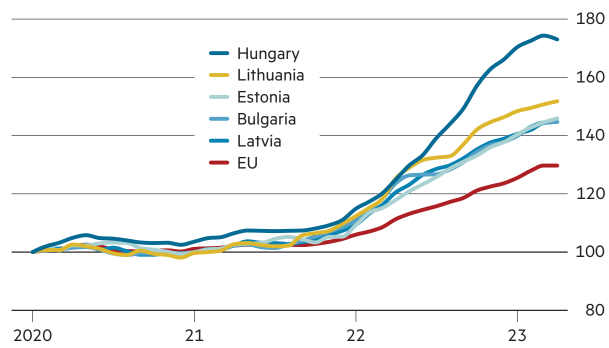
Essential EU food items have risen in cost by up to 55% in the past 12 months

Annual % change in the EU's harmonised index of consumer prices, Apr 2023



Hungary has experienced the highest food inflation in the EU since 2020

Harmonised index of consumer prices (Jan 2020=100); EU average and five EU countries with highest food inflation



Source: Eurostat

INTERNATIONAL

US politics

Biden urges Republicans to relent on debt

President presses party to drop 'extreme position' in talks on borrowing limit

JAMES POLITI AND LAUREN FEDOR
WASHINGTON
DEMETRI SEVASTOPULO — HIROSHIMA

US president Joe Biden called on Republicans to moderate their "extreme positions" as he vowed to talk directly to House Speaker Kevin McCarthy yesterday in a bid to ease tensions in the escalating US debt ceiling crisis.

At yesterday's press conference for the G7 leaders in Hiroshima, Japan, Biden said: "My guess is he's going to want to deal directly with me in making sure we're all on the same page.

"It's time for Republicans to accept that there is no bipartisan deal to be made solely on their partisan terms. They have to move as well," he added.

McCarthy later condemned the president's comments in an appearance on Fox Business, accusing Biden of moving the goalposts by seeking to tie spending cuts to increased tax revenues.

"It seems as though he wants default more than he wants a deal. That's not where I'm at," McCarthy said, adding that he was expecting a call from the president within an hour.

The lack of any movement in the talks will be of concern because the limit on government borrowing needs to be raised by June 1 or Washington faces an unprecedented default on US debt. Such an eventuality could plunge global markets into turmoil and the US economy into recession. Janet Yellen, US Treasury secretary, yesterday warned that if the debt ceiling was not raised soon, there would be "hard choices to make about what bills go unpaid".

Any deal on the debt ceiling would take several days to pass both houses of Congress and be signed by the president. Even getting close to the deadline could spook investors and trigger economic disruptions — and the hardening rhetoric will raise uncertainty and alarm about the outcome of the talks.

During his remarks in Hiroshima, Biden said his administration had weighed invoking the 14th amendment of the US constitution, which states that the "validity" of US debt "shall not be questioned". This would allow the Treasury to ignore the borrowing limit rather than default. "I think we have the authority. The question is could it be done and invoked in time?" he said.

But such a move could still create huge disruptions to markets and a cascade of legal challenges, and Biden suggested it would be unworkable. "We have not come up with a unilateral action that would succeed in two weeks, so it's up to lawmakers," he said.

Yellen echoed Biden's comments yesterday, telling NBC News that while there had been "much discussion" of the 14th amendment, it "doesn't seem like something that could be appropriately used in these circumstances, given the legal uncertainty". "Given the tight timeframe we're on . . . my devout hope is that Congress will raise the debt ceiling," she added.

On Saturday, McCarthy had poured cold water on any hopes of a market-soothing breakthrough, saying there could be no progress until Biden returned to Washington from Japan.

"Unfortunately, the White House has moved backwards," he added, saying that the "socialist wing" of the Democratic party was having a "real effect" on Biden's negotiating stance.

Given the negative economic repercussions of a default, as well as the unpredictable political impact, Biden and congressional Republicans are still expected to reach an agreement.

Iran. Dress code

Hijab turmoil unsettles religious conservatives

Law that forces women to cover hair and body in public has become magnet for dissent

NAJMEH BOZORGMEHR — TEHRAN

Free style: a woman without a scarf in central Tehran. Women out and about without the hijab are rarely confronted by security forces but businesses have received warnings or been briefly shut down for serving them
Vahid Salemi/AP

Architecture graduate Zahra said the sight of women without headscarves on the streets of Tehran made her "heart ache". She feared their defiance of Iran's Islamic dress code could lead to even looser standards that sow social division and erode the republic's core identity.

"Islam is being weakened, and we should demonstrate somehow that this is an Islamic country," said the 37-year-old Tehran resident, who sported a crimson headscarf. "We need to put a brake on."

Angry words and looks from others served to marginalise religious Iranians, she added. "But we need to feel secure, make progress and be part of this society."

Iran's hijab law, which obliges women to cover their hair and body in public, has become a lightning rod for dissent in a country stricken by economic hardship. Prices have soared since 2018 as US sanctions imposed over Tehran's nuclear ambitions have strangled the economy, with inflation at 45.8 per cent, and there is widespread public anger at corruption.

The Islamic republic has suffered months of civil unrest, sparked by the death in police custody of 22-year-old Mahsa Amini last September following her arrest for failing to observe the dress code. Mass protests broke out across Iran, with women refusing to wear headscarves and demonstrators demanding regime change and a secular, democratic system. Hundreds died in the turmoil and subsequent government crackdown.

But the country's leaders, wary of losing the support of the religious Iranians that form the bedrock of support for the regime, have shown little willingness to acknowledge any compromise.

Since the protests, senior government figures have publicly vowed there will be no concessions. Although women out and about without the hijab are rarely confronted by security forces, many shops, restaurants and tourist attractions have received warnings or been briefly shut down for serving them.

The head of the country's running federation resigned this month after several female competitors in a marathon in the city of Shiraz took part in ordinary sports outfits. Motorists have received text messages from police warning their cars could be seized if female drivers or passengers failed to wear the hijab, and five well-known actresses have been summoned to appear before the judiciary for attending public events without headscarves.

Meanwhile, videos have surfaced on social media showing verbal and physical exchanges between ordinary people as religious Iranians confront women who are not abiding by the hijab law.

Observers say the continued repression will only slow change in Iran, not roll it back. "The Islamic republic is conscious it cannot stop women anymore and has in practice compromised on the hijab," said one pro-reform analyst.

"I have received five text messages that my car could be seized but I just ignored them," said a 32-year-old sports trainer. "If my car is the price I have to pay for my freedom, I'm ready to pay."

Hostility towards a religious establishment seen as having the wrong priorities has had deadly consequences. Over the past month, one senior cleric queueing at a bank in northern Iran has been shot dead and at least four others have been attacked across the country, according to local media.

But many religious Muslims have reasserted their support for the regime despite sharing public anger at corruption and economic hardship.

"If the alternative was a more Islamic system, I would have backed street protests," Zahra said. "But for now, our only option is this system, which is Islamic despite all the problems."

However, opinion is divided even among religious Iranians.

Some harder line regime supporters see the fight for modernity as a foreign conspiracy. "It's the enemy which has picked the hijab as an issue to sow discord in Iranian society," said Ensieh, 53, who teaches the Koran at a Tehran high school and wears the black top-to-toe *chador*. "The US, Britain and Israel are truly evil and have masterminded this political game."

Opponents of the hijab were a minority, she said, rejecting the suggestion, made by some politicians, of a referendum on the issue. "It's not a matter for ordinary people to decide," she said. "We need to focus more on Islamic education in schools."

But Zahra blamed the Islamic Republic itself. "The political system . . . has failed to show the beauties of Islam to students. It has only told people what Islamic decrees are and forced them to observe them," she said.

> 'For now, our only option is this system, which is Islamic despite all the problems'

Clerics themselves are divided on how to respond. Ayatollah Lotfollah Dezhkam, the Friday prayer leader of Shiraz, told a conference this month that curbing inflation rather than enforcing the hijab was the country's priority.

In contrast, Ayatollah Mahmoud Rajabi, a senior cleric in the holy city of Qom, urged leaders not to let concerns over the economy "marginalise" the issue of women's dress. "Those who have removed the hijab . . . are a manifestation of the decadent position of women in western schools of thought," he said in a statement.

Ultimately, even some religious Iranians believe change may be unstoppable. Zahra feared that if she ever had a daughter, she would be unable to convince her to cover her hair because it was "inevitable" most women would no longer do so. "I would never be able to tell my daughter to be part of a marginalised minority," she said. "This makes me extremely sad."

Asia

Bhutan bets on bitcoin mining to boost digital economy

BENJAMIN PARKIN — NEW DELHI

Bhutan is investing in everything from bitcoin mining to drone technology as the tiny Himalayan kingdom turns to new-generation businesses in search of fast growth and returns.

Druk Holding & Investments, the state-owned commercial holding company, will this month start pitching to investors to raise as much as $500mn for a crypto mining business after an agreement with Singaporean group Bitdeer, one of the world's largest bitcoin miners.

Bhutan's bet on crypto, which follows that of other countries such as El Salvador and the Central African Republic, comes despite the sell-offs, contagion and scandals that have rocked the sector. The isolated country of 800,000 only allowed television and internet in 1999 and is known for its gross national happiness metric, which seeks to prioritise wellbeing beyond economic growth.

Ujjwal Deep Dahal, DHI's chief executive, said the tech push would help speed up innovation in the largely rural economy. DHI is also in the early stages of a project to deploy drones in the power sector and in February launched a biometric digital identity system.

DHI is "focusing on the new generation of industries", he said. These technologies would "provide platforms to solve problems and also provide platforms to create industry and to create a diversified portfolio of investments for us". DHI's core portfolio, which had assets of about $3bn in 2021, consists of Bhutan's main telecom, power and aviation companies, among others.

Together with Bitdeer, it will approach international institutional investors for funds. Bitdeer said it planned to build a 100-megawatt crypto mining data centre in the country.

Mountainous Bhutan has abundant sources of hydropower, a crucial industry in the country. The companies argue hydropower provides an easy, renewable electricity source for bitcoin mining, an energy-intensive process in which computers solve mathematical problems to create new coins.

Bhutan adopted a democratic constitution in 2008 and has averaged 7.5 per cent annual growth since the 1980s, according to the World Bank. The country is also one of the world's few carbon-negative countries, meaning that it absorbs more carbon from the atmosphere than it releases.

Jaran Mellerud, a Norway-based analyst at bitcoin mining data provider Hashrate Index, said bitcoin mining could help Bhutan diversify revenues from hydropower, most of which is exported to India. Bhutan could become "the biggest bitcoin miner per capita in the world", he said.

But he expected the country to struggle to raise $500mn, given the turmoil in the industry. "In 2021, every week a miner was raising $50mn, $100mn," Mellerud said. "Now it's big if a miner is able to raise $50mn . . . So $500mn in a bear market for a bitcoin mining operation? I think it's a bit too much."

Both companies have been exposed to the turbulence in crypto. Bitdeer suffered heavy losses last year and its Nasdaq-listed shares are down about a third since it listed through a special purpose acquisition vehicle last month.

Forbes reported last month that DHI held tens of millions in cryptocurrencies with bankrupt lenders BlockFi and Celsius, though DHI denied that it had lost money in the deals.

Africa

Niger president rejects criticism of French military role in Sahel region as propaganda

DAVID PILLING AND AANU ADEOYE
LONDON

The president of Niger has defended France's actions in the Sahel region, saying Paris had been the victim of propaganda and populist anti-neocolonial sentiment.

"It's true that French policy in Africa is not a great success right now," President Mohamed Bazoum, who has emerged as the west's staunchest ally in the region, told the Financial Times. "But is it France's fault? I don't think so. France is an easy target for the populist discourse of certain opinions, especially on social media among African youth."

Anti-French sentiment is strong in many former French colonies in the Sahel, the semi-arid strip south of the Sahara desert that has been convulsed by jihadist violence perpetrated by groups linked with Islamic State and al-Qaeda.

Paris has been blamed for triggering the crisis in Libya, for failing to quell the jihadist threat and for backing unpopular leaders. Mali, which expelled France after the first of two coups in 2021, has contracted Russia's Wagner mercenary group to help it fight the insurgency.

There are concerns that Burkina Faso, now also under military rule, could follow suit. Niger's president said he believed the Ouagadougou regime when it said that Wagner was not in Burkina.

Bazoum said Wagner had been ineffective in Mali, where it has been accused by human rights groups of atrocities. The instability in the north of the country had worsened since Wagner's arrival, he said, pushing refugees into both Niger and Algeria.

On France, he said: "Its adversaries want to project an image of France as a neocolonialist power. Some people stick to that cliché, which is not true, but which is very useful for propaganda."

Bazoum played down domestic criticism of his decision to increase the French military presence in Niger, saying intelligence from Paris was a big help in Niger's own war on terror. France has a large military base in Niamey while the US has a drone base near the northern city of Agadez.

Terrorist activity has been steadily increasing in Niger, much of it spilling over the border from Burkina Faso where, by some estimates, the government controls only 40 per cent of the territory. "In Burkina, things have got a lot worse over the past year. It's a story of deterioration," Bazoum said.

Go home: a Malian protests in Bamoko against France's role — Hadama Diakite/EPA-EFE

Ibrahim Yahaya Ibrahim, a senior Sahel analyst at the International Crisis Group, said Bazoum's pro-western stance had received a mixed reception at home, where he had taken "quite a hit".

"The same anti-French discourse that has proliferated in Mali and Burkina Faso is also present in Niger," he added.

Bazoum deserved credit for improving security in Niger, Ibrahim said, especially at a time when jihadis were gaining ground in the region, as well as for his stance against corruption. But he had enjoyed less success in improving education in a country with one of the world's lowest literacy rates, Ibrahim said. The team around the president was "weak", he added.

Bazoum's election in 2021 marked Niger's first democratic transition since independence from France in 1960 and he has come to be seen as a key western ally in the fight both against terrorism and creeping military rule.

Antony Blinken this year became the first US secretary of state to visit Niger in the country's history, underlining its growing strategic importance.

"Niger is a young democracy in a challenging part of the world, but it remains true to the democratic values that we share," Blinken told his hosts during his visit to Niamey where he pledged $150mn of additional humanitarian assistance to Sahelian countries.

Niger remains a fragile democracy and one of the poorest countries in the world. It is losing the equivalent of nearly 500 football pitches of arable land per day to desertification, according to the UK's Africa minister Andrew Mitchell, who visited Niger this year.

Bazoum, whose administration was rattled by a coup attempt two days before his inauguration in 2021, said institutions were strengthening despite persistent problems of instability, poverty and hunger in some parts of the country. There was "zero chance" of a military takeover, he added.

Office anxieties What should Gen X and millennial managers be doing to improve Gen Z's working lives? ➔ WORK & CAREERS

Companies & Markets

Allen & Overy and Shearman merge to create $3.4bn law firm

- One of biggest legal tie-ups in history
- Focus on building up PE expertise

KATE BEIOLEY — LONDON

"Magic circle" law firm Allen & Overy is merging with New York's Shearman & Sterling to form a practice with combined revenues of $3.4bn, in one of the biggest transatlantic legal tie-ups in history.

The merger, which is subject to a vote of both firms' partners, will create the third-largest law firm in the world by fee income and comes just months after 150-year-old Shearman abandoned merger talks with Hogan Lovells.

Allen Overy Shearman Sterling, as the new firm is to be known, will have nearly 4,000 lawyers spread across 49 offices. The proposed deal represents the first merger between a London-based "Magic Circle" firm and an American rival since Clifford Chance joined up with Rogers & Wells in 2000.

> The two firms 'know each other extremely well and have explored things for years and years'

It is also a step forward in Allen & Overy's bid to crack the lucrative US market following the collapse of its attempt to merge with Californian firm O'Melveny & Myers four years ago, after they failed to agree on a valuation.

The tie-up follows a tumultuous period for Shearman & Sterling, which has lost several lawyers following its aborted talks with Hogan Lovells earlier this year and begun a difficult restructuring programme

In a statement, Allen & Overy senior partner Wim Dejonghe said: "We think A&O Shearman will be a firm unlike any other in the world."

Speaking to the Financial Times, Dejonghe explained that the tie-up would give both firms crucial scale in both London and New York. Allen Overy Shearman Sterling will have "over $1bn in revenue in the US, 30 per cent [coming from] the UK, and 40 per cent in the rest of the world and I don't think anyone has that", he noted.

London-based Allen & Overy — which had revenues of £1.9bn in the year to end-April 2022 and employs around 5,800 staff globally — has long sought a leg-up into the lucrative US market, which has proved notoriously difficult for London-based firms to crack.

Meanwhile, Shearman & Sterling — which has just under 900 lawyers, including partners, and reported revenues close to $1bn in calendar year 2022 — has been seeking a way to grow and increase its profitability, having found its existing global network brought higher costs but insufficient scale.

Both firms said they were seeking to build out stronger expertise in private equity, life sciences, and energy transition. Shearman & Sterling will have representation across global leadership positions in the merged firm.

Adam Hakki, Shearman's senior partner said the two firms "know each other extremely well and have explored things for years and years", but moved closer to serious proposals through "focused discussions in recent weeks."

Equity partners at Shearman took home $2.48mn in average profits last year, compared with just under £2mn for partners at Allen & Overy. Both firms said their pay structures would not be difficult to knit together.

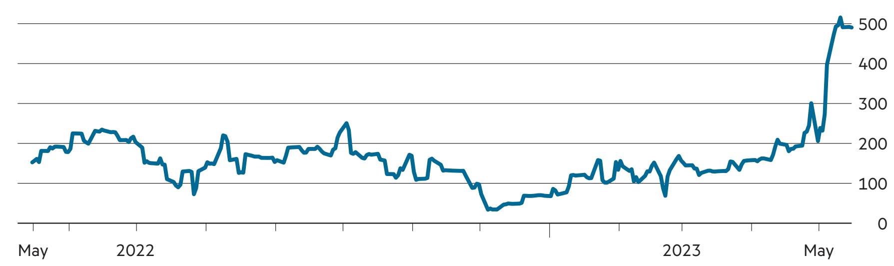
The deal is expected to be put to partners in both firms before the summer, with the aim of reaching completion within six to 12 months.

Poll positions Bets against Greek bonds hit highest level since 2014 in run-up to election

Deciding factors: a man walks past election posters in Athens Petros Giannakouris/AP

Hedge funds up bets against Greek government bonds

Market value on loan ($mn)



Source: S&P Global Market Intelligence

MARY MCDOUGALL — LONDON

Hedge funds were increasing bets against Greek government debt as the nation headed to the polls this weekend, following a run of strong performance and the possibility of political paralysis after the election.

The total value of Greece's bonds borrowed by investors to wager on a fall in prices hit its highest level since 2014 last week at more than $500mn, according to data from S&P Global Market Intelligence.

The sudden surge in bets against Greek debt comes as the bonds have performed better than their European counterparts this year. Last month, S&P changed its outlook for Greece from stable to positive, bringing the country to the cusp of regaining its investment-grade rating.

"Greek government bonds have outperformed their Eurozone peers for a while so the build in shorts goes against the prevailing [bullish] narrative in Greece," said Antoine Bouvet, head of European rates strategy at ING.

The rise of Greek bonds has led to the gap or "spread" between the yields of Greece and Germany's 10-year debt — a key gauge of risk — drawing much narrower in recent months from more than 2.8 percentage points last October to around 1.5 percentage points today. Greece also fares well compared with Italy, with benchmark Greek 10-year bonds trading at a yield of 4.04 per cent, lower than a 4.3 per cent yield for Italy. Yields fall when prices rise.

Richard McGuire, head of rates strategy at Rabobank, noted that there had been only one occasion over the past decade when the spread between 10-year Greek and Italian debt had been similarly negative. The period, last summer, was short lived.

"I can see why fast money investors would be positioning themselves for the possibility of a similar reversal," he said, adding that if the ruling party was unable to form a government after the first round of voting, that would also bring uncertainty for markets.

The total volume of short positions of Greek debt has shot up from around $65mn at the start of the year to last week's peak of more than $500mn, but investors note that the overall volumes remain a small proportion of total Greek debt, which stands at around €400bn, mostly held by official bodies.

During the Greek debt crisis, short positions against Greek bonds peaked at more than $15bn.

Greece suffered years as Europe's problem child, but growth is now strong, with gross domestic product expanding 5.9 per cent last year.

Costas Milas, a professor of finance at the University of Liverpool, said hedge funds may be raising wagers against Greek debt owing to "nervousness and second thoughts" ahead of the election, but given yields were significantly lower than Italian debt, which had investment grade status, "investors are not panicking today".

Meta in talks with start-up Magic Leap over AR deal

HANNAH MURPHY AND PATRICK MCGEE
SAN FRANCISCO

Facebook's parent company is in talks to create a multiyear agreement with augmented reality (AR) start-up Magic Leap, as the social media giant continues to pour billions of dollars into its ambition to create an avatar-filled online world called the metaverse.

According to people familiar with early talks, Meta is exploring ways in which Magic Leap could provide both intellectual property licensing and contract manufacturing in North America to help it build mainstream AR products.

Magic Leap produces custom components, including high-tech lenses and associated software, which are key technologies that may be required to build a metaverse. However, people with knowledge of the talks said the partnership is not expected to yield a specific joint Meta-Magic Leap headset.

Two former employees said Magic Leap's "biggest asset" is the sophistication of its "waveguides" — technology that allows thin glass in front of the user's eyes to conjure up realistic images at different depths.

Meta declined to comment. Magic Leap would not confirm the talks, but said that partnerships were becoming a "significant line of business and growing opportunity for Magic Leap".

The Facebook parent's interest in augmented and virtual reality comes as Apple prepares to unveil its own "mixed reality" device next month, with both Big Tech groups betting that such headsets will provide a profitable new computing platform to rival mobile devices.

Meta, which has a market capitalisation of $612bn, has faced rising investor frustration with chief executive Mark Zuckerberg's $10bn a year investment into the metaverse project, which is likely to take years to generate profits.

The metaverse push has continued even as the company has been hit with tough macroeconomic conditions and an advertising slump, leading Zuckerberg to order restructuring and lay-offs of about 20,000 staff, as part of what he has called its "year of efficiency".

Meta's interest in working with Magic Leap also comes as Silicon Valley faces increasing pressure to lessen its reliance on China for the manufacturing of hardware, an issue that has become more relevant to the social media company as it turns its attention to VR and AR headsets as part of its metaverse vision.

Banks. JPMorgan

Dimon turns tide of criticism over spending plans

> CEO heads into investor day emboldened by successes but Epstein lawsuits loom large

JOSHUA FRANKLIN — NEW YORK

This time last year Jamie Dimon was preparing for JPMorgan's investor day. It was amid a rare moment of weakness, with shareholders raising concerns over the bank's $15bn investment plans and rebelling against his pay.

Fast forward 12 months and the longest-serving big bank chief executive on Wall Street is heading into the same event having apparently regained his mojo, buoyed by the acquisition of the remnants of First Republic and a shareholder base that is far less restive. This past week, his pay secured the backing of almost 90 per cent of investors.

Dimon has been in his element acting as Wall Street's unofficial ambassador to Washington on the recent regional banking crisis and during the debt-ceiling debate. People close to the 67-year-old, who is often said to thrive during crises, describe him as having an extra spring in his step in recent months.

Indeed the past 12 months might have been seen as one of the better periods of his almost two-decade tenure, were it not for the drip-drip of damaging revelations from two lawsuits related to the bank's relationship with the disgraced late financier Jeffrey Epstein.

Now as Dimon prepares to address shareholders at this year's investor day, he has to convince them that the bank — the biggest in the US — still has plenty of room to expand. "There's no reason for us to think the company can't continue to grow and leverage economies of scale and just continue to serve their existing customers with more products and acquire new customers," said Jason Goldberg, banking analyst at Barclays.

The bank's shares have outperformed the benchmark S&P 500 and the KBW banking index in the last year, and has emerged as one of the winners in the recent regional banking crisis. In a research note this week, Wells Fargo analysts estimated JPMorgan's market capitalisation could more than double within seven years to $1tn, reaching a level that has been the preserve of tech and oil companies.

"They seem to have been a beneficiary of deposit inflows in the wake of the banking turmoil that occurred in March with the failures of Silicon Valley Bank and Signature Bank," said John McDonald, senior analyst covering large-cap banks at Autonomous Research.

Despite the optimism, the Epstein lawsuits loom large. Dimon is scheduled to be deposed in the case later this month. The judge handling the litigation will rule shortly whether or not one of the plaintiffs, an alleged Epstein victim, can expand her case into a class-action lawsuit.

JPMorgan is also dealing with the fall-out from its $175mn acquisition of student financial planning start-up Frank, which the bank subsequently alleged vastly overstated its user numbers. Dimon described the deal as a "huge mistake". Frank's founder Charlie Javice was this week formally indicted on charges that she defrauded the bank, but the episode has raised questions about JPMorgan's due diligence.

Part of JPMorgan's growth has been teed up by investments that had come under fire from shareholders. This time last year, they were questioning the bank for failing to outline in more detail the rationale for spending $15bn.

David Konrad, an analyst at Keefe, Bruyette & Woods said: "They've had the luxury of being such a strong bank for a while that they've been constantly investing in the franchise, probably more than any other bank."

Analysts now say the spending on initiatives including cloud computing, hiring and marketing is starting to result in market share gains. "What JPMorgan has proven over this past year, is that they're generating nice returns on those investments," said Erika Najarian, banking analyst at UBS.

People close to Jamie Dimon, the longest-serving big bank chief executive on Wall Street, say he has had an extra spring in his step in recent months Marco Bello/Bloomberg

At the investor day, Dimon will be joined by leaders of the bank's four business divisions, who are expected to deliver presentations on corporate and investment banking, consumer and community banking, commercial banking, and asset and wealth management.

Analysts expect the presentation from consumer and community banking co-heads Marianne Lake and Jennifer Piepszak to shed further light on JPMorgan's deal for First Republic in April. The acquisition increases JPMorgan's presence in wealth management, one of the few areas where it is not a dominant operator.

Analysts are also hoping for an update on JPMorgan's digital-only international consumer bank that began operating in the UK in 2021. The bank disclosed last year that it expects to lose more than $1bn in the next few years on the effort before breaking even by 2028.

If Dimon is still CEO by then, he would have held the job for more than 20 years. He has given no indication that he plans to step down any time soon and he stands to earn a projected $50mn if he is still in charge by 2026. Nevertheless, investors will look to the investor day as a chance to size up potential internal candidates who could take the reins from Dimon.

"Investor day remains one of the best windows to evaluate JPM's broader management line-up," Autonomous Research analysts wrote in a note this week, "and think about who will eventually succeed Mr Dimon."

Ryanair boss targets aviation passenger record

O'Leary aims for 300mn annually, even though industry experts question whether the European market is big enough

PHILIP GEORGIADIS — DUBLIN

Ryanair chief executive Michael O'Leary has vowed to push for breakneck growth and win more market share from rivals in Europe, as he presses ahead with a goal to double passenger numbers over the next decade.

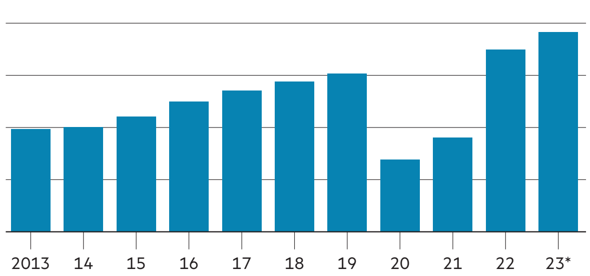
The airline's ambitious new target to fly an annual 300mn passengers by 2034 would be more than any airline has yet managed in history. Even as the company bought 300 short-haul aircraft in a $40bn deal with Boeing earlier this month, some investors and analysts have questioned whether there are enough passengers left to carry in Europe, particularly at a time of rising climate concerns.

O'Leary agreed that the airline would moderate its growth rate into the single digits of around 4-5 per cent a year, but said this was enough to hit its forecasts. He said there was still plenty of room to steal market share from rivals in western Europe, as well as stimulate demand in new markets in central and eastern Europe.

"I think the thesis that there's no more growth in Europe, [and that] Europe is completely tapped out is wrong," he told the Financial Times. "As long as we don't do something stupid — which is a daily challenge in this industry — we will continue to wipe the floor with every other airline in Europe."

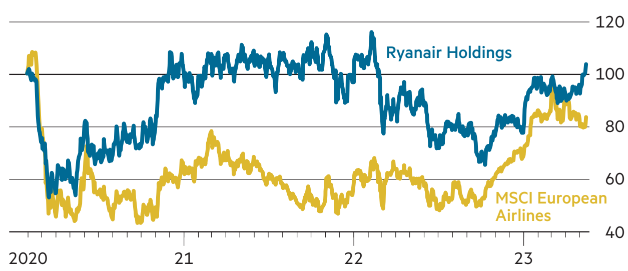
Plane talking: Michael O'Leary believes the low-cost carrier can steal market share from European rivals to hit his ambitious target by 2034 — Mark Duggan/FT

Ryanair has added nearly 40mn seats to its annual capacity compared with 2019
Annual seat capacity (mn)



Sources: Cirium; Refinitiv * Based on latest schedules

The airline's recovery from the pandemic has been stronger than its peers
Share price and index rebased (Feb 1 2020=100)



Ryanair has been European aviation's post-pandemic winner, moving into new markets as financially weaker rivals have retrenched. It expects to carry a record 168mn passengers in the year to the end of March, 13 per cent higher than before Covid.

The carrier is already the largest in Europe by passengers, and Alex Irving, an analyst at Bernstein, sees a different growth trajectory. He pictures the airline's growth inevitably slowing as the industry stabilises following the pandemic. Its home market of western Europe was "essentially fully penetrated", he said.

"Double-digit, and even high single-digit growth rates, were sustainable while it was smaller, but as a near-600 plane airline, it cannot maintain these rates without spoiling yields," he added.

Irving instead expects Ryanair to pivot from concentrating on high growth to returning cash to shareholders, and estimates payouts of €2bn per year in the near future.

But O'Leary is unmoved by doubts over whether it can find all those extra passengers in an already mature market, particularly at a time when policymakers are raising carbon taxes on flying. Speaking in Ryanair's offices near Dublin airport, O'Leary boiled the business model down to three words: "lowest cost wins".

Analysts agree that no European airline other than Hungarian carrier Wizz Air comes close to matching Ryanair's cost base after the Irish airline spent decades stripping costs and passing the benefit on to consumers through lower fares.

It uses a single fleet of aircraft to keep maintenance costs low, keeps a regular flow of new, more efficient planes to lower fuel consumption. It targets quick turnrounds at generally cheap airports to sweat its assets to the maximum.

The obsessive focus on low costs and subsequent "no frills" experience has left Ryanair with a reputation. UK consumer group Which? said Ryanair "regularly sits at the bottom" of its table ranking UK airlines, and only escaped "last place this year through the horrendous experience offered by Wizz Air".

But passengers have kept coming, attracted by low fares and its recent record of reliability. Ryanair did not sack staff during the pandemic, cutting their pay temporarily instead, and did not suffer from the disruption that blighted the rest of the industry last summer.

At about €16, the airline's shares have returned to their pre-pandemic levels but have easily outstripped rivals since the start of the crisis in 2020.

Chris Davies, an investment manager at Baillie Gifford, which is the third-largest investor in Ryanair, said the airline was "strategically remarkably consistent", adding: "They haven't really deviated very much from the core premise of bringing the unit costs down, bringing airfares down and taking market share."

Many within the industry agree and airlines are riding high off a remarkable bounceback in demand for travel.

> 'As long as we don't do something stupid we will wipe the floor with every other airline in Europe'

Olivier Jankovec, head of airport industry body ACI Europe, said the shape of the pandemic recovery suited short-haul airlines such as Ryanair, as leisure travellers had returned in higher numbers than business people.

He said Ryanair now wielded "a lot of market power", including demanding airports offer major discounts on landing fees as it rebuilt its routes following the pandemic.

"The impact is that it puts airports in competition with each other like never before . . . I don't think it is good for the market or consumer," he said.

Prices have risen sharply over the past year as passenger demand for flying has returned, outstripping inflation, and O'Leary himself is among a clutch of senior industry executives to forecast the end of the super-cheap air fare.

One senior aviation executive said current industry forecasts for passenger numbers were based on old models that assumed that ever cheaper fares would drive growth.

Instead, the executive said structurally higher air fares could erode demand for flying, adding: "The truth is no one really knows now. We are in an entirely different world where air fares are rising. No one really knows what this means for demand."

The industry is also facing rising climate concerns, including paying higher carbon taxes as a system of free allowances is phased out under EU Emissions Trading Scheme, which analysts believe will raise fares further.

"Ryanair's business could be challenged by environmental legislation" that would potentially restrict routes and impose minimum pricing, analysts at Barclays said in a recent note assessing possible risks to the company.

Sébastien Thévoux-Chabuel, a portfolio manager at French asset manager Comgest, which is a top-15 shareholder in Ryanair, said: "Ryanair is the best operator in the sector. We see large market share for them to gain . . . The only two questions remaining are how far are we on that journey of conquering new countries and what kind of impact will the cost of carbon have."

Ryanair's long-term passenger forecasts run into the next decade, and project forward to a future which might not involve the 62-year-old O'Leary, who has almost single-handedly dragged Ryanair from a bit part regional airline into a global aviation powerhouse. Few European corporates are as intimately linked to their chief executives as Ryanair is to O'Leary.

"Ryanair breathes MOL," said one former executive at the airline referring to O'Leary's initials. "It's one of those brands that has clearly imprinted its CEO's personality."

O'Leary's current contract runs out in 2028 and there are signs of succession planning as Ryanair has created a group structure, with him sitting at the top of a senior management team.

He said he had stepped back from managing every aspect of the business, and now largely worked on fleet development and funding. He was no longer as hands on with union talks, negotiations with airports or route planning, he said. "I think in the early days when we were turning this thing around . . . I was the key man, it depended on me. I made all that decision. It's too big now," he said.

Football

Napoli boss calls for matches to be streamed

AMY KAZMIN — ROME
JOSH NOBLE — LONDON

The owner of Italy's top football team has called for the league to ditch its traditional broadcast model and deliver matches straight to consumers, warning that piracy and waning interest threaten the future of the sport.

Aurelio De Laurentiis, president of recently crowned Italian champions Napoli, said Serie A should take control of broadcast production of live matches, which the league could then stream via established platforms such as Netflix and Amazon Prime.

The Napoli owner said he had first made this proposal to the Serie A teams two years ago as part of a wider project to reinvigorate Italian football and put it on a more sustainable financial footing.

"You put together Amazon, Apple, Netflix, Paramount Plus, Discovery HBO and you put it altogether, and you say, Serie A will produce itself the Serie A matches, and we'll use those platforms as a physical distributor for our games to make a direct bridge from the league of Serie A and the supporters," De Laurentiis told the Financial Times.

Rights holders across the world of sport are examining whether to offer live matches direct to consumers due to concerns that the longstanding model of big ticket, multiyear deals with pay-TV companies is under threat.

Spain's La Liga now offers a subscription service to UK viewers on Amazon Prime, enabling fans to watch games produced in-house by the league. Germany's Bundesliga is in talks with private equity firms over a potential investment that could result in a new direct to consumer streaming platform. During the Qatar World Cup last year, Fifa offered matches free to fans in Brazil via its Fifa+ streaming platform.

Champions: Napoli players celebrate their victory in Italy's Serie A league

Many in Italian football see a pressing need to catch up with rival leagues. Serie A was the sport's pre-eminent club competition in the 1990s, but it has since endured years of decline due to underinvestment and scandal.

This season Serie A earned €1.2bn from its combined domestic and international broadcast rights, according to Enders Analysis, compared to €2.1bn for Spain's La Liga and €3.8bn for the English Premier League.

Serie A, the Premier League and Ligue 1 are all due to put their domestic broadcast rights out to tender later this year. Following a recent change to Italian law, Serie A will be able to auction its media rights for five years instead of the previous three. League executives have already floated the idea of raising capital from banks or private equity firms to build a direct-to-consumer platform.

De Laurentiis warned that piracy was eroding demand for sports subscriptions. In 2015, Italy had 4.3mn subscribers for pay-TV channels to watch Serie A, but today that number had dropped to just 1.9mn, due to piracy, he said.

Industrials

Rolls-Royce chief sets sights on power unit

Erginbilgic's criticism of division highlights scale of challenge at engineer

SYLVIA PFEIFER — LONDON

The new chief executive of Rolls-Royce has said that one of the company's key divisions had been "grossly mismanaged" in recent years, pointing to the scale of the challenge facing the FTSE 100 engineering group as it seeks to change course after years of underperformance.

In an interview with the Financial Times, Tufan Erginbilgic, who earlier this year shocked staff and investors by referring to Rolls-Royce as a "burning platform", was scathing about how its power systems division had been run.

The subsidiary, which makes diesel and gas engines for ships and trains, generated £3.35bn, or 26 per cent of the group's 2022 underlying revenues. Erginbilgic said that margins in 2022 had decreased even though revenues had risen. Costs had not been kept under control. "That's mismanagement," he said.

The business, Erginbilgic said, "needs to have a clear strategy and it needs to be managed properly but it has lots of potential". An overhaul of management at the unit is already under way. Erginbilgic said he had been behind the appointment last autumn of a new divisional head after being named as chief executive designate in July.

There have been other changes since Erginbilgic formally took the helm at Rolls-Royce in January.

Some shareholders have previously questioned whether Rolls-Royce should sell the power systems unit. Erginbilgic, however, said he believed that the unit had a role to play within the group in the long term.

The former oil industry executive has moved quickly to make his mark on the 117-year-old company which is still regarded as Britain's premier engineering group. In addition to power systems, Rolls-Royce's other two main divisions are civil aerospace and defence. Its civil business builds and maintains large engines for widebody aircraft, including the Airbus A350 and Boeing's 787.

The company posted higher than expected annual profits this year, boosted by the recovery in international travel, but Erginbilgic said at the time that it had historically underperformed its peers.

Erginbilgic has shaken up senior management, including the heads of the civil and defence businesses, cut spending on non-core projects and is renegotiating some of its sales and maintenance contracts with customers.

A transformation programme has identified seven areas of improvement, including managing the company's working capital and increasing efficiency. It is also looking at synergies across the group, including opportunities to centralise key functions.

Erginbilgic said the company he inherited did not have a clear strategy which could engage the workforce.

His focus was on paying down debt and generating cash, with the aim of turning the company into one that was "high performing, competitive, resilient and growing" he said.

Food & beverage

McDonald's pressured to cut back on antibiotics

SARAH NEVILLE AND HARRIET AGNEW
LONDON
PATRICK TEMPLE-WEST — NEW YORK

Two of Europe's largest asset managers will this week try to raise pressure on McDonald's to reduce the use of antibiotics in its food supply chain, highlighting what they say is the risk antimicrobial resistance poses to shareholder returns and the wider economy.

Legal & General Investment Management and Amundi are among several institutions backing a resolution at the fast-food chain's annual meeting on Thursday, which is calling on the US group to "institute a policy that the company comply with World Health Organization guidelines on use of medically important antimicrobials in food-producing animals".

The resolution, which has been proposed by Shareholder Commons, a non-profit advocacy organisation, is a sign of the growing concern among some investors about the systemic impact and broader economic threat of antimicrobial resistance.

AMR has long been seen as a threat to global health and development, believed to contribute to millions of deaths worldwide each year. The inappropriate use, and overuse, of antimicrobial medicines can blunt the effectiveness of drugs critical to controlling an array of diseases that were often fatal in the pre-antibiotic era.

McDonald's has urged shareholders to reject the latest resolution, saying it has a "strong record of responsible antibiotic use" across its supply chain.

> 'Antimicrobial resistance threatens devastating consequences on humans and on the economy'

Maria Ortino, global ESG manager at LGIM, said McDonald's had failed to fulfil a previous commitment to publish antibiotic reduction targets covering all the beef sold in its restaurants by 2020. It had subsequently published more limited targets for "the responsible use of medically important antibiotics", she said. Ortino said AMR threatened "devastating consequences both on humans and on the economy". About 70 per cent of antibiotics were consumed by animals, she said, noting that McDonald's was "the largest purchaser of beef in the world".

But the resolution faces long odds. Last year, a similar shareholder proposal failed to win support from Vanguard and BlackRock, McDonald's two largest shareholders. Amundi and LGIM both supported last year's resolution.

ISS and Glass Lewis, the largest shareholder advisory firms, have also recommended rejection. "[McDonald's] appears to align with regulatory requirements around antibiotic use," ISS said. "Shareholder support is not warranted at this time."

McDonald's highlighted to investors its "current responsible-use antibiotic policies and practices, our focus on helping to drive continuous improvement with our suppliers and the industry, and our work to increase access to antibiotic-use data and transparency".

Additional reporting by Andrew Edgecliffe-Johnson in New York

Market questions. Week ahead

Fed rates warning adds to pressure on Chinese currency

Weighed down: weak economic data for April, including slower than expected industrial production and retail spending growth, has clouded the outlook for China's currency
Hugo Hu/Getty Images

Will the renminbi sink further?

The renminbi has declined more than 2 per cent against the dollar over the past month, breaking the Rmb7 per dollar level and hitting its weakest point since early December, when the country was still in the process of dismantling its strict zero-Covid curbs.

The decline is in response to warnings from the US Federal Reserve that it may raise domestic interest rates further, while there are growing doubts over the sustainability of China's economic rebound.

Analysts had expected a strong recovery following the unwinding of the country's coronavirus restrictions last year. But weak Chinese economic data for April, including record youth unemployment and slower than expected industrial production and consumer spending growth, has clouded the outlook.

Kiyong Seong, lead Asia macro strategist at French bank Société Générale, now expects the onshore renminbi to fall to Rmb7.3 per dollar in the final quarter, and to remain at that level for the first three months of 2024. That is down from an earlier forecast of Rmb7 per dollar in the first quarter of 2024.

"We had thought that stronger sentiment thanks to China's abrupt reopening and the subsequent improvement in some economic data points would strengthen the CNY," wrote Seong. "But this has not materialised."

Seong said it was more likely that the People's Bank of China would cut rates than increase them given April's data, deepening the interest rate divergence with the US.

Any rate cuts "would be neither sufficient nor efficient in terms of promoting sustained growth", he added. "Further monetary policy divergence between China and the US with no material positive impact on Chinese growth would be a perfect recipe for a weaker CNY."
William Langley

Is UK inflation starting to fall?

UK inflation is expected to fall sharply after a drop in energy prices, boosting traders' hopes that the Bank of England will hold interest rates at its next meeting.

Headline inflation due to be disclosed on Wednesday is expected to fall to 8.3 per cent in April compared with 10.1 per cent in March, according to a consensus of economists polled by Reuters.

Samuel Tombs, economist at Pantheon Macroeconomics, who also predicts inflation will ease to 8.3 per cent, said that outcome "would strengthen the case for the monetary policy committee to keep the bank rate at 4.5 per cent at its next meeting on June 22".

Markets are pricing in that the central bank will raise for the 13th consecutive time, pushing the bank rate to 4.75 per cent, the highest since 2008.

The expected fall in April's inflation should also narrow the gap with other countries. In March, the UK annual rate of consumer price index growth was double that of the US and much higher than the 6.9 per cent in the eurozone.

Ben Broadbent, BoE deputy governor, said this month that March inflation figures marked "probably the maximum gap" with other advanced countries. This is because UK utility bills rose sharply in April last year following Russia's invasion of Ukraine. Prices have since fallen back.

"We have a very big base effect coming in for the April number . . . those base effects have come through rather faster in continental Europe," noted Andrew Bailey, BoE governor.
Valentina Romei

> Headline inflation in the UK is expected to fall to 8.3% in April compared with 10.1% in March

How have interest rates damped US manufacturing and services?

Investors will scrutinise business sentiment surveys closely tomorrow for clues about how much higher interest rates and slowing economic growth are damping US manufacturing and services activity.

Economists polled by Reuters expect S&P Global's manufacturing purchasing managers' index to give a reading of 50 for May. That number, which reflects industry views on operating conditions, would mark a slight retreat from 50.2 in April, and would land squarely on the line that separates contraction — anything below 50 — from expansion.

Last month's manufacturing reading was the first to post above the "neutral" level for six months, and the highest since October. At the time, S&P's chief business economist pointed to improved supply chains and new order inflows, hinting at a "tentative revival of demand".

Meanwhile, economists expect the early or "flash" reading for S&P's services PMI to come in at 52.6 tomorrow — lower than April's figure of 53.6, but still signalling growth from the previous month.

The PMI surveys come as data in recent weeks showed that inflation in the world's largest economy has continued to ease, hitting its lowest level in two years in April.

But economic growth also slowed sharply at the start of this year, at 1.1 per cent on an annualised basis between January and March.

Jay Powell, chair of the Federal Reserve, said on Friday that the credit crunch expected following bank failures could limit how far the central bank needed to raise interest rates. The future path of monetary policy tightening is a crucial contributing factor both to economic growth rates and inflationary pressures on US companies.
Harriet Clarfelt

Technology. Espionage fears

South Korea combats rising number of semiconductor 'leaks' to China

Seoul says US export controls have intensified Beijing's aggressive hunt for expertise

CHRISTIAN DAVIES AND SONG JUNG-A
SEOUL

For one Chinese semiconductor executive, the easiest way to recruit South Korean engineers is to hang around outside factory gates.

"I just go to foreign companies' fabs and stand at the gate, asking them to come to our own production lines to do some temporary work and earn some extra money," said the executive, who did not wish to be named.

"The ones I visit more often are the fabs of TSMC, Samsung and SK Hynix, as well as the office buildings of foreign equipment suppliers," the executive added. "Their commuting time is relatively fixed, and engineers have free time to help after they get off work."

The executive's willingness to engage in unorthodox hiring practices illustrates an intensifying campaign by Chinese companies to accumulate South Korean expertise in critical technologies ranging from semiconductors to electric car batteries and industries including displays and shipbuilding.

Yeo Han-koo, who served as trade minister in Seoul until May 2021, said efforts to acquire South Korean technology had become more aggressive as Beijing sought to mitigate the damage from Washington's moves to curtail Chinese access to American technology and expertise.

"The US tightening controls on China led Chinese companies to escalate their charm offensive towards Korean engineers and researchers, using both legal and illegal means," said Yeo.

A headhunter for Chinese foundries said: "Under sanctions imposed by the US, it has become troublesome to recruit people who have been educated or employed in the US. So alternative sources of talent have become Europe, Japan and South Korea."

Experts note that what is described in South Korea as "tech leakage" can include the perfectly legal hiring of foreign talent. South Korea itself spent decades accumulating industrial knowhow from western and Japanese companies as it transformed from developing country to technological powerhouse.

But there are also illegal hiring practices, patent violations, espionage and theft. According to South Korea's National Intelligence Service, the number of confirmed leaks of "national core technologies" has increased from three cases in 2017 to five each in 2018 and 2019, nine in 2020 and 10 in 2021.

Figures released this month by the NIS show there were three leaks of national core technologies in the first quarter of 2023, one each from the semiconductor, display and carmaking sectors. All three came from within large companies.

Seoul takes the issue so seriously that it is creating a database of chip engineers working for South Korean companies in an effort to monitor their travel in and out of the country.

The government has also established several new investigatory bodies to combat the leaks, passed legislation to toughen punishments and made it easier to report suspected violations. Those measures appear to be bearing fruit: there were twice as many arrests relating to tech leakage in the first quarter of 2023 as there were during the same period last year.

But Hong Seok-joon, a lawmaker from South Korea's ruling conservative People Power party, said even tougher rules and penalties were still required.

"Only about 6 per cent of defendants accused of tech leakage [in South Korea] are convicted because it is so difficult to prove," said Hong.

Skill centre: SK Hynix is among chip companies targeted for its expertise

Ben Forney, a researcher at Seoul National University specialising in industrial espionage issues, said the majority of cases involved South Korean engineers, especially retirees, being hired by Chinese companies on salaries three or four times higher than those they were on before.

In some cases, South Korean rules requiring engineers not to join a foreign rival within two years of leaving their employment were avoided by the creation of ostensibly unrelated "paper companies" in South Korea or Taiwan that would pay the engineers handsomely until they could be officially recruited.

"In the US, the most common way for China to acquire expertise is to lure or coerce Chinese engineers who have been based in the US," said Forney. "But in Korea the problem is of homegrown engineers going abroad. That is why it tends to be framed here as 'leakage' rather than espionage or theft."

The pressure on South Korean companies is especially acute in the semiconductor industry.

In February, seven people including former employees of SEMES, a subsidiary of Samsung Electronics specialising in the production of wafer cleaning equipment, were given prison sentences for transferring stolen technologies to a Chinese company.

Lim Hyeong-joo, a partner at Yulchon, a law firm in Seoul, said Chinese companies were also keen to acquire South Korean cathode technology for the production of high-density nickel-rich batteries.

Nor are the South Koreans worried exclusively about tech leakage to China.

"There is concern that the US can take our technology because their Chips Act allows the US to inspect our companies' plants if it is necessary for their security," said Hong.

Forney said: "The Koreans are not just going to hand over their technologies to the US. At the same time, the more that the two countries' tech ecosystems become intertwined, the more that Korean vulnerabilities become American vulnerabilities, too."

MARKET DATA

WORLD MARKETS AT A GLANCE
FT.COM/MARKETSDATA

Change during previous day's trading (%)

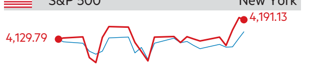
S&P 500	Nasdaq Composite	Dow Jones Ind	FTSE 100	FTSE Eurofirst 300	Nikkei	Hang Seng	FTSE All World $	$ per €	$ per £	¥ per $	£ per €	Oil Brent $ Sep	Gold $
-0.16%	-0.21%	-0.34%	0.19%	0.68%	0.77%	-1.40%	0.18%	0.186%	0.242%	-0.079%	-0.115%	1.70%	-0.71%

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

AMERICAS

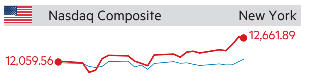
Apr 20 - -

S&P 500 — New York



Day -0.16% Month 0.91% Year 7.47%

Nasdaq Composite — New York



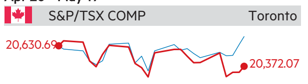
Day -0.21% Month 4.17% Year 11.20%

Dow Jones Industrial — New York

Day -0.34% Month -1.40% Year 6.94%

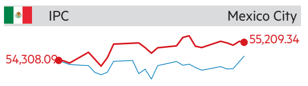
Apr 20 - May 19

S&P/TSX COMP — Toronto



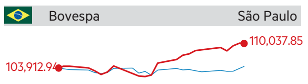
Day 0.21% Month -1.63% Year 0.80%

IPC — Mexico City



Day 0.35% Month 2.10% Year 8.11%

Bovespa — São Paulo

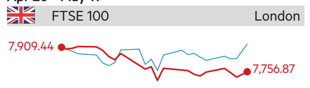


Day 0.56% Month 6.57% Year 3.49%

EUROPE

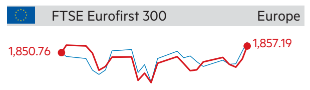
Apr 20 - May 19

FTSE 100 — London



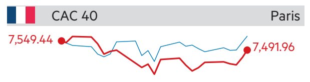
Day 0.19% Month -1.64% Year 6.39%

FTSE Eurofirst 300 — Europe



Day 0.68% Month 0.37% Year 10.95%

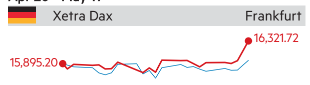
CAC 40 — Paris



Day 0.61% Month -0.55% Year 17.93%

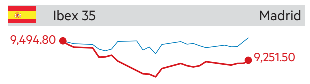
Apr 20 - May 19

Xetra Dax — Frankfurt



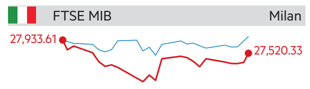
Day 0.69% Month 2.78% Year NaN%

Ibex 35 — Madrid



Day 0.42% Month -1.81% Year 9.14%

FTSE MIB — Milan

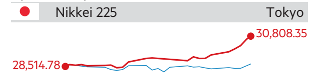


Day 1.05% Month -1.33% Year 14.26%

ASIA

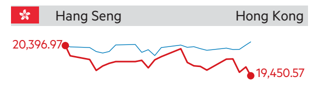
Apr 20 - May 19

Nikkei 225 — Tokyo



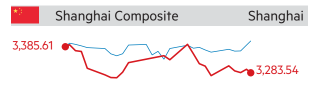
Day 0.77% Month 7.55% Year 14.53%

Hang Seng — Hong Kong



Day -1.40% Month -5.73% Year -5.70%

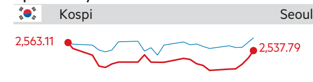
Shanghai Composite — Shanghai



Day -0.42% Month -3.24% Year 6.40%

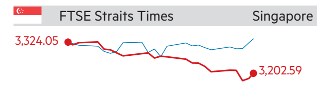
Apr 20 - May 19

Kospi — Seoul



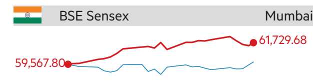
Day 0.89% Month -1.30% Year -3.36%

FTSE Straits Times — Singapore



Day 0.63% Month -3.31% Year -0.79%

BSE Sensex — Mumbai



Day 0.48% Month 3.36% Year 13.88%

Country	Index	Latest	Previous
Argentina	Merval	334497.85	331210.61
Australia	All Ordinaries	7471.50	7427.00
	S&P/ASX 200	7279.50	7236.80
	S&P/ASX 200 Res	6004.30	6015.40
Austria	ATX	3161.59	3153.26
Belgium	BEL 20	3736.78	3717.30
	BEL Mid	9955.57	9910.97
Brazil	Ibovespa	110725.05	110108.46
Canada	S&P/TSX 60	1225.16	1222.93
	S&P/TSX Comp	20340.48	20297.09
	S&P/TSX Div Met & Min	1759.10	1781.26
Chile	S&P/CLX IGPA Gen	28830.21	28841.33
China	FTSE A200	10383.51	10422.11
	FTSE B35	9000.71	8988.96
	Shanghai A	3441.92	3456.38
	Shanghai B	289.07	289.97
	Shanghai Comp	3283.54	3297.32
	Shenzhen A	2124.78	2122.22
	Shenzhen B	1172.43	1179.63
Colombia	COLCAP	1261.61	1260.21
Croatia	CROBEX	2013.05	2011.29
Cyprus	CSE M&P Gen	68.46	68.68
Czech Republic	PX	1316.80	1316.21
Denmark	OMXC Copenahgen 20	2106.51	2109.01
Egypt	EGX 30	16745.54	16844.01
Estonia	OMX Tallinn	1889.15	1889.54
Finland	OMX Helsinki General	10369.32	10385.66
France	CAC 40	7491.96	7446.89
	SBF 120	5706.55	5673.55
Germany	M-DAX	27639.03	27616.47
	TecDAX	3286.40	3263.39
	XETRA Dax	16275.38	16163.36
Greece	Athens Gen	1132.34	1130.14
	FTSE/ASE 20	2767.02	2755.08
Hong Kong	Hang Seng	19450.57	19727.25
	HS China Enterprise	6593.92	6715.56
	HSCC Red Chip	3947.30	3978.06
Hungary	Bux	46587.39	46371.53
India	BSE Sensex	61729.68	61431.74
	Nifty 500	15407.55	15361.60
Indonesia	Jakarta Comp	6700.56	6663.11
Ireland	ISEQ Overall	8686.61	8675.72
Israel	Tel Aviv 125	1823.30	1799.19
Italy	FTSE Italia All-Share	29664.81	29367.67
	FTSE Italia Mid Cap	43458.27	43117.15
	FTSE MIB	27520.33	27235.65
Japan	2nd Section	7228.27	7239.06
	Nikkei 225	30808.35	30573.93
	S&P Topix 150	1867.16	1862.84
	Topix	2161.69	2157.85
Jordan	Amman SE	2490.19	2494.76
Kenya	NSE 20	1475.32	1475.32
Kuwait	KSX Market Index	6633.44	6603.51
Latvia	OMX Riga	1137.16	1137.16
Lithuania	OMX Vilnius	1007.75	1007.75
Luxembourg	LuxX	1487.45	1491.44
Malaysia	FTSE Bursa KLCI	1428.54	1428.04
Mexico	IPC	55458.35	55263.11
Morocco	MASI	10777.63	10804.60
Netherlands	AEX	767.10	765.28
	AEX All Share	1040.39	1038.36
New Zealand	NZX 50	12099.74	11976.08
Nigeria	SE All Share	52580.86	52419.33
Norway	Oslo All Share	1017.37	1006.88
Pakistan	KSE 100	41599.19	41442.08
Philippines	Manila Comp	6664.55	6628.64
Poland	Wig	64897.15	63629.04
Portugal	PSI 20	6043.08	6056.56
	PSI General	4614.92	4608.11
Romania	BET Index	12290.04	12248.65
Russia	Micex Index	2436.57	2445.30
	RTX	1245.71	1212.57
Saudi-Arabia	TADAWUL All Share Index	11344.40	11277.60
Singapore	FTSE Straits Times	3202.59	3182.55
Slovakia	SAX	308.72	308.72
Slovenia	SBI TOP	-	-
South Africa	FTSE/JSE All Share	78175.82	77667.96
	FTSE/JSE Res 20	69370.38	68537.98
	FTSE/JSE Top 40	72985.41	72513.94
South Korea	Kospi	2537.79	2515.40
	Kospi 200	334.23	329.84
Spain	IBEX 35	9251.50	9213.10
Sri Lanka	CSE All Share	8716.96	8780.21
Sweden	OMX Stockholm 30	2288.37	2246.20
	OMX Stockholm AS	856.16	840.58
Switzerland	SMI Index	11571.16	11437.78
Taiwan	Weighted Pr	16174.92	16101.88
Thailand	Bangkok SET	1516.43	1531.27
Turkey	BIST 100	4501.73	4501.73
UAE	Abu Dhabi General Index	9222.93	9251.11
UK	FT 30	2827.00	2824.50
	FTSE 100	7756.87	7742.30
	FTSE 4Good UK	7093.97	7078.72
	FTSE All Share	4228.25	4221.45
	FTSE techMARK 100	6986.07	6946.44
USA	DJ Composite	11030.08	11085.11
	DJ Industrial	33421.31	33535.91
	DJ Transport	13858.14	14003.33
	DJ Utilities	915.87	916.91
	Nasdaq 100	13807.67	13834.62
	Nasdaq Cmp	12661.89	12688.84
	NYSE Comp	15316.65	15345.43
	S&P 500	4191.15	4198.05
	Wilshire 5000	41314.46	41418.95
Venezuela	IBC	31785.42	32007.49
Vietnam	VNI	1067.07	1068.31
Cross-Border	DJ Global Titans ($)	479.20	478.53
	Euro Stoxx 50 (Eur)	4398.96	4367.45
	Euronext 100 ID	1380.62	1374.47
	FTSE 4Good Global ($)	10724.46	10710.47
	FTSE All World ($)	433.64	432.88
	FTSE E300	1857.19	1844.71
	FTSE Eurotop 100	3693.60	3668.59
	FTSE Global 100 ($)	2859.73	2853.64
	FTSE Gold Min ($)	1929.75	1979.89
	FTSE Latibex Top (Eur)	4440.00	4432.20
	FTSE Multinationals ($)	2965.25	2937.64
	FTSE World ($)	790.69	788.80
	FTSEurofirst 100 (Eur)	4976.63	4953.99
	FTSEurofirst 80 (Eur)	5947.85	5913.20
	MSCI ACWI Fr ($)	655.94	651.81
	MSCI All World ($)	2840.12	2820.92
	MSCI Europe (Eur)	1885.43	1876.59
	MSCI Pacific ($)	2762.08	2753.74
	S&P Euro (Eur)	1937.63	1927.48
	S&P Europe 350 (Eur)	1902.59	1890.98
	S&P Global 1200 ($)	3146.72	3141.59
	Stoxx 50 (Eur)	4080.27	4052.41

(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	140.7	179.96	2.47
Nvidia	83.9	312.61	-4.17
Apple	42.0	175.64	0.59
Advanced Micro Devices	41.6	105.87	-2.07
Microsoft	34.2	317.55	-0.98
Amazon.com	29.1	116.54	-1.61
Alphabet	26.4	123.32	0.49
Meta Platforms	23.7	245.00	-1.85
Alphabet	18.1	123.95	0.43
Deere &	15.5	364.21	-6.31
BIGGEST MOVERS	**Close price**	**Day's change**	**Day's chng%**
Ups			
Catalent	36.78	4.64	14.44
Dxc Technology	24.92	1.08	4.53
Epam Systems	246.58	8.46	3.55
Arista Networks	145.44	3.98	2.81
Pioneer Natural Resource Co	209.20	5.23	2.56
Downs			
Vf	19.12	-1.65	-7.94
Zions Ban Na	25.93	-1.31	-4.80
Ulta Beauty	490.64	-22.97	-4.47
Nike	114.33	-4.54	-3.82
Ralph Lauren	108.59	-4.19	-3.72

Based on the constituents of the S&P500

LONDON ACTIVE STOCKS	stock traded m's	close price	Day's change
London Stock Exchange	381.3	8436.00	72.00
Shell	165.7	2409.00	16.00
Astrazeneca	138.4	12010.00	32.00
Bp	135.2	481.40	0.85
Compass	126.6	2235.00	7.00
Unilever	121.9	4271.00	6.00
Glencore	95.7	434.90	-0.40
Rio Tinto	94.8	4948.50	12.50
Hsbc Holdings	90.5	610.80	-2.10
National Grid	84.7	1103.00	-5.00
BIGGEST MOVERS	**Close price**	**Day's change**	**Day's chng%**
Ups			
Dowlais	139.00	8.10	6.19
Videndum	720.00	28.00	4.05
Man	217.90	7.30	3.47
Bt	144.95	4.25	3.02
Renishaw	3898.00	114.00	3.01
Downs			
C&c	131.00	-22.80	-14.82
Jd Sports Fashion	159.25	-13.40	-7.76
Wizz Air Holdings	2946.00	-167.00	-5.36
Easyjet	502.00	-26.00	-4.92
Watches Of Switzerland	661.00	-32.50	-4.69

Based on the constituents of the FTSE 350 index

EURO MARKETS ACTIVE STOCKS	stock traded m's	close price	Day's change
Roche Gs	529.7	296.20	4.98
Asml Holding	447.7	645.40	4.80
Novartis N	430.9	93.01	-0.57
Nestle N	349.9	116.96	0.55
Unicredit	289.7	19.01	-0.04
Siemens Ag Na O.n.	250.8	160.36	2.62
Zurich Insurance N	229.6	439.91	9.86
Intesa Sanpaolo	227.1	2.42	0.03
Sap Se O.n.	212.4	124.76	0.72
Richemont N	202.9	157.17	-1.95
BIGGEST MOVERS	**Close price**	**Day's change**	**Day's chng%**
Ups			
Ubs N	16.68	0.60	3.72
Atlas Copco Ab Ser. A	13.81	0.49	3.66
Atlas Copco Ab Ser. B	12.06	0.40	3.43
Sika N	264.30	8.02	3.13
Muench.rueckvers.vna O.n.	340.00	9.50	2.87
Downs			
Neste	37.95	-1.45	-3.68
Kering	537.70	-7.10	-1.30
Essilorluxottica	183.95	-2.42	-1.30
Richemont N	157.17	-1.95	-1.23
A.p. M...ller - M...rsk B A/s	1592.31	-19.47	-1.21

Based on the constituents of the FTSEurofirst 300 Eurozone index

TOKYO ACTIVE STOCKS	stock traded m's	close price	Day's change
Tokyo Electron	942.3	18530.00	160.00
Advantest	838.8	13910.00	-410.00
Mitsubishi Ufj Fin.,	712.8	926.90	-18.80
Sony	650.7	13590.00	-130.00
Fast Retailing Co.,	521.6	34090.00	730.00
Sumitomo Mitsui Fin.,	488.9	5640.00	-95.00
Shin-etsu Chemical Co.,	479.3	4273.00	135.00
Keyence	454.5	69260.00	720.00
Toyota Motor	462.5	1959.50	4.00
Softbank .	447.2	5179.00	-21.00
BIGGEST MOVERS	**Close price**	**Day's change**	**Day's chng%**
Ups			
Ricoh ,	1134.00	81.00	7.69
Yaskawa Electric	5880.00	300.00	5.38
Tdk Japan Steel Works	2705.00	128.00	4.97
Olympus	2284.00	102.50	4.70
Recruit Hldgs Co Ltd	4434.00	193.00	4.55
Downs			
Advantest	13910.00	-410.00	-2.86
Kobe Steel,	1096.00	-32.00	-2.84
Nippon Paper Industries Co Ltd	1098.00	-32.00	-2.83
Cyberagent,	1104.00	-31.00	-2.73
Tokyu	1943.00	-53.00	-2.66

Based on the constituents of the Nikkei 225 index

UK MARKET WINNERS AND LOSERS

FTSE 100	May 19 price(p)	%Chg week	%Chg ytd
Winners			
Sage	865.00	6.0	16.3
Ashtead	4978.00	5.5	5.7
3i	1929.50	5.5	43.5
Dcc	4976.00	5.4	22.0
Rolls-royce Holdings	156.00	5.2	67.3
Melrose Industries	484.10	4.9	20.3
Scottish Mortgage Investment Trust	647.80	4.3	-
Informa	727.80	4.0	17.6
Compass	2235.00	3.6	16.2
Barclays	159.42	3.6	0.6
Flutter Entertainment	16400.00	3.0	45.6
Whitbread	3306.00	3.0	29.1
Losers			
Ocado	394.00	-10.7	-
Burberry	2290.00	-9.0	13.9
Jd Sports Fashion	159.25	-8.1	26.5
Vodafone	83.09	-7.5	-1.1
Croda Int	6318.00	-7.0	-4.3
Imperial Brands	1787.50	-5.2	-
National Grid	1103.00	-5.1	10.7
Bt	144.95	-4.9	29.4
Severn Trent	2813.00	-4.1	6.1
British Land	356.20	-4.0	-9.9
Kingfisher	240.50	-3.8	2.1
United Utilities	1041.00	-3.3	4.6

FTSE 250	May 19 price(p)	%Chg week	%Chg ytd
Winners			
Aston Martin Lagonda Global Holdings	267.40	30.8	73.6
Keller	706.00	11.2	-11.8
Genuit	326.50	10.3	16.2
Carnival	770.60	10.0	33.9
Dowlais	156.00	9.2	-
Syncona	161.00	8.1	-
Diploma	3072.00	7.8	11.2
Trainline	288.60	7.8	5.5
Fdm (holdings)	675.00	6.8	-9.9
Alliance Technology Trust	245.50	6.7	16.9
Tbc Bank	2490.00	6.6	9.4
Mitchells & Butlers	208.00	5.9	52.5
Losers			
Wood (john)	139.90	-36.1	3.5
C&c	131.00	-14.7	-
Watches Of Switzerland	661.00	-13.9	-
Future	896.00	-13.0	-29.3
Asos	446.10	-11.7	-
Int Distributions Services	204.60	-10.3	-4.0
Energean	1096.00	-9.5	-
Capricorn Energy	195.00	-7.8	-
Ninety One	160.60	-9.4	-
Hunting	202.50	-4.7	-
Tritax Eurobox	63.00	-4.3	2.6
Tate & Lyle	786.50	-3.9	10.6

FTSE SmallCap	May 19 price(p)	%Chg week	%Chg ytd
Winners			
Abrdn Eur Logistics one	81.60	11.9	19.1
Metro Bank	104.00	9.6	-
Oxford Biomedica	446.50	9.6	0.9
Luceco	125.00	7.0	27.3
Kier	81.90	6.4	38.1
Life Science Reit	75.00	5.6	3.7
Lsl Property	85.35	5.4	-
Artemis Alpha Trust	336.00	4.8	9.4
Enquest	16.62	4.8	-
Harworth	125.00	4.2	17.9
Helical	286.50	4.0	-
Tyman	265.50	3.9	17.7
Losers			
On The Beach	102.00	-16.9	-
Ao World	67.20	-11.5	29.2
Greencore	76.30	-8.6	18.9
Marston's	33.75	-7.5	-
Card Factory	93.80	-7.5	20.2
Hostelworld	133.00	-6.7	15.5
888 Holdings	77.00	-6.1	-
Aptitude Software	343.00	-5.5	-2.0
Dfs Furniture	118.20	-5.4	-
Ocean Wilsons (holdings) Ltd	856.00	-4.9	-8.0
Restaurant	48.10	-4.8	54.4
Foxtons	37.75	-4.6	27.1

Industry Sectors	May 19 price(p)	%Chg week	%Chg ytd
Winners			
Automobiles & Parts	1889.61	13.2	27.5
Industrial Transportation	3605.71	4.4	4.2
General Retailers	3920.78	3.8	16.8
Software & Computer Services	2010.19	3.2	13.8
Travel & Leisure	7828.27	2.5	26.4
Banks	3622.49	2.4	10.2
Electronic & Electrical Equipment	10541.45	2.3	21.8
Construction & Materials	8225.07	2.0	19.7
Aerospace & Defense	6537.92	1.9	27.7
Life Insurance	7007.42	1.8	-0.4
Industrial Engineering	14632.78	1.5	5.9
Support Services	10570.17	1.5	6.5
Losers			
Personal Goods	32225.69	-8.6	5.0
Mobile Telecommunications	2247.91	-5.9	5.5
Chemicals	10970.85	-4.7	-6.3
Gas Water & Multiutilities index	6218.32	-3.9	9.9
Tobacco	29339.35	-2.1	-
Mining	11038.30	-2.1	-0.7
General Financial	13438.28	-1.6	15.6
Food & Drug Retailers	4377.13	-1.5	6.5
Food Producers	6538.93	-1.3	15.2
Pharmaceuticals & Biotech.	22075.15	-0.6	5.2
Real Estate & Investment Service	2251.66	-0.4	6.1
Electricity	11352.69	-0.3	6.7

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

CURRENCIES

May 19	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	232.7245	0.4750	251.0404	0.9198	289.4511	1.2861
Australia	Australian Dollar	1.5022	-0.0101	1.6204	-0.0083	1.8683	-0.0080
Bahrain	Bahrainin Dinar	0.3770	-	0.4067	0.0007	0.4689	0.0011
Bolivia	Bolivian Boliviano	6.9100	-	7.4538	0.0121	8.5943	0.0207
Brazil	Brazilian Real	4.9921	0.0155	5.3850	0.0254	6.2089	0.0342
Canada	Canadian Dollar	1.3509	0.0024	1.4572	0.0049	1.6802	0.0070
Chile	Chilean Peso	797.5650	0.5250	860.3351	1.9644	991.9717	3.0392
China	Chinese Yuan	7.0232	-0.0058	7.5759	0.0061	8.7351	0.0138
Colombia	Colombian Peso	4528.5550	4.7250	4884.9640	13.0324	5632.3939	19.4208
Costa Rica	Costa Rican Colon	539.2100	0.9100	581.6470	1.9259	670.6425	2.7434
Czech Republic	Czech Koruna	22.0423	-0.0047	23.7771	0.0336	27.4151	0.0602
Denmark	Danish Krone	6.9048	-0.0106	7.4483	0.0008	8.5879	0.0076
Egypt	Egyptian Pound	30.8977	0.0255	33.3294	0.0816	38.4290	0.1241
Hong Kong	Hong Kong Dollar	7.8171	-0.0113	8.4323	0.0015	9.7225	0.0094
Hungary	Hungarian Forint	348.4056	-1.4018	375.8258	-0.8985	433.3295	-0.6962
India	Indian Rupee	82.6663	0.0700	89.1723	0.2204	102.8162	0.3343
Indonesia	Indonesian Rupiah	14925.0000	60.0000	16099.6374	90.8006	18563.0010	119.1459
Israel	Israeli Shekel	3.6502	0.0069	3.9375	0.0139	4.5399	0.0196
Japan	Japanese Yen	138.5050	-0.1100	149.4056	0.1245	172.2656	0.2782
..One Month		138.5044	-0.1113	149.4052	0.1236	172.2649	0.2768
..Three Month		138.5031	-0.1139	149.4043	0.1218	172.2635	0.2739
..One Year		138.4977	-0.1246	149.4000	0.1133	172.2649	0.2687
Kenya	Kenyan Shilling	137.5000	-	148.3215	0.2412	171.0156	0.4116
Kuwait	Kuwaiti Dinar	0.3073	-0.0001	0.3314	0.0004	0.3821	0.0008
Malaysia	Malaysian Ringgit	4.5385	0.0020	4.8957	0.0101	5.6448	0.0161
Mexico	Mexican Peso	17.7070	-0.0415	19.1006	-0.0136	22.0231	0.0015
New Zealand	New Zealand Dollar	1.5930	-0.0177	1.7184	-0.0163	1.9813	-0.0172
Nigeria	Nigerian Naira	461.5000	-	497.8210	0.8096	573.9907	1.3816
Norway	Norwegian Krone	10.8744	-0.0425	11.7302	-0.0267	13.5250	-0.0202
Pakistan	Pakistani Rupee	285.0000	-	307.4301	0.4999	354.4688	0.8532
Peru	Peruvian Nuevo Sol	3.6954	-0.0082	3.9862	-0.0023	4.5961	0.0009
Philippines	Philippine Peso	55.6750	-0.1850	60.0567	-0.1016	69.2458	-0.0629
Poland	Polish Zloty	4.2097	-0.0180	4.5410	-0.0120	5.2358	-0.0097
Romania	Romanian Leu	4.6158	0.0004	4.9791	0.0086	5.7409	0.0144
Russia	Russian Ruble	80.1250	-	86.4310	0.1406	99.6555	0.2399
Saudi Arabia	Saudi Riyal	3.7504	0.0004	4.0455	0.0070	4.6645	0.0117
Singapore	Singapore Dollar	1.3472	-0.0015	1.4532	0.0007	1.6756	0.0021
South Africa	South African Rand	19.4738	0.0637	21.0064	0.1028	24.2205	0.1374
South Korea	South Korean Won	1326.6500	-7.5500	1431.0602	-5.8037	1650.0213	-5.3960
Sweden	Swedish Krona	10.5502	-0.0320	11.3805	-0.0160	13.1218	-0.0081
Switzerland	Swiss Franc	0.9021	-0.0035	0.9732	-0.0022	1.1220	-0.0016
Taiwan	New Taiwan Dollar	30.6815	-0.0840	33.0962	-0.0366	38.1601	-0.0124
Thailand	Thai Baht	34.3800	0.0475	37.0858	0.1115	42.7601	0.1619
Tunisia	Tunisian Dinar	3.0870	-0.0045	3.3300	0.0005	3.8395	0.0036
Turkey	Turkish Lira	19.8120	0.0235	21.3712	0.0601	24.6412	0.0885
United Arab Emirates	UAE Dirham	3.6723	0.0004	3.9613	0.0068	4.5674	0.0114
United Kingdom	Pound Sterling	0.8040	-0.0019	0.8673	-0.0007	-	-
..One Month		0.8041	-0.0019	0.8672	-0.0007	-	-
..Three Month		0.8042	-0.0019	0.8670	-0.0007	-	-
..One Year		0.8042	-0.0020	0.8661	-0.0007	-	-
United States	United States Dollar	-	-	1.0787	0.0018	1.2438	0.0030
..One Month		-	-	1.0785	-0.1621	1.2438	0.0030
..Three Month		-	-	1.0782	-0.1621	1.2440	0.0030
..One Year		-	-	1.0770	-0.1620	1.2440	0.0030
Vietnam	Vietnamese Dong	23463.5000	13.5000	25310.1762	55.7377	29182.7658	86.9475
European Union	Euro	0.9270	-0.0015	-	-	1.1530	0.0009
..One Month		0.9269	-0.0015	-	-	1.1529	0.0009
..Three Month		0.9265	-0.0015	-	-	1.1527	0.0009
..One Year		0.9253	-0.0015	-	-	1.1518	0.0009

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 May 19	Day's chge%	Euro Index	£ Strlg May 18	£ Strlg May 17	Year ago	Div yield%	Cover	P/E ratio	X/D adj	Total Return
FTSE 100 (100)	7756.87	0.19	6967.98	7742.30	7723.23	7302.74	3.65	1.85	14.78	142.30	8118.13
FTSE 250 (250)	19289.10	-0.05	17327.36	19298.25	19215.45	19689.02	3.26	0.83	37.13	248.22	16275.44
FTSE 250 ex Inv Co (170)	19938.40	-0.10	17910.61	19957.51	19873.70	20342.00	3.36	1.12	26.61	263.33	17172.34
FTSE 350 (350)	4271.94	0.15	3837.48	4265.34	4253.73	4070.24	3.59	1.72	16.16	75.09	8865.62
FTSE 350 ex Investment Trusts (267)	4221.92	0.15	3792.54	4215.40	4204.70	4006.28	3.64	1.81	15.16	75.73	4529.84
FTSE 350 Higher Yield (135)	3597.85	0.19	3231.94	3591.10	3594.91	3567.38	5.00	1.74	11.47	84.71	8474.94
FTSE 350 Lower Yield (215)	4530.23	0.12	4069.50	4524.73	4495.42	4145.05	2.19	1.68	27.20	52.76	5646.93
FTSE SmallCap (228)	6259.90	0.42	5623.26	6233.43	6229.87	6561.81	3.54	-0.46	-60.91	88.20	10693.87
FTSE SmallCap ex Inv Co (120)	5069.02	0.16	4553.49	5060.95	5058.33	5524.00	3.66	1.55	17.60	74.74	9007.95
FTSE All-Share (578)	4228.25	0.16	3798.23	4221.45	4210.17	4038.94	3.59	1.67	16.65	73.98	8860.43
FTSE All-Share ex Inv Co (387)	4144.22	0.15	3722.74	4137.82	4127.42	3940.52	3.64	1.81	15.19	74.17	4514.40
FTSE All-Share ex Multinationals (517)	1103.60	0.10	822.83	1102.51	1099.23	1129.05	4.00	1.20	20.87	17.80	2392.04
FTSE Fledgling (78)	11656.60	0.06	10471.09	11649.05	11577.27	12670.70	3.20	-1.25	-24.89	140.95	25607.30
FTSE Fledgling ex Inv Co (30)	15833.17	0.19	14222.90	15803.52	15640.59	17877.92	3.46	6.21	4.66	234.27	33834.11
FTSE All-Small (306)	4365.61	0.40	3921.62	4348.04	4344.17	4584.63	3.52	-0.50	-56.27	61.01	9564.49
FTSE All-Small ex Inv Co (150)	3818.79	0.16	3430.41	3812.66	3809.21	4166.57	3.65	1.73	15.85	56.29	8594.29
FTSE AIM All-Share (720)	808.97	-0.12	726.70	809.94	809.20	947.17	1.77	1.67	33.81	4.95	957.00
FTSE All-Share Technology (18)	2103.20	0.69	1805.32	2088.69	2074.81	1747.47	1.82	1.54	35.80	15.02	3070.64
FTSE All-Share Telecommunications (6)	1443.36	1.00	1238.93	1429.05	1442.92	1925.51	7.30	1.33	10.32	1.03	2218.95
FTSE All-Share Health Care (14)	15428.10	0.20	13243.01	15397.14	15392.25	14576.76	2.31	1.15	37.74	215.94	14497.00
FTSE All-Share Financials (254)	4813.85	0.32	4132.06	4798.73	4745.84	4394.93	3.92	1.51	16.88	122.63	5498.02
FTSE All-Share Real Estate (54)	821.36	0.62	737.55	816.28	826.90	1059.46	4.36	0.13	172.21	14.06	882.02
FTSE All-Share Consumer Discretionary (83)	5203.77	-0.51	4466.76	5230.49	5199.53	4539.72	2.18	1.26	36.50	48.85	5574.62
FTSE All-Share Consumer Staples (22)	19149.49	0.08	16437.33	19134.71	19185.94	18725.12	4.07	1.64	15.01	303.56	17903.26
FTSE All-Share Industrials (84)	6954.66	0.05	5969.67	6951.23	6863.30	5919.99	2.23	1.15	39.00	77.16	8149.41
FTSE All-Share Basic Materials (21)	7656.19	0.22	6571.84	7639.57	7691.34	8862.60	6.66	3.43	4.38	247.51	10756.39
FTSE All-Share Energy (14)	8579.28	0.46	7364.19	8540.19	8537.01	8121.88	3.97	1.74	14.47	175.49	10645.89
FTSE All-Share Utilities (8)	9269.78	0.17	7956.89	9254.14	9467.86	9747.07	4.22	1.10	21.58	42.27	14220.89
FTSE All-Share Software and Computer Services (16)	2277.40	0.70	1954.85	2261.57	2246.28	1878.18	1.80	1.56	35.67	15.79	3517.02
FTSE All-Share Technology Hardware and Equipment (2)	4177.51	0.28	3585.84	4165.84	4173.36	4946.96	3.13	0.65	49.19	89.37	5531.39
FTSE All-Share Telecommunications Equipment (1)	411.31	0.44	353.06	409.52	406.39	514.59	3.41	2.14	13.66	9.21	601.93
FTSE All-Share Telecommunications Service Providers (5)	2244.51	1.02	1926.62	2221.85	2244.72	2998.32	7.43	1.31	10.24	0.00	3143.65
FTSE All-Share Health Care Providers (3)	11449.63	-0.08	9828.01	11459.29	11449.82	8517.76	0.51	7.04	27.92	0.00	10627.10
FTSE All-Share Medical Equipment and Services (2)	6164.10	-0.85	5291.08	6217.05	6160.57	6016.56	2.44	1.16	35.18	92.56	6054.81
FTSE All-Share Pharmaceuticals and Biotechnology (9)	22013.32	0.26	18895.56	21955.31	21959.43	20805.75	2.32	1.13	38.04	310.15	18627.01
FTSE All-Share Banks (12)	3573.80	-0.12	3067.64	3578.12	3526.26	3021.45	4.50	2.67	8.32	136.68	3284.50
FTSE All-Share Finance and Credit Services (8)	11579.46	0.70	9939.46	11499.20	11326.39	9982.02	1.85	1.91	28.18	148.60	15776.35
FTSE All-Share Investment Banking and Brokerage Services (31)	9242.86	0.92	7933.78	9158.16	9045.12	8405.38	4.84	2.06	10.04	177.30	13324.61
FTSE All-Share Closed End Investments (191)	11463.26	0.26	9839.71	11433.50	11374.66	11728.59	2.84	-1.04	-33.84	129.51	7271.36
FTSE All-Share Life Insurance (6)	7128.47	0.96	6118.86	7060.66	6994.90	6589.97	4.51	0.57	38.63	215.96	9000.52
FTSE All-Share Nonlife Insurance (6)	3649.39	0.87	3132.53	3617.98	3585.98	3427.45	4.60	1.24	17.57	56.37	7895.11
FTSE All-Share Real Estate Investment and Services (10)	2156.12	0.05	1850.75	2155.08	2168.35	2471.67	2.29	1.67	26.20	21.39	6519.49
FTSE All-Share Real Estate Investment Trusts (44)	2027.04	0.73	1739.95	2012.32	2041.10	2672.06	4.75	-0.01	-3698.57	37.49	3141.43
FTSE All-Share Automobiles and Parts (3)	1899.29	4.51	1630.29	1817.26	1745.06	1996.75	0.22	-26.35	-16.88	0.00	1975.91
FTSE All-Share Consumer Services (1)	3684.18	0.31	3162.39	3672.64	3649.56	2788.05	1.41	1.37	51.67	36.27	4727.48
FTSE All-Share Household Goods and Home Construction (11)	9884.82	-1.90	8484.83	10076.14	9922.55	10481.95	6.95	1.95	7.37	266.65	9153.25
FTSE All-Share Leisure Goods (2)	26199.41	-0.40	22488.77	26305.79	26221.07	18031.10	3.43	1.14	25.50	666.68	30064.69
FTSE All-Share Personal Goods (4)	27665.56	-3.90	23747.27	28789.79	30003.28	23120.60	2.05	3.04	16.11	21.42	21776.67
FTSE All-Share Media (11)	10004.28	0.11	8587.37	9992.87	9878.00	9101.11	2.33	1.99	21.53	128.39	7126.12
FTSE All-Share Retailers (22)	2155.60	-1.90	1850.30	2197.38	2169.97	1985.27	2.58	3.17	12.20	8.10	2825.47
FTSE All-Share Travel and Leisure (29)	7622.41	-0.09	6542.84	7629.47	7630.97	6257.97	0.66	-7.76	-19.49	24.53	7912.12
FTSE All-Share Beverages (5)	27636.93	0.19	23722.70	27584.35	27324.22	27273.14	2.22	2.33	19.38	220.38	22343.57
FTSE All-Share Food Producers (8)	6701.46	-0.32	5752.33	6723.28	6658.94	6191.68	2.26	2.13	20.74	2.98	6530.67
FTSE All-Share Tobacco (2)	29339.40	0.33	25184.04	29243.60	29522.29	36029.48	8.21	1.58	7.73	675.92	28495.52
FTSE All-Share Construction and Materials (15)	8705.80	0.26	7472.79	8683.42	8554.20	7165.00	2.91	0.53	65.15	176.01	10847.68
FTSE All-Share Aerospace and Defense (8)	6855.82	-0.45	5884.82	6886.97	6825.21	4841.38	1.80	0.20	277.30	74.85	8455.80
FTSE All-Share Electronic and Electrical Equipment (11)	12382.36	0.66	10628.64	12301.20	12148.22	10179.66	1.45	2.32	29.63	72.60	12341.75
FTSE All-Share General Industrials (7)	5195.32	0.12	4459.51	5189.03	5142.11	4756.00	3.37	1.32	22.45	93.04	7001.33
FTSE All-Share Industrial Engineering (6)	16150.69	0.88	13863.26	16010.20	15893.38	14336.09	1.94	2.38	21.65	210.47	21970.39
FTSE All-Share Industrial Support Services (29)	10168.76	-0.14	8728.55	10183.15	10047.12	9409.39	2.02	1.61	30.67	74.89	11801.15
FTSE All-Share Industrial Transportation (8)	5410.08	0.21	4643.85	5398.63	5270.97	4538.66	2.13	0.90	52.37	16.99	5690.93
FTSE All-Share Industrial Materials (1)	18953.54	2.43	618.06	18503.45	19003.55	14252.66	1.79	1.34	41.62	231.04	24243.87
FTSE All-Share Industrial Metals and Mining (8)	6780.54	0.28	5820.21	6761.94	6812.24	7929.95	7.21	3.54	3.92	242.91	10760.13
FTSE All-Share Precious Metals and Mining (5)	10433.59	0.69	8955.87	10362.34	10490.59	10048.52	3.59	1.61	17.32	131.63	7453.14
FTSE All-Share Chemicals (7)	12170.24	-0.53	10446.56	12234.50	12212.55	13795.90	2.91	1.77	19.42	100.06	12320.18
FTSE All-Share Oil. Gas and Coal (13)	8328.35	0.46	7148.80	8290.41	8287.31	7882.67	3.97	1.74	14.46	170.38	10717.81
FTSE Sector Indices											
Non Financials (324)	**5135.98**	**0.12**	**4613.64**	**5130.06**	**5129.03**	**4969.15**	**3.49**	**1.73**	**16.58**	**77.75**	**9448.31**

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	7758.39	7766.35	7774.74	7775.51	7771.58	7776.42	7774.72	7784.50	7784.78	7790.75	7756.82
FTSE 250	19322.12	19294.19	19324.43	19334.60	19323.70	19334.31	19333.91	19347.45	19322.74	19349.47	19283.71
FTSE SmallCap	6233.76	6233.13	6237.35	6240.01	6239.26	6242.15	6244.17	6243.04	6246.24	6259.90	6231.58
FTSE All-Share	4229.53	4232.31	4237.13	4237.84	4235.70	4238.27	4237.52	4242.38	4241.81	4244.73	4228.25

Time of FTSE 100 Day's high:13:54:30 Day's Low07:06:15 FTSE 100 2010/11 High: 8014.31(20/02/2023) Low: 7335.40(17/03/2023)
Time of FTSE All-Share Day's high:13:55:00 Day's Low15:40:17 FTSE 100 2010/11 High: 4377.36(16/02/2023) Low: 4007.66(17/03/2023)

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FT 30 INDEX

	May 19	May 18	May 17	May 16	May 15	Yr Ago	High	Low
FT 30	2827.00	2824.50	2824.90	2828.20	2844.20	0.00	2895.30	2454.10
FT 30 Div Yield	-	-	-	-	-	0.00	3.93	2.74
P/E Ratio net	-	-	-	-	-	0.00	19.44	14.26

FT 30 hourly changes

8	9	10	11	12	13	14	15	16	High	Low
2824.5	2824.8	2829.2	2832.5	2831	2832.8	2831.9	2837.7	2836.2	2839.3	2822.5

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

FT WILSHIRE 5000 INDEX SERIES

	May 18		May 18
FT Wilshire 5000	42278.71	FT Wilshire Mid Cap	5407.24
FT Wilshire 2500	5423.49	FT Wilshire Small Cap	4880.19
FT Wilshire Mega Cap	5515.58	FT Wilshire Micro Cap	4473.37
FT Wilshire Large Cap	5498.80		

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FTSE SECTORS: LEADERS & LAGGARDS

Year to date percentage changes

Aerospace & Defense	27.44	Health Care Eq & Srv	9.33	Oil & Gas Producers	2.21
Automobiles & Parts	26.94	Software & Comp Serv	9.30	Oil & Gas	2.14
Travel & Leisure	22.22	Utilities	8.86	FTSE SmallCap Index	0.32
Electronic & Elec Eq	21.59	Media	8.40	Beverages	31.66
Fixed Line Telecomms	21.47	Electricity	6.40	Real Est Invest & Tr	-0.41
Construct & Material	19.69	Support Services	5.99	Life Insurance	-0.61
Consumer Services	15.36	Real Est Invest & Se	5.87	Consumer Goods	-0.65
Household Goods & Ho	15.16	Telecommunications	5.30	Equity Invest Instr	-1.03
General Retailers	14.26	Health Care	5.25	Beverages	-1.13
Food Producers	14.12	Financials	5.06	Mobile Telecomms	-1.41
Leisure Goods	13.58	Pharmace & Biotech	4.99	Nonlife Insurance	-3.14
Financial Services	12.49	Industrial Metals &	4.98	Chemicals	-5.91
Food & Drug Retailer	12.39	Technology	4.73	Oil Equipment & Serv	-8.41
Industrials	12.38	FTSE 100 Index	4.09	Industrial Transport	-8.89
Industrial Eng	10.15	FTSE All{HY-}Share Index	3.76	Tobacco	-17.69
Banks	10.10	NON FINANCIALS Index	3.25	Basic Materials	-17.92
Gas Water & Multi	9.77	Personal Goods	2.32	Mining	-19.19
		FTSE 250 Index	2.31	Tech Hardware & Eq	-19.54

FTSE 100 SUMMARY

FTSE 100	Closing Price	Day's Change	FTSE 100	Closing Price	Day's Change
3I Group PLC	1929.5	12.00	Jd Sports Fashion PLC	159.25	-13.40
Abrdn PLC	211.90	0.80	Johnson Matthey PLC	1888.5	-20.00
Admiral Group PLC	2249	22.00	Kingfisher PLC	240.50	-3.70
Airtel Africa PLC	116.00	0.60	Land Securities Group PLC	628.20	7.60
Anglo American PLC	2350	21.50	Legal & General Group PLC	235.20	2.40
Antofagasta PLC	1416.5	6.50	Lloyds Banking Group PLC	46.72	0.21
Ashtead Group PLC	4978	18.00	London Stock Exchange Group PLC	8436	72.00
Associated British Foods PLC	1895	-10.50	M&G PLC	201.00	1.65
Astrazeneca PLC	12010	32.00	Melrose Industries PLC	484.10	-6.20
Auto Trader Group PLC	639.00	-2.80	Mondi PLC	1285.5	8.50
Aviva PLC	413.50	0.60	National Grid PLC	1103	-5.00
B&M European Value Retail S.A.	485.70	-7.80	Natwest Group PLC	268.40	0.50
Bae Systems PLC	985.60	-6.40	Next PLC	6594	-100.00
Barclays PLC	159.42	1.36	Ocado Group PLC	394.00	-3.70
Barratt Developments PLC	499.20	-7.20	Pearson PLC	830.20	-3.60
Beazley PLC	614.00	7.50	Pershing Square Holdings LTD	2732	-34.00
Berkeley Group Holdings (The) PLC	4234	-104.00	Persimmon PLC	1307	-36.00
BP PLC	481.40	0.85	Phoenix Group Holdings PLC	575.80	5.00
British American Tobacco PLC	2666.5	10.50	Prudential PLC	1178	14.00
British Land Company PLC	356.20	5.20	Reckitt Benckiser Group PLC	6502	-6.00
Bt Group PLC	144.95	4.25	Relx PLC	2501	1.00
Bunzl PLC	3137	-29.00	Rentokil Initial PLC	638.00	-6.00
Burberry Group PLC	2290	-99.00	Rightmove PLC	553.40	-1.60
Centrica PLC	117.20	0.40	Rio Tinto PLC	4948.5	12.50
Coca-Cola Hbc AG	2538	-10.00	Rolls-Royce Holdings PLC	156.00	0.45
Compass Group PLC	2235	7.00	Rs Group PLC	859.00	-3.40
Convatec Group PLC	226.20	0.20	Sage Group PLC	865.00	9.60
Crh PLC	4013	17.00	Sainsbury (J) PLC	281.00	-1.80
Croda International PLC	6318	-14.00	Schroders PLC	468.40	5.00
Dcc PLC	4976	-14.00	Scottish Mortgage Investment Trust PLC	647.80	12.80
Diageo PLC	3548	13.00	Segro PLC	808.00	5.80
Endeavour Mining PLC	2004	9.00	Severn Trent PLC	2813	-7.00
Entain PLC	1475	-1.00	Shell PLC	2409	16.00
Experian PLC	2813	11.00	Smith & Nephew PLC	1282	-15.00
F&C Investment Trust PLC	903.00	-2.00	Smith (Ds) PLC	317.60	1.70
Flutter Entertainment PLC	16400	320.00	Smiths Group PLC	1711	6.50
Frasers Group PLC	765.50	-10.00	Smurfit Kappa Group PLC	2990	14.00
Fresnillo PLC	664.80	5.20	Spirax-Sarco Engineering PLC	11235	105.00
Glaxosmithkline PLC	1423.8	-	Sse PLC	1868	31.00
Glencore PLC	434.90	-0.40	St. James's Place PLC	1145	20.00
Haleon PLC	340.05	2.55	Standard Chartered PLC	634.00	-8.60
Halma PLC	2498	14.00	Taylor Wimpey PLC	123.95	-2.35
Hargreaves Lansdown PLC	811.80	12.40	Tesco PLC	266.70	-1.70
Hiscox LTD	1167	16.00	Unilever PLC	4271	6.00
HSBC Holdings PLC	610.80	-2.10	Unite Group PLC	912.50	12.50
Imperial Brands PLC	1787.5	1.50	United Utilities Group PLC	1041	-3.50
Informa PLC	727.80	5.20	Vodafone Group PLC	83.09	0.15
Intercontinental Hotels Group PLC	5362	-62.00	Weir Group PLC	1811.5	2.50
International Consolidated Airlines Group S.A.	157.25	-3.10	Whitbread PLC	3306	3.00
Intertek Group PLC	4131	16.00	Wpp PLC	894.40	-

FTSE GLOBAL EQUITY INDEX SERIES

May 19 Regions & countries	No of stocks	US $ indices	Day %	Mth %	YTD %	Total retn	YTD %	Gr Div Yield
FTSE Global All Cap	9499	733.24	0.6	-0.2	7.8	1188.76	8.9	2.2
FTSE Global All Cap	9499	733.24	0.6	-0.2	7.8	1188.76	8.9	2.2
FTSE Global Large Cap	1936	664.73	0.6	0.3	9.3	1111.22	10.4	2.2
FTSE Global Mid Cap	2226	914.08	0.5	-1.7	3.5	1393.32	4.4	2.2
FTSE Global Small Cap	5337	935.48	0.4	-1.3	3.8	1362.08	4.6	2.2
FTSE All-World	4162	432.88	0.6	-0.1	8.2	743.35	9.3	2.2
FTSE World	2656	788.80	0.7	0.1	8.9	1818.25	10.1	2.2
FTSE Global All Cap ex UNITED KINGDOM In	9218	773.74	0.6	-0.1	7.8	1229.90	8.8	2.2
FTSE Global All Cap ex USA	7708	519.64	0.1	-1.8	6.3	939.46	7.8	3.2
FTSE Global All Cap ex JAPAN	8077	763.81	0.6	-0.4	7.8	1249.02	8.8	2.2
FTSE Global All Cap ex Eurozone	8855	771.73	0.6	0.0	7.3	1222.98	8.3	2.2
FTSE Developed	2147	724.73	0.7	0.1	9.1	1183.17	10.2	2.1
FTSE Developed All Cap	5778	751.40	0.6	0.0	8.6	1208.39	9.6	2.1
FTSE Developed Large Cap	815	686.32	0.7	0.6	10.3	1140.73	11.5	2.1
FTSE Developed Europe Large Cap	205	420.53	0.0	-2.2	11.1	852.18	13.5	3.1
FTSE Developed Europe Mid Cap	346	621.15	-0.2	-2.6	9.7	1084.57	11.2	3.0
FTSE Dev Europe Small Cap	738	847.24	-0.4	-2.7	5.9	1423.80	7.6	3.1
FTSE North America Large Cap	234	912.45	0.9	1.5	11.1	1382.61	11.8	1.6
FTSE North America Mid Cap	413	1116.11	0.9	-1.8	2.2	1564.36	2.8	1.8
FTSE North America Small Cap	1320	1099.18	0.7	-0.8	3.5	1475.51	4.1	1.7
FTSE North America	647	590.00	0.9	0.9	9.3	914.06	10.1	1.7
FTSE Developed ex North America	1500	282.40	0.1	-1.5	8.6	551.21	10.5	3.0
FTSE Japan Large Cap	175	405.99	0.5	2.5	9.4	605.25	10.8	2.4
FTSE Japan Mid Cap	339	561.47	-0.7	1.9	6.1	795.79	7.5	2.5
FTSE Global wi JAPAN Small Cap	908	618.10	-0.5	0.0	4.0	911.23	5.5	2.7
FTSE Japan	514	166.54	0.3	2.4	8.8	278.07	10.1	2.4
FTSE Asia Pacific Large Cap ex Japan	1123	679.53	0.4	-2.8	1.2	1251.61	2.0	3.2
FTSE Asia Pacific Mid Cap ex Japan	838	977.92	0.0	-2.8	1.6	1739.10	2.4	3.3
FTSE Asia Pacific Small Cap ex Japan	2097	549.71	0.2	-3.5	2.9	947.47	3.6	2.9
FTSE Asia Pacific Ex Japan	1961	541.87	0.3	-2.8	1.2	1060.86	2.0	3.2
FTSE Emerging All Cap	3721	713.83	0.1	-2.1	1.4	1258.30	2.3	3.6
FTSE Emerging Large Cap	1121	657.88	0.2	-2.1	1.2	1165.96	2.0	3.6
FTSE Emerging Mid Cap	894	1035.81	-0.1	-2.5	1.3	1842.73	2.6	3.7
FTSE Emerging Small Cap	1706	774.31	0.2	-1.9	2.8	1304.06	3.6	3.3
FTSE Emerging Europe	147	121.05	-2.5	-7.8	-5.8	258.21	-4.2	3.3
FTSE Latin America All Cap	251	763.19	0.2	1.9	9.3	1560.54	12.0	9.0
FTSE Middle East and Africa All Cap	330	698.69	-0.2	-2.5	-3.5	1307.73	-1.6	3.6
FTSE Global wi UNITED KINGDOM All Cap In	281	337.05	-0.2	-1.9	7.3	702.92	9.2	3.6
FTSE Global wi USA All Cap	1791	1008.61	1.0	0.9	8.9	1472.66	9.6	1.6
FTSE Europe All Cap	1471	472.65	-0.1	-2.4	10.2	917.96	12.4	3.1
FTSE Eurozone All Cap	644	468.79	0.3	-2.7	13.2	902.77	15.4	3.0
FTSE EDHEC-Risk Efficient All-World	4162	475.36	0.3	-2.0	2.6	758.50	3.7	2.7
FTSE EDHEC-Risk Efficient Developed Europe	551	340.74	-0.3	-3.4	8.6	610.63	10.6	3.1
Oil & Gas	133	383.62	0.2	-7.1	-6.1	803.72	-4.4	5.0
Oil & Gas Producers	88	385.45	0.1	-7.0	-5.3	830.46	-3.5	5.2

May 19 Sectors	No of stocks	US $ indices	Day %	Mth %	YTD %	Total retn	YTD %	Gr Div Yield
Oil Equipment & Services	25	253.77	0.5	-7.6	-8.7	480.23	-7.1	4.8
Basic Materials	404	599.09	0.0	-6.2	0.2	1124.26	1.9	4.2
Chemicals	201	811.66	0.5	-3.8	4.1	1458.96	5.4	3.2
Forestry & Paper	19	233.48	0.0	-2.1	-7.3	484.04	-5.3	4.3
Industrial Metals & Mining	104	498.33	0.1	-8.9	0.8	972.98	2.4	4.7
Mining	80	928.20	-0.7	-8.6	-5.0	1851.25	-3.0	5.6
Industrials	810	517.46	0.5	-0.9	6.1	835.01	7.1	2.1
Construction & Materials	163	619.01	0.0	1.2	11.1	1055.57	12.4	2.1
Aerospace & Defense	36	936.60	-0.1	-4.0	3.5	1473.33	4.2	1.5
General Industrials	78	259.94	0.8	0.9	8.9	466.25	10.4	2.4
Electronic & Electrical Equipment	158	646.77	1.1	-0.6	7.9	936.20	8.5	1.5
Industrial Engineering	159	1028.54	0.4	-1.9	4.7	1656.96	5.8	2.1
Industrial Transportation	129	940.62	0.4	-2.4	4.3	1555.29	5.6	3.4
Support Services	87	526.03	0.9	0.1	4.1	789.35	4.8	1.6
Consumer Goods	562	584.40	0.1	-1.2	8.7	997.01	10.0	2.4
Automobiles & Parts	132	512.84	1.1	-1.9	17.6	844.69	19.7	2.3
Beverages	71	805.96	-0.3	-0.2	4.0	1383.72	4.8	2.2
Food Producers	137	750.78	-0.5	-1.1	4.2	1315.30	5.7	2.4
Household Goods & Home Construction	61	577.70	-0.7	1.8	7.5	987.22	8.9	2.5
Leisure Goods	54	263.40	2.4	2.2	14.7	375.36	15.4	1.2
Personal Goods	94	1024.58	-0.3	-2.8	10.8	1592.47	11.7	1.7
Tobacco	13	928.79	-1.0	-5.4	-6.9	2715.29	-5.4	6.7
Health Care	337	727.48	-0.3	-1.9	-0.1	1171.02	0.7	1.8
Health Care Equipment & Services	131	1380.86	-0.2	-1.8	0.1	1702.12	0.5	1.0
Pharmaceuticals & Biotechnology	206	493.48	-0.4	-1.9	-0.3	856.98	0.9	2.3
Consumer Services	424	573.51	1.1	2.3	11.7	824.09	12.3	1.2
Food & Drug Retailers	69	303.70	-0.5	-2.6	-3.4	489.12	-2.3	2.5
General Retailers	139	999.84	1.1	4.1	12.3	1373.63	12.8	1.0
Media	75	330.89	2.5	-0.4	14.2	478.74	14.9	1.3
Travel & Leisure	141	512.24	0.7	1.9	15.7	752.39	16.3	1.1
Telecommunication	83	130.72	-0.9	-5.6	1.6	314.47	3.4	4.3
Fixed Line Telecommuniations	29	103.14	-0.7	-7.7	2.5	285.88	4.4	5.1
Mobile Telecommunications	54	153.61	-1.1	-4.5	1.0	317.87	2.8	3.9
Utilities	201	316.26	-1.1	-2.8	-1.8	752.63	-0.4	3.4
Electricity	145	354.53	-0.9	-2.7	-3.0	829.30	-1.7	3.3
Gas Water & Multiutilities	56	319.49	-1.5	-3.1	1.1	790.43	3.0	3.9
Financials	853	258.56	0.3	-2.1	-0.4	505.77	1.1	3.4
Banks	271	193.37	0.3	-2.8	-2.4	424.31	-0.3	4.5
Nonlife Insurance	72	374.63	0.3	0.2	2.4	638.06	4.3	2.9
Life Insurance	51	218.94	0.6	-3.1	-3.9	428.39	-2.6	4.1
Financial Services	213	438.72	0.6	-1.1	3.4	672.34	4.2	1.7
Technology	355	573.12	1.9	6.1	29.6	751.64	30.1	0.9
Software & Computer Services	180	872.72	1.5	7.8	28.8	1059.29	29.1	0.6
Technology Hardware & Equipment	175	503.52	2.4	4.4	30.5	711.75	31.1	1.3
Alternative Energy	20	161.40	-0.6	-7.7	-11.8	231.68	-11.8	0.3
Real Estate Investment & Services	139	238.46	-0.5	-4.3	-5.0	470.78	-3.9	3.3
Real Estate Investment Trusts	107	423.65	-0.9	-3.3	-2.7	1010.33	-1.5	4.2
FTSE Global Large Cap	1936	664.73	0.6	0.3	9.3	1111.22	10.4	2.2

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.

UK STOCK MARKET TRADING DATA

	May 19	May 18	May 17	May 16	May 15	Yr Ago
Order Book Turnover (m)	186.40	138.85	74.38	281.20	182.08	182.08
Order Book Bargains	467183.00	493069.00	524133.00	462704.00	496286.00	496286.00
Order Book Shares Traded (m)	2231.00	2185.00	1876.00	1385.00	1496.00	1496.00
Total Equity Turnover (£m)	6450.05	8133.71	7722.96	9180.26	6477.62	6477.62
Total Mkt Bargains	652361.00	664915.00	703579.00	628908.00	683233.00	683233.00
Total Shares Traded (m)	5943.00	7711.00	6994.00	6507.00	5286.00	5286.00

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

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UK RIGHTS OFFERS

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

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

UK COMPANY RESULTS

Company		Turnover		Pre-tax		EPS(p)		Div(p)		Pay day	Total	
London Security	Pre	**188.898**	166.634	**26.954**	26.998	**164.800**	162.400	**42.00000**	42.00000	Jul 7	**84.000**	82.000
Lowland Investment Co	Int			**51.674**	4.926L	**19.120**	1.830L	**1.52500**	1.52500	Jul 31	**3.050**	3.050
Titon Holdings	Int	**12.077**	11.478	**0.449L**	0.250L	**2.860L**	1.460L	**0.00000**	1.50000	-	**0.500**	4.500
Velocys	Pre	**0.241**	8.283	**13.954L**	9.490L	**0.950L**	0.780L	**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)
05/17	10.00		ADMR	Admiral Acquisition UK Ltd	9.80	0.14	10.10	9.99	0.0
05/10	8.50	AIM	GMET	Golden Metal Resources PLC	7.75	-0.50	8.80	7.50	652.5
05/03	100.00		AWEM	Ashoka WhiteOak Emerging Markets Trust plc	105.00	0.64	105.50	98.50	0.0
04/11	2.50		SCSP	Seed Capital Solutions PLC	0.88	0.00	0.78	0.76	162.2

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

MARKET DATA

FT500: THE WORLD'S LARGEST COMPANIES

Stock	Price	+/-Week	52 Week High	52 Week Low	Yld	P/E	MCap m
Australia (A$)							
ANZ Bank	23.97	-0.34	26.08	20.78	6.31	10.02	47924.15
BHP Group	44.16	0.16	50.09	35.83	9.33	10.34	148921.35
CmwBkAu	99.80	1.45	111.38	86.98	3.52	18.71	112039
CSL	304.45	2.45	314.21	254.30	1.00	43.45	97762.8
NatAusBk	26.80	0.43	32.83	25.43	3.36	14.23	55996.97
Telstra	4.37	0.05	4.40	3.62	2.30	35.43	33613.1
Wesfarmers	51.17	-0.13	52.79	40.03	3.49	26.22	38628.13
Westpac Bank	21.23	0.10	24.50	18.80	4.20	15.39	49593.05
Woolworths	38.25	-0.32	39.88	31.67	2.83	43.48	31031.79
Belgium (€)							
AnBshInBv	54.85	-1.43	62.01	45.56	0.94	28.26	102784.38
KBC Grp	59.52	-1.96	72.46	45.53	5.60	10.00	26784.09
Brazil (R$)							
Ambev	14.54	0.09	16.88	12.60	3.85	22.11	45884.61
Bradesco	13.70	0.34	17.71	11.15	6.01	6.38	14628.17
Cielo	5.46	-0.12	6.22	3.37	2.65	18.60	2971.46
ItauHldFin	22.68	-0.28	26.04	18.86	3.39	9.04	22526.41
Petrobras	29.42	0.28	42.08	23.61	16.19	4.22	43860.69
Vale	69.60	1.52	94.48	61.90	18.52	3.13	63282.98
Canada (C$)							
Bausch Hlth	11.30	3.55	13.81	5.10	-	-3.45	3026.95
BCE	63.44	-0.73	69.44	55.66	5.42	21.60	42836.84
BkMontrl	117.68	-1.23	138.85	113.47	3.77	9.21	62128.02
BkNvaS	66.42	-0.11	86.22	63.19	5.49	8.45	58906.48
Brookfield	58.88	10.36	63.88	41.28	1.09	19.91	69948.82
CanadPcR	111.74	0.70	112.27	86.42	0.67	27.22	77012.79
CanImp	56.10	-0.33	71.10	53.58	10.51	3.95	38111.34
CanNatRs	76.51	1.32	87.92	58.75	2.56	12.06	62099.81
CanNatRy	161.14	-2.27	175.39	137.26	1.50	23.81	79361.91
Enbridge	50.08	-2.03	59.69	48.88	6.55	17.77	75067.22
GtWesLif	39.02	0.81	39.12	27.99	4.86	11.15	26896.93
ImpOil	62.88	1.59	79.83	52.67	1.61	18.40	27190.41
Manulife	26.09	0.51	27.50	20.81	4.40	7.50	35649.68
Nutrien	83.41	2.28	132.75	79.15	2.74	12.18	30630.5
RylBkC	127.12	-2.77	140.18	116.75	3.44	11.49	130865.07
SHOP	81.36	-1.76	87.53	33.00	-	2.86	72106.92
Suncor En	38.65	-0.22	53.62	36.39	2.67	14.21	37538.74
ThmReut	170.26	2.73	180.93	120.57	1.18	11.93	59358.8
TntoDom	82.08	-0.25	97.13	76.40	3.91	10.46	111231.12
TrnCan	54.27	-1.67	74.44	50.70	6.30	29.71	41357.19
China (HK$)							
AgricBkCh	3.14	0.01	3.28	2.20	6.93	4.03	12347.48
Bk China	3.25	-0.02	3.45	2.51	6.99	3.93	34766.8
BkofComm	5.26	-0.06	5.65	3.83	6.79	4.25	23559.13
BOE Tech	0.64	-0.03	0.85	0.53	-	10.08	16.29
Ch Coms Cons	4.78	-0.36	5.52	3.09	4.34	3.87	2701.81
Ch Evrbrght	2.55	-0.05	2.86	2.03	9.59	3.37	4135.93
Ch Rail Cons	6.21	-0.60	7.46	3.75	4.31	3.23	1649.45
Ch Rail Gp	5.38	-0.30	6.30	3.41	3.90	4.23	2895.69
ChConstBk	5.33	-0.11	5.90	4.10	7.11	3.78	163926.15
China Vanke	10.92	-0.90	19.90	9.87	13.31	4.81	3082.39
ChinaCitic	4.41	0.08	4.74	2.92	6.49	4.00	8395.77
ChinaLife	14.72	-0.36	15.84	8.53	4.73	6.29	14012.18
ChinaMBank	38.40	-1.90	53.00	25.40	3.80	6.92	22552.07
ChinaMob	66.40	-0.70	70.20	46.80	4.95	10.01	173801.97
ChinaPcIns	24.00	-0.75	26.50	12.10	5.59	7.64	8520.75
ChMinsheng	3.35	-0.01	3.52	2.19	7.49	4.23	3565.66
ChMrchSecs	14.31	-0.34	15.98	12.12	3.19	12.22	15122.56
Chna Utd Coms	4.99	-0.36	6.45	3.30	2.35	23.94	22001.1
ChShenEgy	27.60	-0.35	28.70	20.50	7.58	8.18	11925.01
ChShpbldng	4.74	0.12	5.32	3.37	-	-337.04	14904.58
ChStConEng	6.18	-0.55	7.35	4.68	3.63	4.58	36359.46
ChUncHK	6.19	-0.20	6.58	3.27	2.59	13.32	24229.43
CNNC Intl	6.93	-0.23	7.44	5.78	1.88	17.33	18619.47
CSR	4.86	0.02	5.26	2.37	4.35	13.04	2717.58
Daqin	7.64	-0.08	8.21	5.95	6.57	11.07	16172.58
GuosenSec	9.37	-0.37	10.55	8.43	2.57	10.30	11776.7
HaitongSecs	5.35	-0.21	6.01	3.77	5.49	5.67	2333.51
Hngzh HikVDT	35.62	-0.65	48.84	26.80	2.35	18.72	46197.48
Hunng Pwr	4.65	-0.22	5.16	2.62	4.34	-5.10	2796.02
IM Baotou Stl	1.84	-0.02	2.71	1.75	-	29.96	8299.11
In&CmBkCh	4.42	0.00	4.73	3.37	7.02	3.95	49075.96
IndstrlBk	17.04	-0.21	21.00	14.91	4.76	4.47	50403.35
Kweichow	1699.5	-17.57	2077	1333	1.19	36.61	303979.45
Midea	0.40	0.00	0.49	0.32	-	-4.19	15.21
New Ch Life Ins	22.50	-1.00	25.00	12.04	6.95	4.17	2976.49
PetroChina	5.40	-0.02	5.62	2.95	4.51	10.64	14575.12
PingAnIns	54.75	-2.90	63.10	31.30	4.67	8.50	52162.23
PngAnBnk	12.34	-0.51	15.27	10.22	1.48	7.05	34096.13
Pwr Cons Corp	6.90	-0.56	8.45	6.76	1.35	13.72	10798.61
SaicMtr	13.68	-0.45	19.29	13.67	4.54	6.55	22757.4
ShenwanHong	0.12	0.00	0.18	0.07	-	3.53	137.51
ShgPdgBk	7.54	-0.13	8.22	6.63	6.38	4.61	31511.91
Sinopec Corp	5.17	0.02	5.47	3.06	2.75	6.09	16389.37
Sinopec Oil	2.11	-0.10	2.39	1.81	-	670.97	4076.65
Denmark (kr)							
DanskeBk	140.85	0.60	165.35	86.90	1.38	9.95	17587.45
MollerMrsk	11860	-250.00	22650	11100	2.78	1.99	14381.27
NovoB	1150	-25.60	1178.4	721.40	0.79	57.19	290223.34

Stock	Price	+/-Week	52 Week High	52 Week Low	Yld	P/E	MCap m
Finland (€)							
Nokia	3.81	0.05	5.20	3.66	-	13.58	23166.15
SampoA	42.93	-2.82	49.97	39.86	3.86	9.43	23662.71
France (€)							
Airbus Grpe	129.24	6.44	131.22	86.52	-	24.47	110190.21
AirLiquide	162.92	-0.78	164.52	114.48	1.63	31.05	92027.3
AXA	27.77	0.82	30.34	20.34	4.99	9.66	68681.77
BNP Parib	59.85	1.36	67.02	40.67	4.33	8.90	79688.85
ChristianDior	833.00	0.00	872.00	521.50	0.81	31.40	162196.63
Cred Agr	11.87	0.15	11.97	8.09	6.52	6.70	38744.23
Danone	58.75	-0.34	61.88	46.76	3.20	20.64	42930.65
EDF	12.00	0.00	12.05	7.27	3.93	9.53	51789.81
Engie SA	14.50	-0.37	15.56	10.07	3.54	10.55	38080.24
EssilorLuxottica	183.42	-2.72	188.40	132.70	0.57	57.76	88577.6
Hermes Intl	2002.5	27.10	2027	957.60	0.22	88.78	228040.59
LOreal	421.60	0.50	442.60	300.45	0.92	53.05	243745.73
LVMH	874.30	-11.10	904.60	535.00	0.78	37.80	473486.49
Orange	11.32	-0.24	11.94	9.08	5.13	3880.56	32481.71
PernodRic	212.00	-2.10	218.00	166.60	1.42	33.06	58988.65
Renault	33.57	0.01	43.96	22.33	-	-25.89	10707.11
Safran	143.14	3.14	145.52	87.85	0.29	1478.62	65971.34
Sanofi	101.62	2.32	105.18	76.45	3.05	21.22	138352.98
Sant Gbn	55.40	1.89	58.53	35.18	2.38	13.68	30823.72
Schneider	164.60	6.44	165.38	110.02	1.53	29.99	101400.04
SocGen	23.19	1.13	28.39	18.97	2.31	4.05	20213.07
Total	56.12	0.36	60.93	45.81	4.66	11.14	150752.39
UnibailR	49.68	0.09	73.09	39.68	-	-7.44	7615.7
Vinci	110.90	1.66	112.40	80.84	2.35	25.40	70642.88
Vivendi	9.49	-0.23	11.45	7.59	6.12	-17.51	11292.38
Germany (€)							
Allianz	212.25	0.25	228.40	156.22	4.38	13.85	92340.56
BASF	47.61	0.51	53.77	37.90	6.71	8.14	45900.89
Bayer	54.59	0.86	67.49	46.70	3.55	55.28	57851.37
BMW	103.38	3.97	109.84	68.44	1.78	5.69	67132.23
Continental	68.42	1.94	79.24	44.31	-	10.89	14761.4
Deut Bank	9.78	0.16	12.09	7.25	-	9.94	21523.97
Deut Tlkm	21.86	0.20	23.13	17.35	2.66	25.95	117555.91
DeutsPost	42.23	1.05	44.64	29.68	3.17	11.04	56443.6
E.ON	11.26	-0.82	12.29	7.28	4.04	6.46	32067.7
Fresenius Med	43.23	-0.53	57.22	25.95	3.00	13.49	13663.46
Fresenius SE	27.49	-0.16	32.86	19.69	3.17	8.98	16561.55
HenkelKgaA	69.62	1.46	70.10	56.55	2.54	19.13	19510.47
Linde	342.65	3.20	345.00	261.20	1.05	54.99	181237.1
Mercedes-Benz	71.18	3.32	75.92	50.19	1.84	7.35	82144.28
MuenchRkv	339.50	12.50	342.90	212.70	2.79	16.76	49977.28
SAP	124.48	3.20	125.10	79.58	1.44	28.83	164959.67
Siemens	159.78	9.68	161.02	93.67	2.12	24.82	137884.02
Volkswgn	149.10	1.35	217.00	143.45	3.12	5.21	47460.62
Hong Kong (HK$)							
AIA	78.90	-2.05	93.65	57.25	1.56	19.67	117282.29
BOC Hold	24.30	-0.35	31.85	23.55	4.71	12.15	32866.44
Ch OSLnd&Inv	17.94	-2.06	25.60	14.40	6.16	4.34	25118.29
ChngKng	45.20	-1.25	57.00	42.90	3.61	10.08	20773.65
Citic Ltd	10.14	-0.04	10.86	7.01	4.89	4.57	37734.73
Citic Secs	16.22	-0.82	18.52	11.60	2.71	8.14	5436.53
CK Hutchison	51.10	-1.90	56.85	38.55	4.10	6.31	25036.97
CNOOC	12.78	-0.04	13.36	9.22	3.26	10.86	72878.11
HangSeng	112.00	-1.90	141.40	108.30	5.01	17.55	27392.24
HK Exc&Clr	304.00	-8.40	404.20	208.20	2.77	33.39	49305.36
MTR	38.55	-0.95	43.70	33.15	2.94	27.19	30585.65
SandsCh	26.50	0.50	30.20	12.50	-	-28.51	27436.63
SHK Props	103.50	-1.50	114.80	83.10	4.40	11.52	38367.45
Tencent	333.20	6.80	397.60	188.69	0.44	12.77	408684
India (Rs)							
Bhartiartl	805.75	17.15	860.55	628.75	-	168.68	58171.47
HDFC Bk	1646.9	-6.30	1734.45	1271.6	-	27.38	111325.82
Hind Unilevr	2641.45	49.05	2741.6	2100	1.24	69.38	75076.94
HsngDevFin	2710.95	-56.20	2867	2026	0.87	22.63	60443.75
ICICI Bk	954.30	15.10	958.20	669.95	0.21	29.69	80680.77
Infosys	1268.9	12.80	1672.6	1185.3	2.44	24.58	63691.35
ITC	419.85	-0.55	433.45	258.55	2.61	34.21	63120.16
L&T	2190.05	-52.10	2416.35	1456.35	0.84	35.62	37232.36
OilNatGas	164.90	-2.15	169.00	119.85	5.64	4.58	25094.76
RelianceIn	2441.95	-38.35	2817.35	2180	0.29	27.40	199869.98
SBI NewA	575.15	1.70	629.55	430.70	0.71	15.73	62092.9
SunPhrmInds	925.85	-35.20	1070.95	789.90	0.83	33.83	26872.21
Tata Cons	3222.85	-59.30	3575	2926.1	1.15	30.18	142652.84
Israel (ILS)							
TevaPha	29.62	-3.63	38.39	23.83	-	23.22	9022.56
Italy (€)							
Enel	6.01	-0.05	6.26	3.96	5.90	28.87	65899.61
ENI	13.45	0.06	14.98	10.45	4.85	5.85	52311.92
Generali	19.01	0.29	19.23	13.67	7.49	11.03	31966.41
IntSPaolo	2.42	-0.01	2.60	1.58	1.46	77.37	47657.41
Unicred	19.01	0.14	20.05	8.24	0.61	29.16	39797.84
Japan (¥)							
AstellasPh	2268	166.00	2271.5	1823.5	2.24	31.67	29632.98
Bridgestne	5655	233.00	5693	4548	3.24	11.93	29139.48
Canon	3416	216.00	3516	2754.5	3.16	15.33	32895.1
CntJpRwy	17035	325.00	17920	14730	0.84	-29.62	25336.34

Stock	Price	+/-Week	52 Week High	52 Week Low	Yld	P/E	MCap m
Denso	8537	414.00	8690	6389	1.81	21.70	48566.37
EastJpRwy	8064	114.00	8325	6525	1.37	-7.50	22003.87
Fanuc	4681	83.00	24930	4409	10.67	5.16	34119.27
FastRetail	34090	2950	34290	19313.33	1.70	14.84	78323.19
Fuji Hvy Ind	2314	96.50	2684	1938.5	2.67	24.65	12850.61
Hitachi	8301	487.00	8332	5983	1.53	11.28	56221.99
HondaMtr	3906	324.00	3969	2990.5	3.65	7.66	51084.36
JapanTob	3046	82.00	3069	2266	4.95	14.38	43983.98
KDDI	4470	158.00	4636	3825	2.97	13.89	74315.89
Keyence	69260	5460	69820	44880	0.32	53.68	121617.01
MitsbCp	5535	185.00	5637	3740	2.75	11.45	58277.35
MitsubEst	1028.23	18.23	1032.55	876.51	-	-	-
MitsubishiEle	1755	7.50	1788	1273	2.52	14.55	27207.23
MitsuiFud	932.99	17.52	1007.12	684.38	-	-	-
MitUFJFin	926.90	56.70	999.50	632.60	3.10	8.71	84908.45
Mizuho Fin	2077	60.50	2238	1486.5	4.15	9.21	38078.21
Murata Mfg	8078	371.00	8811	6438	1.64	15.04	39414.01
Nippon TT	4124	-65.00	4334	3674	2.81	12.04	107845.79
Nissan Mt	511.60	5.80	577.60	408.10	-	15.06	15590.18
Nomura	494.90	5.10	573.90	464.30	5.13	-30.86	11554.04
Nppn Stl	2843.5	-26.50	3294	1838	3.11	4.07	19510.04
Panasonic	1464	89.50	1508	1006.5	1.89	13.42	25939.43
Seven & I	6385	115.00	6619	5041	1.78	22.03	40864.46
ShnEtsuCh	4273	291.00	21055	3797	7.50	3.71	62445.95
Softbank	5179	41.00	7180	4708	0.94	4.04	54966.28
Sony	13590	1035	13840	9213	0.49	15.74	123736.34
SumitomoF	5640	-57.00	6261	3864	3.92	9.95	55978.18
Takeda Ph	4470	-95.00	4629	3497	4.45	14.54	51065.76
TokioMarine	2860.5	101.00	3000	2200	8.49	4.22	41356.99
Toyota	1959.5	43.50	2267	1764	2.87	8.01	230816.29
Mexico (Mex$)							
AmerMvl	19.91	0.44	21.27	15.67	1.56	16.92	47448.81
FEMSA UBD	179.69	2.38	179.98	120.63	1.07	154.38	21931.55
WalMrtMex	73.22	-0.85	79.15	64.81	0.66	38.34	72204.47
Netherlands (€)							
ASML Hld	643.40	46.80	657.10	375.75	0.51	51.31	279792.82
Heineken	101.20	-2.45	106.30	78.28	0.94	18.12	62879.12
ING	12.02	0.33	13.55	8.43	4.83	10.09	46930.59
Unilever	49.23	-0.73	50.93	40.78	2.91	25.27	154448.04
Norway (Kr)							
DNB	187.15	3.00	209.50	168.20	10.53	10.56	26836.65
Equinor	301.80	-0.35	410.95	278.70	1.85	11.49	88129.65
Telenor	118.40	-4.70	135.80	87.60	8.61	17.66	15237.24
Qatar (QR)							
QatarNtBk	16.95	0.40	23.00	14.31	3.06	13.33	43010.26
Saudi Arabia (SR)							
AlRajhiBnk	74.90	-0.30	7317	0.00	2.93	13.87	79893.32
NatnlcomBnk	38.00	1.85	1552.5	0.00	3.49	13.94	60799.98
SaudiBasic	91.20	-1.00	2115	0.00	3.26	12.96	72960
SaudiTelec	44.25	-0.20	8480	0.00	8.27	8.54	59000
Singapore (S$)							
DBS	30.83	-0.27	36.40	29.45	3.66	13.01	59013.3
JardnMt US$	49.94	-0.66	59.48	42.60	3.16	9.05	14552.43
OCBC	12.25	-0.05	13.23	11.20	3.14	12.57	40864.58
SingTel	2.56	-0.02	2.82	2.31	2.68	44.47	31367.65
UOB	27.89	-0.09	31.40	25.91	3.26	12.77	34681.72
South Africa (R)							
Firstrand	61.29	-0.31	72.95	56.80	4.81	9.76	17655.98
MTN Grp	112.57	-4.34	170.56	107.35	-	13.50	10891.95
Naspers N	3337.55	171.70	3510	1454.08	0.20	15.79	74640.99
South Korea (KRW)							
HyundMobis	226500	-3500.00	239500	189500	1.81	8.62	16097.37
KoreaElePwr	18370	-970.00	24000	16500	6.84	-10.47	8889.22
SK Hynix	97300	11000	113500	60600	1.62	6.79	53393.61
SmsungEl	68400	4200	79000	51800	2.16	11.55	307792.68
Spain (€)							
BBVA	6.49	-0.11	7.56	3.97	5.54	9.13	42228.48
BcoSantdr	3.20	0.06	3.87	2.32	2.31	6.62	56796.72
CaixaBnk	3.40	0.05	4.14	2.64	0.77	23.11	27538.97
Iberdrola	11.63	-0.24	11.96	9.09	3.51	20.61	80871.63
Inditex	31.39	-0.10	32.10	19.92	0.68	34.20	105531.27
Repsol	13.37	0.21	16.23	11.19	4.34	8.42	19144.04
Telefonica	3.93	0.05	5.06	3.22	8.53	2.96	24346.92
Sweden (SKr)							
AtlasCpcoB	137.30	5.05	138.25	22.08	5.69	8.64	20313.19
Ericsson	55.59	1.60	82.25	53.36	4.33	7.72	16188.73
H & M	144.14	1.14	157.30	98.27	4.67	18.72	19956.14
Investor	219.20	4.05	221.95	158.20	1.71	8.89	37854.12
Nordea Bk	109.44	2.44	134.94	88.32	14.29	12.04	37393.57
SEB	115.10	1.55	133.50	99.42	9.38	9.07	23505.81
SvnskaHn	87.26	0.32	112.90	80.88	6.13	8.07	16085.12
Swedbank	168.20	2.25	219.90	124.50	9.26	8.47	18047.37
Telia Co	26.44	-0.38	41.04	25.54	8.09	8.79	9854.3
Volvo	208.30	1.70	219.75	154.28	3.34	12.79	31362.16
Switzerland (SFr)							
ABB	33.89	0.77	34.11	23.84	2.23	16.99	73807.24
CredSuisse	0.79	0.03	6.76	0.66	11.46	-1.30	3518.82
Nestle	113.82	-1.16	123.04	103.42	2.20	20.66	336861.27
Novartis	90.51	-2.02	93.95	73.33	3.03	10.28	228492.51

Stock	Price	+/-Week	52 Week High	52 Week Low	Yld	P/E	MCap m
Richemont	152.95	-1.75	161.10	90.28	1.16	38.12	88499.58
Roche	288.25	3.50	335.85	256.05	2.77	20.19	224478.96
Swiss Re	91.72	1.72	99.68	68.16	5.86	23.16	32279.39
Swisscom	584.60	-5.80	619.40	443.40	3.42	18.18	33568.05
UBS	17.99	0.76	20.85	13.87	1.94	8.74	62282.96
Zurich Fin	428.10	0.90	459.40	384.70	4.26	14.91	71398.32
Taiwan (NT$)							
Chunghwa Telecom	127.50	1.50	130.50	105.50	3.42	27.28	32236.85
Formosa PetChem	89.80	4.10	97.90	75.20	0.67	17.00	27881.06
HonHaiPrc	103.00	-2.00	116.00	98.00	3.95	10.21	46539.03
MediaTek	698.00	30.00	935.00	533.00	5.40	9.76	36391.72
TaiwanSem	532.00	33.00	560.00	370.00	2.04	20.81	449647.59
Thailand (THB)							
PTT Explor	31.25	-1.00	38.50	29.50	6.11	8.72	25962.62
United Arab Emirates (Dhs)							
Emirtestele	24.30	-	38.98	11.60	2.75	27.17	57535.64
United Kingdom (p)							
Anglo American	2350	12.50	4036	2299.5	7.59	4.65	39094.9
AscBrFd	1895	-20.50	2076	1223	0.33	31.32	18321.92
AstraZen	12010	0.00	12828.45	9399	1.72	2033.53	231507.49
Aviva	413.50	0.80	473.70	341.92	5.16	54.41	14153.02
Barclays	159.42	5.52	198.86	128.12	1.88	3.87	30831.76
BP	481.40	-1.60	570.57	359.20	3.27	17.47	105274.18
BrAmTob	2666.5	-42.50	3645	2643	8.09	9.02	74153.63
BT	144.95	-7.45	196.60	22.98	-	14.07	17905.92
Compass	2235	78.00	2243	1630.5	0.63	54.38	48438.35
Diageo	3548	13.50	3960	3413.5	2.04	27.29	99305.8
GlaxoSmh	1423.8	-46.40	2753.96	16.64	5.62	16.44	72515.42
Glencore	434.90	2.60	584.50	395.40	2.04	15.92	67632.86
HSBC	610.80	11.10	653.80	434.70	2.64	13.34	151666.43
Imperial Brands	1787.5	-97.50	2185	1736.5	7.73	5.98	20436.68
Jardine Mathes.	62.50	0.00	55.30	46.89	2.53	11.32	18212.4
LlydsBkg	46.72	1.16	54.33	38.51	5.50	6.49	38069.22
LSE Group	8436	-118.00	8893.86	6710	0.91	86.26	53114.66
Natl Grid	1103	-59.00	1246.5	844.29	4.46	25.71	50448.35
Natwest Group	268.40	7.10	308.65	210.90	3.91	10.57	31637.68
Prudential	1178	22.00	1336	782.40	1.00	19.13	40338.29
ReckittB	6502	12.00	6824	5502	2.69	-28.14	57927.01
RELX	2501	10.00	2735	2064	1.91	32.99	59109.7
RioTinto	4948.5	31.00	6329	4424.5	10.15	5.18	76992.04
RollsRoyce	156.00	7.70	160.00	64.44	-	106.12	16235.23
Shell PLC	2409	0.00	2613.5	1908.6	2.51	12.70	204965.9
StandCh	634.00	17.80	797.40	515.60	1.40	14.22	22246.79
Tesco	266.70	-9.00	307.23	194.35	3.43	13.58	24180.8
Unilever	4271	-82.50	4868.64	3407.5	3.39	21.93	134006.62
Vodafone	83.09	-6.77	132.10	81.02	9.31	-185.88	27896.65
WPP	894.40	-0.80	1082	713.00	2.96	17.04	11954.21
United States of America ($)							
21stC Fox A	31.15	0.43	37.26	28.02	1.39	13.73	8381.11
3M	99.51	-0.77	152.30	98.00	5.46	10.71	54894.14
AbbottLb	108.88	-1.61	118.23	93.25	1.52	30.09	189336.53
Abbvie	144.91	-2.24	168.11	134.09	3.30	24.47	255663.22
Accenture	290.21	13.02	322.88	242.80	1.17	32.09	192291.89
Activision Bli.	78.39	1.02	87.01	70.94	0.55	24.81	61477.36
Adobe	366.60	31.15	451.15	274.73	-	39.27	168159.42
Advanced Micro	105.87	10.61	109.57	54.57	-	44.86	170480.96
AEP	86.56	-5.10	105.60	80.30	3.18	19.00	44480.25
Aflac	66.88	0.77	74.02	52.07	1.81	11.40	40407.68
AirProd	278.34	0.34	328.56	218.88	1.98	31.84	61825.64
Allstate	118.47	0.21	142.15	103.20	2.51	7.60	31140.07
Alphabet	123.32	5.81	125.97	83.34	-	1.20	732614.42
Altria	45.07	-0.61	54.89	40.35	7.17	36.62	80442.81
Amazon	116.54	6.28	146.57	81.43	-	1.96	1195741.66
AmerAir	14.72	0.70	18.22	11.65	-	-4.28	9610.82
AmerExpr	153.07	5.14	182.15	130.65	1.12	16.19	113767.86
AmerIntGrp	53.81	1.32	64.88	45.66	2.18	5.42	38945.12
AmerTower	191.02	-9.27	282.47	178.17	2.50	36.75	89023.58
Amgen	224.00	-8.95	296.67	220.44	2.89	23.73	119689.16
Amphenol Corp	76.02	0.92	82.86	61.67	0.94	32.98	45256.15
Analog Devices	191.45	10.88	198.25	133.48	1.34	70.01	96842.84
Anthem	482.58	21.82	-	-	-	-	-
Aon Cp	325.55	-10.62	338.27	246.21	0.56	63.88	66492.11
Apple	175.64	3.07	176.39	124.17	0.45	31.72	2762589.22
Applied Materi.	126.08	9.99	132.06	71.12	0.69	18.94	106552.53
Aptiv	94.93	2.24	124.88	77.96	-	53.29	25679.17
ArcherDan	72.65	-2.73	98.28	70.02	1.87	16.52	39567.72
AT&T	16.49	-0.54	21.53	14.46	11.58	6.51	117921.33
Autodesk	199.97	5.52	235.01	163.20	-	96.30	42950.16
AutomData	216.16	3.42	274.92	196.61	1.63	36.44	89298.55
AutoZone	2644.07	-85.00	2750	1703.32	-	26.02	48644.73
Avago Tech	683.15	52.00	684.95	415.07	2.02	42.01	284819.32
BakerHu	28.21	0.55	38.66	20.42	2.41	71.09	28553.68
Bank of NY	41.01	0.86	52.26	36.22	2.91	10.79	32358.43
BankAm	28.13	1.04	38.60	26.32	2.55	8.58	224173.07
Baxter	42.87	0.40	77.08	37.35	2.32	18.45	21683.26
BectonDick	252.24	-0.27	269.06	215.90	1.22	47.52	71639.92
BerkshHat	507305.99	16123.49	511334.53	393012.25	-	9.29	297204.2
Biogen	307.41	-2.19	319.74	188.54	-	32.19	44495.23
BlackRock	668.04	22.94	785.65	503.12	2.27	19.03	100047.44
Boeing	205.08	4.38	221.33	113.02	-	-31.24	123375.04

Stock	Price	+/-Week	52 Week High	52 Week Low	Yld	P/E	MCap m
Booking Holdings	2769.74	138.92	2786.85	1616.85	-	107.07	102296.43
Bristol-Myers	65.84	-2.22	81.44	65.18	2.80	22.98	138321.88
Broadcom	683.15	52.00	684.95	415.07	2.02	42.01	284819.32
Cadence Design	216.12	14.96	219.09	136.27	-	94.14	58932.47
CapOne	96.91	10.57	128.95	83.93	1.90	3.92	37002.29
CardinalHlth	85.88	1.11	87.03	49.70	2.09	48.46	21865.06
Carnival	10.88	1.05	14.20	6.11	-	-1.41	12142.9
Caterpillar	213.67	4.13	260.50	160.60	1.84	19.67	110116.04
Centene Corp	65.45	-1.72	98.53	61.71	-	31.26	35916.95
CharlesSch	51.38	2.44	86.63	45.00	1.29	19.77	90898.53
Charter Comms	343.44	5.35	515.66	297.66	-	15.28	51713.56
Chevron Corp	154.79	-1.83	189.68	132.54	3.15	20.71	293271.87
Chipotle Mexic.	2107.71	62.08	2110	1196.28	-	100.23	58151.38
Chubb	201.01	0.74	230.27	173.78	1.45	11.36	83253.21
Cigna	256.01	-0.56	340.11	240.11	1.43	17.72	75746.25
Cintas Corp	471.08	-3.28	478.39	343.86	0.71	44.97	47909.69
Cisco	49.12	2.41	52.56	38.61	2.79	18.99	201166.36
Citigroup	45.86	0.41	66.00	40.01	4.08	4.93	89277.84
CME Grp	182.43	-2.52	212.09	166.55	1.81	27.25	65622.72
Coca-Cola	62.73	-1.39	65.47	54.02	2.46	30.36	271259.17
Cognizant	63.28	1.62	75.40	51.33	1.39	17.02	32114.6
ColgtPlm	79.49	-2.49	83.81	67.84	2.07	33.95	65942.38
Comcast	41.18	0.97	44.66	28.39	2.23	14.75	171279.65
ConocPhil	102.32	2.89	138.49	78.30	1.75	18.36	123813.21
Constellation	234.99	7.24	261.32	208.12	1.20	-1152.26	43057.68
Corning	31.34	0.35	37.73	28.98	2.81	26.66	26643.09
Corteva	56.78	-0.24	68.43	50.03	0.86	26.08	40363.44
Corteva	56.78	-0.24	68.43	50.03	0.86	26.08	40363.44
Costco	496.26	-7.81	564.75	406.51	0.59	43.14	220082.98
CrownCstl	113.22	-3.47	193.95	111.35	4.43	46.18	49100.26
CSX	32.13	0.31	34.71	25.80	1.12	19.33	65322.05
CVS	69.25	0.67	107.26	67.05	2.65	12.67	88780.25
Danaher	227.83	0.49	303.82	221.22	0.36	28.31	168115.48
Deere	364.21	-9.77	448.40	283.81	0.99	21.78	107923.54
Delta	35.37	2.14	42.45	27.20	-	46.23	22732.83
Devon Energy	49.07	1.55	79.40	44.03	3.69	12.75	32093.42
Digital Realty	91.58	-5.52	141.77	85.76	4.65	16.79	27222.33
DiscFinServ	99.99	4.76	118.71	87.64	1.73	6.11	25392.06
Disney	91.82	-0.17	126.48	84.07	-	58.14	167785.88
Dollar General	215.53	-2.98	261.59	183.25	0.72	22.86	47224.45
DominRes	52.41	-2.78	86.28	52.01	4.42	17.89	43811.69
DukeEner	92.76	-4.69	114.50	83.76	3.86	20.49	71485.65
DuPont	66.85	3.08	78.40	49.52	1.65	22.54	30685.27
Eaton	173.28	4.70	178.75	122.50	1.61	35.34	69069.41
eBay	43.49	-1.42	50.82	35.92	1.52	124.63	23255.71
Ecolab	174.78	0.59	179.77	131.04	1.02	48.68	49763.53
Edwards Lifesc.	87.80	-1.38	107.92	67.13	-	40.17	53225.96
Eli Lilly	442.68	8.25	447.51	283.11	0.71	78.77	420220.44
Emerson	82.41	-0.11	99.65	72.41	2.26	19.59	47097.32
EOG Res	114.43	4.01	150.88	92.16	1.29	15.60	66925.37
Equinix	722.48	-16.75	752.63	494.89	1.46	142.28	67568.68
EquityResTP	61.31	-1.50	80.89	54.60	3.61	19.48	23228.75
Exelon	39.71	-2.04	49.86	35.19	3.54	24.85	39494.33
ExxonMb	106.28	0.50	119.92	80.69	3.02	21.47	429696.53
Fedex	228.74	5.81	248.76	141.92	1.15	13.40	57494.24
Fidelity NIS	57.46	2.39	106.65	48.57	2.49	93.39	34041.4
Fiserv	119.92	0.47	122.39	87.03	-	65.62	75324.91
FordMtr	11.60	-0.08	16.68	10.61	0.79	2.84	45567.4
Franklin	24.34	-0.16	32.88	20.24	4.26	7.01	12188.51
GenDyn	209.91	-0.06	256.86	205.40	2.04	19.79	57584.41
GenElectric	104.21	5.41	105.78	46.77	0.28	-34.92	113480.52
GenMills	87.59	-3.03	90.89	64.94	2.16	25.20	51443.05
GenMotors	32.62	0.22	43.63	30.33	-	5.30	45338.88
GileadSci	79.04	0.87	89.74	57.17	3.30	17.46	98590.76
GoldmSchs	326.50	7.00	389.58	277.84	1.83	5.98	108544.3
Halliburton	30.06	1.45	43.99	23.30	0.80	18.39	27119.98
HCA Hold	283.08	7.21	294.02	164.47	0.62	14.57	77900.73
Hew-Pack	30.56	1.66	40.79	24.08	2.52	6.00	30100.2
Hilton Worldwi.	143.88	2.30	152.89	108.41	-	107.32	38073.14
HiltonWwde	143.88	2.30	152.89	108.41	-	107.32	38073.14
HomeDep	290.90	0.43	347.25	264.51	2.10	20.21	294585.31
Honywell	198.17	4.55	220.96	166.63	1.75	27.28	131913.83
HumanaInc	513.20	-14.15	571.30	410.87	0.50	24.65	64121.23
IBM	127.53	4.69	153.21	115.55	4.72	26.66	115803.03
IDEXX Laborato.	488.08	0.61	515.79	317.06	-	61.80	40461.83
IllinoisTool	226.95	-1.57	247.09	173.52	1.91	29.04	68970.74
Illumina	203.58	-5.02	258.07	173.45	-	43.99	32186
Intcntl Exch	108.31	-0.28	113.07	88.60	1.12	16.43	60639.19
Intel	29.93	0.98	44.93	24.59	4.26	6.71	124828.44
Intuit	446.75	19.13	490.83	352.63	0.53	60.92	125334.1
John&John	158.96	-1.82	183.35	150.11	2.42	22.16	413094.77
JohnsonCn	62.97	0.94	69.15	45.52	1.68	31.31	43203.64
JPMrgnCh	138.61	4.51	144.34	101.28	2.52	9.83	405058.41
Kimb-Clark	143.72	-0.93	147.87	108.74	3.01	29.37	48488.25
KinderM	16.51	-0.30	20.20	15.78	6.18	38.83	36991.23
KLA Corp	423.07	36.10	429.45	250.20	0.85	23.71	58044.74
Kraft Heinz	38.84	-1.82	42.80	32.73	3.78	51.58	47665.9
Kroger	49.33	0.15	53.47	41.82	1.47	24.52	35398.01
LasVegasSd	60.23	0.11	65.58	30.14	-	-43.44	46032.07
LibertyGbl	16.96	-0.27	25.13	15.22	-	0.79	2902.56
Lilly (E)	442.68	8.25	447.51	283.11	0.71	78.77	420220.44

Stock	Price	+/-Week	52 Week High	52 Week Low	Yld	P/E	MCap m
Linde	371.14	0.81	373.58	262.47	1.05	55.21	181983.74
Lockheed	454.55	3.76	508.10	373.67	2.24	21.25	115115.92
Lowes	205.92	2.66	221.42	170.12	1.35	18.45	122801.68
Lyondell	90.42	1.16	117.22	71.46	4.51	5.87	29411.29
Marathon Ptl	110.81	0.93	138.83	77.62	1.92	59.74	47014.78
Marsh&M	179.95	-1.27	182.43	143.33	1.37	30.14	89025.1
MasterCard	387.40	5.48	392.20	276.87	0.53	48.16	364267.23
McDonald's	294.84	-1.30	298.86	228.34	1.64	31.98	215242.56
McKesson	399.65	9.68	401.78	298.69	0.41	49.29	54193.44
Medtronic	89.31	0.43	106.06	75.77	2.56	26.54	118820.14
Merck	115.71	-1.43	119.65	83.05	2.10	25.93	293606.71
Meta	245.00	11.19	248.69	88.09	-	19.38	541977.53
Metlife	51.68	1.46	77.36	48.95	3.38	7.70	39577.62
Microsoft	317.55	8.58	319.04	213.43	0.67	36.83	2361101.9
Mnstr Bvrg	59.65	0.11	60.47	41.95	-	25.28	59650
MondelezInt	77.08	-0.80	78.59	54.72	1.58	27.61	104971.67
Monsanto	10.07	-0.11	11.13	9.56	-	51.84	251.75
MorganStly	82.75	0.36	100.99	72.05	2.33	11.22	138201.91
Netflix	366.97	27.08	375.87	164.28	-	35.55	163131.7
NextEraE	74.82	-3.14	91.35	69.53	1.99	107.03	151390.61
Nike	114.33	-5.88	129.23	82.22	0.94	32.54	140865.03
NorfolkS	216.71	4.80	264.22	196.33	1.76	19.49	49331.78
Northrop	442.56	3.80	556.27	433.18	1.28	11.07	67206.92
NXP	174.57	10.02	198.28	132.08	1.18	28.00	45300.92
Occid Pet	59.12	1.03	77.13	54.30	0.06	31.25	52719.98
Oracle	102.80	4.95	102.93	60.78	1.15	42.33	277539.65
Pepsico	191.58	-4.54	196.88	154.86	2.04	38.00	263938.45
Perrigo	33.48	-1.73	43.90	30.78	2.63	-37.20	4530.71
Pfizer	36.67	-0.69	54.93	36.17	3.91	10.16	206985.18
Phillips66	94.89	1.67	113.53	74.02	3.50	34.79	43541.45
PhilMorris	93.21	-1.91	109.81	82.85	4.83	17.41	144680.25
PNCFin	117.95	6.37	176.47	110.31	3.74	10.11	47074.79
PPG Inds	142.34	4.24	145.51	107.06	1.53	34.01	33509.12
ProctGmbl	152.07	-3.89	158.11	122.18	2.16	28.14	358422.44
Prudntl	82.01	3.07	110.96	75.37	5.15	4.58	29933.65
PublStor	284.36	-11.64	357.13	270.13	2.58	31.37	49993.04
Qualcomm	105.72	2.10	156.66	101.93	2.34	13.19	117772.08
Raytheon	95.76	-0.23	104.91	80.27	1.92	40.42	139918.96
Regen Pharm	761.28	16.93	837.55	538.01	-	11.52	81842.39
S&P Global	366.73	7.39	395.80	279.32	0.77	31.92	118085.45
Salesforce	210.67	8.86	213.88	126.34	-	153.55	206639.78
Schlmbrg	45.26	1.19	59.45	30.65	1.01	37.34	64277.73
Sempra Energy	146.31	-6.98	176.47	136.54	2.76	39.73	46036.52
Shrwin-Will	231.47	4.04	278.31	195.24	0.87	36.11	59693.87
SimonProp	104.61	-1.74	129.55	86.02	6.28	16.66	34206.26
SouthCpr	69.01	-0.48	82.05	42.42	4.26	17.12	53351.75
Starbucks	105.61	-0.51	115.48	70.33	1.60	31.08	121071.3
StateSt	67.79	1.25	94.74	58.62	2.95	10.27	22808.52
Stryker	285.98	0.51	306.56	188.84	0.83	59.78	108560.34
Sychrony Fin	29.74	2.66	40.89	26.59	2.80	4.27	12743.55
T-MobileUS	139.87	-4.25	154.38	121.76	-	63.20	167828.96
Target	151.61	-6.38	183.89	137.16	1.93	11.60	69975.98
TE Connect	123.92	3.46	138.24	104.76	1.47	18.33	39045.62
Tesla Mtrs	179.36	11.38	314.67	101.81	-	39.86	568482.29
TexasInstr	169.54	7.66	186.30	144.46	2.28	22.35	153883.64
TheTrvelers	183.73	1.64	194.45	149.65	1.81	12.33	42437.32
ThrmoFshr	529.38	4.73	611.06	475.77	0.18	29.62	204193.13
TJX Cos	78.75	-0.24	83.13	54.55	1.22	31.46	90680.06
Truist Financial Corp	29.17	1.87	52.22	25.56	5.86	7.11	38852.04
Twitter	53.70	1.26	60.16	31.30	-	-224.30	41093.72
UnionPac	197.98	-1.01	242.36	183.69	2.15	19.92	120707.51
UPS	169.97	1.47	209.39	154.87	2.20	12.61	123190.8
USBancorp	29.89	0.76	53.37	27.27	5.41	6.38	45811.33
UtdHlthcre	480.13	-11.10	558.10	449.70	1.07	28.92	447016.41
ValeroEngy	111.33	0.81	146.81	96.93	3.23	53.41	40247.68
Verizon	36.21	-1.39	52.18	34.55	6.43	7.41	152056.76
VertexPharm	342.32	-5.09	354.46	243.17	-	41.37	88165.06
VF Cp	19.12	-2.17	51.40	19.05	9.46	6.83	7431.12
Visa Inc	232.99	1.61	235.57	174.60	0.53	42.01	377029.87
Walgreen	31.22	0.15	44.27	30.39	5.64	4.92	26936.48
WalMartSto	149.78	-3.29	154.64	117.27	1.36	33.18	404008.61
Walt Disney	91.82	-0.17	126.48	84.07	-	58.14	167785.88
Waste Manage.	165.50	-3.74	175.98	138.89	1.28	42.01	67328.16
WellsFargo	39.85	2.36	48.84	35.25	1.78	8.77	149526.11
Williams Cos	29.25	-0.04	37.97	27.80	5.15	25.68	35625.88
Workday	194.86	12.10	206.68	128.72	-	1751.69	40097.37
Yum!Brnds	138.78	0.27	143.25	103.97	1.32	29.01	38870.47
Zoetis	179.66	-3.96	187.82	124.15	0.51	45.82	83023.07
Zoom	69.58	5.89	124.05	60.45	-	16.68	17198.94
Venezuela (VEF)							
Bco de Vnzla	4.29	-0.10	4.59	0.69	122.33	-	604.80
Bco Provncl	7.80	-0.47	70000	6.80	-	0.00	113.06

Closing prices and highs & lows are in traded currency (with variations for that country indicated by stock), market capitalisation is in USD. Highs & lows are based on intraday trading over a rolling 52 week period.
♦ ex-dividend
■ ex-capital redistribution
price at time of suspension

FT 500: TOP 20

	Close price	Prev price	Day change	Day change %	Week change	Week change %	Month change %
Bausch Hlth	11.73	11.52	0.21	1.82	3.67	49.4	16.19
SK Hynix	97300.00	93600.00	3700.00	3.95	7300.00	12.7	11.07
CapOne	96.91	99.23	-2.32	-2.33	12.89	12.2	-2.38
Advanced Micro	105.87	107.93	-2.07	-1.91	12.67	11.1	17.67
Carnival	10.88	11.28	-0.40	-3.54	1.45	10.7	11.02
Sychrony Fin	29.74	30.00	-0.27	-0.88	2.92	9.8	-3.43
FastRetail	34090.00	33360.00	730.00	2.19	2220.00	9.5	6.13
KLA Corp	423.07	428.57	-5.50	-1.28	41.60	9.3	17.11
Adobe	366.60	360.43	6.17	1.71	24.98	9.3	-3.55
Zoom	69.58	69.53	0.05	0.06	5.84	9.2	2.66
HondaMtr	3906.00	3892.00	14.00	0.36	310.00	9.0	10.09
Applied Materi.	126.08	129.92	-3.84	-2.96	13.83	8.6	14.27
Keyence	69260.00	68540.00	720.00	1.05	4740.00	8.6	11.01
Sony	13590.00	13720.00	-130.00	-0.95	1165.00	8.2	11.48
Avago Tech	683.15	677.90	5.25	0.77	46.75	8.2	7.66
Broadcom	683.15	677.90	5.25	0.77	46.75	8.2	7.66
ASML Hld	645.40	640.60	4.80	0.75	44.00	8.2	9.65
Netflix	366.97	371.29	-4.32	-1.16	31.40	8.0	13.57
AstellasPh	2268.00	2243.50	24.50	1.09	141.50	7.9	12.61
Siemens	160.36	157.74	2.62	1.66	8.88	7.7	7.82

Based on the FT Global 500 companies in local currency

FT 500: BOTTOM 20

	Close price	Prev price	Day change	Day change %	Week change	Week change %	Month change %
Ch OSLnd&Inv	17.94	18.34	-0.40	-2.18	-1.66	-10.3	-15.89
VF Cp	19.12	20.77	-1.65	-7.94	-0.52	-10.2	-16.35
Ch Rail Cons	6.21	6.33	-0.12	-1.90	-0.48	-8.8	-2.81
ChStConEng	6.18	6.28	-0.10	-1.59	-0.45	-8.2	-4.92
China Vanke	10.92	11.22	-0.30	-2.67	-0.60	-7.6	-15.90
Vodafone	83.09	82.94	0.15	0.18	-6.92	-7.5	-8.23
Pwr Cons Corp	6.90	7.07	-0.17	-2.40	-0.39	-7.5	-11.08
Ch Coms Cons	4.78	4.91	-0.13	-2.65	-0.23	-7.0	-9.64
Chna Utd Coms	4.99	5.03	-0.04	-0.80	-0.32	-6.7	-17.79
SampoA	42.93	45.68	-2.75	-6.02	-0.07	-6.2	-3.05
E.ON	11.27	11.09	0.18	1.62	-0.88	-5.8	-5.81
Digital Realty	91.58	94.20	-2.62	-2.78	-2.90	-5.7	-5.11
Enbridge	50.28	50.00	0.28	0.56	-3.28	-5.6	-6.02
AEP	86.56	86.64	-0.08	-0.09	-5.02	-5.6	-7.46
Ch Rail Gp	5.38	5.58	-0.20	-3.58	-0.10	-5.3	-5.29
Imperial Brands	1787.50	1786.00	1.50	0.08	-99.00	-5.2	-7.61
Natl Grid	1103.00	1108.00	-5.00	-0.45	-54.00	-5.1	-1.74
DominRes	52.41	52.68	-0.27	-0.51	-2.51	-5.0	-8.75
PingAnIns	54.75	56.30	-1.55	-2.75	-1.35	-5.0	-0.18
KoreaElePwr	18370.00	18160.00	210.00	1.16	-1180.00	-5.0	-0.65

Based on the FT Global 500 companies in local currency

BONDS: HIGH YIELD & EMERGING MARKET

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

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

BONDS: GLOBAL INVESTMENT GRADE

May 19	Red date	Coupon	Ratings S*	Ratings M*	Ratings F*	Bid price	Bid yield	Day's chge yield	Mth's chge yield	Spread vs US
US$										
FleetBoston Financial Corp.	01/28	6.88	BBB+	Baa1	A-	129.00	2.54	-0.01	-0.05	-
The Goldman Sachs Group, Inc.	02/28	5.00	BBB+	A3	A	117.21	2.47	0.00	0.32	-
NationsBank Corp.	03/28	6.80	BBB+	Baa1	A-	127.69	2.72	-0.01	0.06	-
GTE LLC	04/28	6.94	BBB+	Baa2	A-	128.27	2.80	0.00	-0.11	-
United Utilities PLC	08/28	6.88	BBB	Baa1	A-	130.43	2.62	-0.07	-0.22	-
Barclays Bank plc	01/29	4.50	A	A1	A+	96.46	5.02	0.00	0.02	-
Euro										
Electricite de France (EDF)	04/30	4.63	A-	A3	A-	137.45	0.82	-0.01	0.10	-
The Goldman Sachs Group, Inc.	02/31	3.00	BBB+	A3	A	124.42	0.68	0.00	-0.11	-
The Goldman Sachs Group, Inc.	02/31	3.00	BBB+	A3	A	121.70	0.93	0.00	0.02	-
Finland	04/31	0.75	AA+	Aa1	AA+	111.08	-0.27	0.00	-0.05	-0.87
Yen										
Mexico	06/26	1.09	-	Baa1	BBB-	98.73	1.34	-0.02	-0.14	0.27
£ Sterling										
innogy Fin B.V.	06/30	6.25	BBB	Baa2	A-	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: OFFICIAL

May 19	Rate	Current	Since	Last
US	Fed Funds	4.75-5.00	22-03-2023	4.75-4.50
US	Prime	8.25	04-05-2023	8.00
US	Discount	5.00	02-05-2023	4.75
Euro	Repo	3.25	02-05-2023	2.899
UK	Repo	4.50	11-05-2023	4.25
Japan	O'night Call	0.00-0.10	01-02-2016	0.00
Switzerland	Libor Target	-1.25-0.25	15-01-2015	-0.75--0.25

INTEREST RATES: MARKET

May 19 (Libor: May 18)	Over night	Change Day	Change Week	Change Month	One month	Three month	Six month	One year
US$ Libor	5.06057	0.000	0.000	0.016	5.14843	5.37914	5.42514	5.39243
Euro Libor	-0.64957	-0.064	0.000	0.001	-0.61943	-0.58057	-0.55600	-0.48571
£ Libor	0.18063	-0.005	0.000	0.001	4.20130	4.70810	4.74470	0.81363
Swiss Fr Libor				-0.002	-0.77540	-0.75300	-0.70280	-0.55320
Yen Libor				0.000	-0.06005	-0.02617	0.07165	0.04867
Euro Euribor				-0.001	3.15100	3.38300	3.68700	3.85800
Sterling CDs				0.000	0.50000	0.63000	0.78500	
US$ CDs				0.000	5.15000	5.34000	5.34000	
Euro CDs				0.000	3.14000	3.33000	3.58000	

May 19	Short term		7 Days notice		One month		Three month		Six month		One year	
Euro	2.89	3.19	2.92	3.22	2.99	3.29	3.18	3.48	3.43	3.73	3.51	3.81
Sterling					0.45	0.55	0.58	0.68	0.71	0.86	0.90	1.05
US Dollar	4.88	5.08	4.91	5.11	5.05	5.25	5.24	5.44	5.24	5.44	5.13	5.33
Japanese Yen	-0.30	-0.10	-0.30	-0.10	-0.25	0.05	-0.15	0.05	-0.05	0.15	0.00	0.20

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	209.06	-0.18	-0.31	2.63	-0.21	3.89
Corporates(£)	327.74	-0.66	-1.17	1.43	-0.61	-8.33
Corporates(€)	210.83	-0.34	-0.70	1.70	-0.17	-4.30
Eurozone Sov(€)	210.28	-0.82	-0.97	1.33	-0.12	-8.80
Gilts(£)	264.23	-1.25	-2.43	-1.98	-2.27	-18.23
Overall(£)	275.48	-1.08	-2.04	-1.08	-1.80	-15.66
Overall(€)	206.88	-0.68	-0.82	1.32	-0.08	-7.72
FTSE						
Sterling Corporate (£)	-	-	-	-	-	-
Euro Corporate (€)	104.47	-0.05	-	-	0.54	-1.73
Euro Emerging Mkts (€)	633.74	4.34	-	-	-6.30	-0.10
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	434.52	-1.48	-17.37	3.50	510.17	424.31
Europe 5Y	82.50	-0.98	-3.99	1.40	101.15	79.69
Japan 5Y	73.45	-1.05	-5.48	-6.75	99.54	73.08
Senior Financials 5Y	95.84	-1.04	-5.73	3.10	124.01	91.28
Markit CDX						
Emerging Markets 5Y	255.84	-2.70	9.13	12.04	265.81	229.64
Nth Amer High Yld 5Y	494.22	-3.63	-2.96	18.36	511.98	458.20
Nth Amer Inv Grade 5Y	79.64	-0.79	-1.28	2.66	88.71	73.57

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

VOLATILITY INDICES

	May 19	Day Chng	Prev	52 wk high	52 wk low
VIX	16.68	0.63	16.05	35.05	15.53
VXD	15.57	0.75	14.82	37.57	10.88
VXN	19.64	0.32	19.32	41.12	5.85
VDAX	15.92	-0.52	16.44	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								
	05/32	1.25	82.89	3.48	0.06	0.10	0.15	0.01
	02/50	1.00	102.38	1.52	0.03	-0.11	0.04	0.07
Austria	02/29	0.50	87.40	2.91	0.12	0.26	0.14	1.69
	02/47	1.50	70.49	3.31	0.11	0.21	0.21	1.68
Belgium	06/27	0.80	92.41	2.79	0.11	0.24	0.11	1.84
	06/47	1.60	68.39	3.58	0.13	0.23	0.19	1.57
Canada	03/25	1.25	95.18	4.10	0.02	0.42	0.40	1.32
	06/30	1.25	87.86	3.19	0.06	0.39	0.35	0.27
	12/48	2.75	92.09	3.21	0.04	0.20	0.21	0.26
Denmark	11/29	0.50	87.46	2.63	0.08	0.22	0.08	1.37
	11/52	0.25	50.05	2.74	0.08	0.18	0.17	1.31
Finland	09/24	0.00	96.23	2.96	0.03	0.17	0.09	2.44
	09/29	0.50	86.37	2.89	0.11	0.24	0.10	1.66
France	05/28	0.75	90.62	2.78	0.11	0.25	0.13	1.72
	05/48	2.00	75.79	3.46	0.12	0.23	0.20	1.59
Germany	08/29	0.00	86.40	2.37	0.11	0.24	0.11	1.51
	08/50	0.00	50.40	2.55	0.12	0.22	0.22	1.43
Greece	-	-	-	-	-	-	-	-
	01/28	3.75	101.17	3.47	0.02	0.02	-0.16	0.95
Ireland	-	-	-	-	-	-	-	-
	05/26	1.00	95.00	2.77	0.08	0.22	0.10	1.97
	02/45	2.00	78.46	3.42	0.12	0.21	0.19	1.57
Italy	02/25	0.35	94.95	3.44	0.09	0.21	0.11	2.00
	05/30	0.40	90.16	1.91	0.07	0.18	0.19	1.64
	03/48	3.45	82.26	4.66	0.12	0.18	0.22	1.47
Japan	04/25	0.05	100.05	0.03	0.00	-0.02	-0.02	-0.02
	12/29	0.10	99.56	0.17	0.02	-0.01	-0.03	-0.01
	12/49	0.40	81.80	1.20	0.01	-0.02	-0.06	0.22
Netherlands	07/27	0.75	92.65	2.64	0.09	0.23	0.09	1.77
	01/47	2.75	97.56	2.89	0.12	0.22	0.21	1.58
New Zealand	05/31	1.50	81.28	4.30	0.10	0.20	0.22	0.67
	09/40	2.50	122.42	2.43	0.03	0.03	0.19	0.53
Norway	08/30	1.38	88.09	3.25	0.02	0.07	0.09	0.38
Poland	-	-	-	-	-	-	-	-
	07/27	2.50	87.72	5.90	0.01	0.16	-0.03	-0.97
	04/47	4.00	77.12	5.79	0.00	-0.06	-0.14	-0.51
Portugal	04/27	4.13	104.76	2.82	0.10	0.21	0.10	1.52
Spain	-	-	-	-	-	-	-	-
	10/29	0.60	84.98	3.22	0.12	0.24	0.15	1.54
	10/46	2.90	83.03	4.03	0.12	0.22	0.23	1.54
Sweden	06/30	0.13	114.44	0.59	0.00	-0.01	-0.16	1.58
	03/39	3.50	114.29	2.40	0.00	0.06	-0.03	0.46
Switzerland	04/28	4.00	114.94	0.86	0.02	0.07	-0.10	0.48
	06/29	0.00	94.87	0.87	0.01	-0.01	-0.12	0.41
United Kingdom	07/23	0.75	99.36	4.42	0.06	0.06	0.15	3.04
	07/27	1.25	90.06	3.85	0.12	0.25	0.19	2.28
	07/47	1.50	57.26	4.38	0.13	0.24	0.29	2.26
United States	-	-	-	-	-	-	-	-
	03/25	0.50	93.21	4.32	0.12	0.37	0.21	1.47
	02/30	1.50	87.16	3.67	0.10	0.31	0.17	0.79
	02/50	0.25	69.38	1.68	0.02	0.09	0.12	1.04

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

GILTS: UK CASH MARKET

May 19	Price £	Red Yield	Change in Yield Day	Change in Yield Week	Change in Yield Month	Change in Yield Year	52 Week High	52 Week Low	Amnt £m
	-	-	-	-	-	-	-	-	-
Tr 0.75pc '23	99.42	4.24	-0.93	0.71	0.47	200.71	99.42	97.34	34.36
Tr 0.125pc '24	97.16	4.33	-0.69	2.36	0.93	186.75	97.80	94.34	35.55
Tr 2pc '25	95.52	4.07	0.49	4.63	5.17	166.01	101.69	93.15	39.93
Tr 0.125pc '26	90.40	3.92	1.03	5.95	5.66	157.89	95.25	86.33	35.32
Tr 1.25pc '27	89.94	3.89	1.04	6.58	5.71	147.77	98.68	85.65	40.99
Tr 0.5pc '29	82.49	3.97	1.28	6.43	5.59	136.31	95.06	78.21	28.92
Tr 1pc '32	78.46	3.95	1.28	6.47	6.18	113.51	122.11	78.46	35.96
Tr 4.25pc '36	100.92	4.16	1.46	6.67	6.39	101.94	126.08	94.91	31.68
Tr 4.5pc '42	101.73	4.37	0.92	5.30	6.59	105.16	139.05	93.79	28.35
Tr 3.75pc '52	89.37	4.40	0.69	5.01	7.32	112.56	137.12	82.51	25.11
Tr 4pc '60	94.24	4.31	0.47	5.38	8.02	119.90	153.51	87.32	25.13

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	May 19	Day's chg %	Total Return	Return 1 month	Return 1 year	Yield
1 Up to 5 Years	81.12	-0.03	2348.58	0.10	-2.70	4.04
2 5 - 10 Years	145.52	-0.28	3105.70	-0.66	-10.87	3.90
3 10 - 15 Years	152.30	-0.46	3548.07	-1.32	-16.79	4.15
4 5 - 15 Years	145.99	-0.34	3208.99	-0.86	-12.62	4.00
5 Over 15 Years	199.85	-0.43	3475.14	-3.57	-31.89	4.34
7 All stocks	131.34	-0.25	2955.91	-1.41	-17.33	4.22

Index Linked	May 19	Day's chg %	Month chg %	Year's chg %	Total Return	Return 1 month	Return 1 year
1 Up to 5 Years	324.71	-0.12	-0.31	0.32	2759.78	-0.14	1.42
2 Over 5 years	507.92	-0.83	-4.71	-31.59	3882.73	-4.59	-31.21
3 5-15 years	444.26	-0.54	-2.05	-13.55	3608.78	-1.90	-12.82
4 Over 15 years	552.29	-1.05	-6.58	-40.55	4094.86	-6.48	-40.32
5 All stocks	486.98	-0.71	-3.97	-27.60	3799.19	-3.84	-27.14

Yield Indices	May 19	May 18	Yr ago		May 19	May 18	Yr ago
5 Yrs	3.85	3.81	1.54	20 Yrs	4.37	4.33	2.15
10 Yrs	4.02	3.97	1.88	45 Yrs	4.23	4.20	1.89
15 Yrs	4.26	4.22	2.10				

Real yield	inflation 0% May 19	Dur yrs	Previous	Yr ago	inflation 5% May 19	Dur yrs	Previous	Yr ago
Up to 5 yrs	0.90	2.33	0.84	-2.44	0.58	2.34	0.51	-3.03
Over 5 yrs	0.92	18.81	0.87	-1.37	0.90	18.85	0.85	-1.40
5-15 yrs	0.64	9.23	0.58	-1.86	0.57	9.24	0.51	-1.98
Over 15 yrs	0.99	25.56	0.95	-1.29	0.98	25.57	0.94	-1.31
All stocks	0.92	15.94	0.87	-1.38	0.89	16.00	0.84	-1.42

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

www.ft.com/commodities

Energy		Price*	Change	Agricultural & Cattle Futures		Price*	Change
Crude Oil†	Jun	73.08	1.22	Corn♦	Jul	558.00	2.75
Brent Crude Oil‡		75.64	-0.22	Wheat♦	Jul	617.00	5.25
RBOB Gasoline†	Jul	2.61	0.04	Soybeans♦	Jul	1340.25	7.00
Natural Gas†	Jun	2.58	-0.01	Soybeans Meal♦	Jul	415.50	1.40
Base Metals (♠ LME 3 Months)				Cocoa (ICE Liffe)✠	Jul	2401.00	69.00
Aluminium		2295.50	13.50	Cocoa (ICE US)♥	Jul	3025.00	34.00
Aluminium Alloy		2150.00	-75.00	Coffee(Robusta)✠	Jul	2581.00	41.00
Copper		8266.50	108.00	Coffee (Arabica)♥	Jul	190.90	4.25
Lead		2094.00	32.00	White Sugar✠		710.10	3.50
Nickel		21500.00	600.00	Sugar 11♥		26.01	0.40
Tin		25405.00	420.00	Cotton♥	Jul	86.69	0.03
Zinc		2509.00	56.00	Orange Juice♥	Jul	256.65	3.50
Precious Metals (PM London Fix)				Live Cattle♣	Jun	165.53	0.70
Gold		1960.30	-14.10	Feeder Cattle♣	May	134.88	-
Silver (US cents)		2352.00	-16.50	Lean Hogs♣	Jun	85.25	0.38
Platinum		1067.00	-8.00				
Palladium		1464.00	-26.00		May 18	% Chg Month	% Chg Year
Bulk Commodities							
Iron Ore		107.27	-0.11	S&P GSCI Spt	545.49	-6.50	-28.80
Baltic Dry Index		1384.00	-18.00	DJ UBS Spot	101.63	-5.31	-22.48
Richards Bay ICE Futures		110.00	-2.00	TR/CC CRB TR	289.18	-5.79	-12.23
				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 May 18	Yield May 18	Yield Prev	Month return	Value stock	Market	No of stocks
Can 4.25%' 26	109.21	1.558	1.473	-0.97	5.25	71649.68	8
Fr 0.25%' 24	100.33	-0.029	-0.018	0.21	17.92	257482.46	17
Swe 1.00%' 25	126.73	0.872	0.863	0.53	35.93	226983.36	7
UK 2.500%' 24	375.19	1.511	1.300	0.13	6.82	524082.74	30
UK 2.50%' 24	375.19	1.511	1.300	0.13	6.82	524082.74	30
UK 2.00%' 35	240.32	0.646	0.526	-2.22	9.08	524082.74	30
US 0.625%' 26	96.75	1.883	1.778	-0.52	42.42	1646780.50	48
US 3.625%' 28	109.63	1.577	1.484	-0.97	16.78	1646780.50	48

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

BONDS: TEN YEAR GOVT SPREADS

	Bid Yield	Spread vs Bund	Spread vs T-Bonds		Bid Yield	Spread vs Bund	Spread vs T-Bonds
Australia	3.48	1.11	-0.18	Netherlands	2.64	0.27	-1.02
Austria	2.91	0.54	-0.75	New Zealand	4.30	1.92	0.63
Canada	3.19	0.82	-0.48	Norway	3.25	0.87	-0.42
Denmark	2.63	0.26	-1.04	Portugal	2.82	0.44	-0.85
Finland	2.89	0.52	-0.77	Spain	3.22	0.84	-0.45
Germany	2.37	0.00	-1.29	Sweden	0.59	-1.79	-3.08
Italy	1.91	-0.46	-1.75	Switzerland	0.87	-1.50	-2.80
Japan	0.17	-2.21	-3.50	United States	3.67	1.29	0.00

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

All data provided by Morningstar unless otherwise noted. All elements listed are indicative and believed accurate at the time of publication. No offer is made by Morningstar, its suppliers, or the FT. Neither the FT, nor Morningstar's suppliers, warrant or guarantee that the information is reliable or complete. Neither the FT nor Morningstar's suppliers accept responsibility and will not be liable for any loss arising from the reliance on the use of the listed information. For all queries e-mail ft.reader.enquiries@morningstar.com

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

POWERED BY MORNINGSTAR

MANAGED FUNDS SERVICE

SUMMARY FT.COM/FUNDS

Winners - EAA Fund Japan Large-Cap Equity					
Fund Name	1yr Return GBP	3yr Return GBP	5yr Return GBP	3yr Sharpe Ratio	3yr Std Dev
Man GLG Japan CoreAlpha Fund	14.47	15.46	3.43	1.29	18.22
Eastspring Investments - Japan Dynamic Fund	13.94	14.75	1.89	1.47	16.81
M&G Investment Funds (1) - M&G Japan Fund	14.90	14.45	4.29	1.44	14.99
M&G(Lux) Investment Funds 1 - M&G(Lux) Japan Fund	9.80	13.05	3.64	1.44	14.86
DWS Nomura Japan Growth	12.31	12.29	4.49	1.22	18.20

Losers - EAA Fund Japan Large-Cap Equity					
Fund Name	1yr Return GBP	3yr Return GBP	5yr Return GBP	3yr Sharpe Ratio	3yr Std Dev
T. Rowe Price Funds OEIC Japanese Equity Fund	11.03	-1.16	2.01	0.53	15.98
T. Rowe Price Funds SICAV - Japanese Equity Fund	6.36	-0.42	1.32	0.50	16.07
MUFG Japan Equity Focus Growth Fund	0.08	0.05	-	0.57	15.85
Baillie Gifford Worldwide Japanese Fund	0.08	0.06	0.02	0.64	15.71
BL-Equities Japan	0.12	0.06	0.02	0.77	12.76

Morningstar Star Ratings				
Fund Name	Base Currency	Morningstar Rating 3 Yr	Morningstar Rating 5 Yr	Morningstar Rating 10 Yr
Index US P-Acc	Pound Sterling	★★★★	★★★★	★★★★★
Arisaig Asia Consumer Fund Limited	US Dollar	★★	★★	★★★
GEM Income I USD	US Dollar	★★	★★	★★★
Platinum Global Dividend UCITS Fund	US Dollar	★	★	★
Arisaig Latin America Consumer Fund	US Dollar	★	★	★

Global Broad Category Group - Allocation				
Morningstar Category	Base Currency	Total Ret 1Yr GBP	Total Ret 3Yr GBP	Total Ret 5Yr GBP
Moderately Aggressive Allocation	Hong Kong Dollar	-18.97	17.66	10.44
Euro Aggressive Balanced PP	Euro	11.77	14.77	-
Aggressive Allocation	Yen	4.55	14.18	5.39
ZAR/NAD Aggressive Allocation	Rand	12.42	13.08	7.97
ZAR/NAD Flexible Allocation	Rand	25.63	13.07	10.40

Advertising Feature

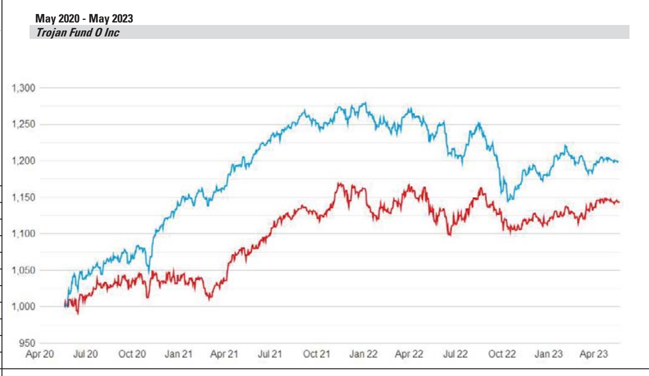
TROY ASSET MANAGEMENT

Please remember that past performance is not necessarily a guide to future performance

Firm Name	Troy Asset Management Limited
Fund Name	Trojan Fund O Inc
Morningstar Category	GBP Flexible Allocation
Max Annual Charge	-
3Yr Rating	★★★★
Morningstar Sustainability Rating	-

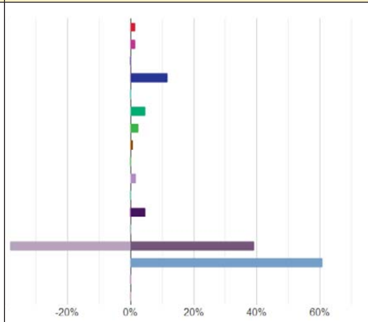
Bid Price	-	KIID Ongoing Charge	1.01
Offer Price	-	Day-End One Year Return	-1.44
+/-	-0.21	Total Ret 3Yr	4.86

Performance



Day -0.07% Month 0.07% Year 2.07%

Weightings - As of 31/03/2023



Sector	Weighting	Cat Avg.
Basic Materials	1.54%	3.56%
Communication Services	1.70%	3.01%
Consumer Cyclical	-	5.43%
Consumer Defensive	12.88%	4.19%
Energy	-	3.32%
Financial Services	5.10%	8.62%
Healthcare	2.81%	5.81%
Industrials	0.68%	6.26%
Real Estate	-	2.25%
Technology	1.91%	6.63%
Utilities	-	1.87%
Cash & Equivalents	4.91%	20.65%
Corporate	-	11.10%
Derivative	1.03%	-1.39%
Government	67.43%	17.93%
Municipal	-	0.01%
Securitized	-	0.76%

Risk Measures - As of 30/04/2023

	1Yr	1Yr Cat Ave	3Yr	3Yr Cat Ave	5Yr	5Yr Cat Ave
Alpha	-2.92	-4.06	2.42	-0.82	3.36	-1.74
Beta	0.36	0.81	0.48	0.88	0.51	0.95
Information Ratio	-0.14	-0.58	0.14	-0.26	0.40	-0.40
R Squared	47.15%	59.80%	46.36%	59.76%	52.82%	63.78%
Sharpe Ratio	-0.72	-0.61	0.74	0.29	0.90	0.26
Std Dev	5.43	9.25	5.36	8.60	5.38	8.96

Top 10 Holdings - As of 31/03/2023

Holding	Sector	Weighting
Unilever PLC	Consumer Defensive	3.67%
Visa Inc Class A	Financial Services	2.92%
Nestle SA	Consumer Defensive	2.88%
Diageo PLC	Consumer Defensive	2.54%
Microsoft Corp	Technology	1.72%
Becton, Dickinson and Co	Healthcare	1.64%
Alphabet Inc Class A	Communication Services	1.53%
Procter & Gamble Co	Consumer Defensive	1.40%
Franco-Nevada Corp	Basic Materials	1.39%
American Express Co	Financial Services	1.20%

abrdn Capital (CI) Limited (JER)
PO Box 189, St Helier, Jersey, JE4 9RU 01534 709130
FCA Recognised
abrdn Capital Offshore Strategy Fund Limited

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Bridge Fund	£2.2235	-	0.0050	2.07	4.57	5.37
Global Equity Fund	£3.4122	-	0.0187	1.35	9.65	8.26
Global Fixed Interest Fund	£0.7355	-	-0.0015	6.24	-1.99	-1.82
Income Fund	£0.6378	-	0.0009	3.15	1.85	6.00
Sterling Fixed Interest Fund	£0.6684	-	-0.0041	4.35	-10.39	-5.33
UK Equity Fund	£1.9615	-	0.0003	3.60	4.36	7.38

Algebris Investments (IRL)
Regulated

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Algebris Core Italy I EUR	€148.73	-	-0.17	0.00	3.09	16.98
Algebris Core Italy R EUR	€140.71	-	-0.16	0.00	2.32	17.29
Algebris Financial Credit I EUR	€172.48	-	3.44	0.00	-2.94	2.38
Algebris Financial Credit R EUR	€147.92	-	2.95	0.00	-3.62	1.78
Algebris Financial Credit Rd EUR	€87.87	-	1.75	6.13	-3.62	1.83
Algebris Financial Equity B EUR	€165.00	-	1.67	0.00	13.97	28.60
Algebris Financial Equity R EUR	€138.14	-	1.39	0.00	12.84	27.37
Algebris Financial Income I EUR	€178.00	-	1.15	-	2.40	15.34
Algebris Financial Income R EUR	€161.33	-	1.05	-	1.49	14.31
Algebris Financial Income Rd EUR	€96.62	-	0.63	-	1.50	14.31
Algebris Global Credit Opportunities I EUR	€126.42	-	0.50	0.00	2.44	4.09
Algebris Global Credit Opportunities R EUR	€123.09	-	0.50	0.00	1.84	3.74
Algebris Global Credit Opportunities Rd EUR	€106.25	-	0.42	2.65	1.84	3.86
Algebris IG Financial Credit I EUR	€97.22	-	0.36	0.00	-3.42	-0.64
Algebris IG Financial Credit R EUR	€95.51	-	0.37	0.00	-3.89	-1.13
Algebris Sust. World B	€106.29	-	0.99	-	-	-
Algebris Sust. World R	€105.50	-	0.98	-	-	-

The Antares European Fund Limited
Other International

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
AEF Ltd Usd	$552.23	-	-1.03	0.00	-4.46	-2.54
AEF Ltd Eur	€505.32	-	-1.04	0.00	-5.96	-3.35

Artemis Fund Managers Ltd (1200)F (UK)
57 St. James's Street, London SW1A 1LD 0800 092 2051
Authorised Inv Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Artemis SmartGARP UK Eq I Acc	2414.82	-	-3.10	4.06	8.64	20.25
Artemis Corporate Bond I Acc	97.54	-	-0.54	3.61	-6.63	-1.54
Artemis SmartGARP Eur Eq I Acc	456.14	-	7.61	-	14.96	16.98
Artemis European Opps I Acc	131.99	-	1.66	-	19.79	8.86
Artemis SmartGARP GloEmr Eq I Acc	167.09	-	-0.88	-	4.16	10.39
Artemis SmartGARP Glo Eq I Acc	380.90	-	-0.89	-	0.82	11.98
Artemis Global Income I Inc	105.84	-	0.00	4.50	-1.99	13.02
Artemis Global Select I Acc	166.01	-	0.86	0.55	3.98	7.81
Artemis High Income I Q Inc	68.77	-	-0.10	-	1.76	3.94
Artemis Income I Inc	252.67	-	-0.39	3.86	8.45	13.14
Artemis Monthly Dist I Inc	68.42	-	-0.12	4.71	-3.24	6.25
Artemis Positive Future Fund	68.06	-	0.11	-	8.15	-
Artemis Strategic Assets I Acc	103.19	-	-0.35	-	27.24	11.95
Artemis Strategic Bond I Q Acc	101.40	-	-0.41	4.18	-3.19	-0.83
Artemis Target Return Bond I Acc	106.80	-	-0.09	3.77	0.48	2.20
Artemis UK Select Fund Class I Acc	822.68	-	1.58	-	15.91	20.35
Artemis UK Smaller Cos I Acc	2037.91	-	-4.24	-	1.42	13.81
Artemis UK Special Sits I Acc	802.64	-	-0.46	-	11.68	14.35
Artemis US Abs Return I Hdg Acc	113.51	-	0.15	0.24	1.50	0.01
Artemis US Extended Alpha I Acc	338.88	-	3.94	-	8.87	11.25
Artemis US Select I Acc	298.50	-	3.51	-	6.95	7.12
Artemis US Smlr Cos I Acc	290.12	-	2.69	0.00	-0.80	6.24

Ashmore Group
61 Aldwych, London WC2B 4AE. Dealing team: +352 27 62 22 233
Authorised Inv Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Emerging Markets Equity Fund	$119.43	-	0.86	0.00	0.40	8.66
Emerging Markets Equity ESG Fund	$138.52	-	1.66	0.00	4.37	8.08
Emerging Markets Active Equity Fund	$119.97	-	0.34	0.00	-5.59	2.75
Emerging Markets Frontier Equity Fund	$176.84	-	1.10	1.01	-6.39	11.82
Emerging Markets Blended Debt Fund	$52.19	-	-0.22	4.97	-3.75	-4.43
Emerging Markets Blended Debt ESG Fund	$86.67	-	-0.27	0.00	-0.33	-2.72
Emerging Markets Debt Fund	$56.40	-	-0.01	5.94	-5.82	-5.03
Emerging Markets Corporate Debt Fund	$58.62	-	-0.08	7.62	-4.76	-2.52
Emerging Markets Local Currency Bond Fund	$63.34	-	-0.53	4.29	9.69	1.41

Atlantas Sicav (LUX)
Regulated

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
American Dynamic	$6567.79	-	28.47	0.00	2.32	9.04
American One	$7057.94	-	57.37	-	8.83	13.22
Bond Global	€1537.25	-	9.60	0.00	-0.75	0.25
Eurocroissance	€1400.79	-	9.22	0.00	9.56	9.33
Far East	$1025.41	-	9.30	0.00	6.24	4.68

Blue Whale Investment Funds ICAV (IRE)
www.bluewhale.co.uk, info@bluewhale.co.uk
FCA Recognised - Ireland UCITS

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Blue Whale Growth USD T	$9.69	-	0.14	-	16.51	-

Brooks Macdonald International Fund Managers Limited (JER)
5 Anley Street, St Helier, Jersey, JE2 3QE
+44 (0) 1534 700 104 (Int.) +44 (0) 800 735 8000 (UK)

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Brooks Macdonald International Investment Funds Limited						
Euro High Income	€1.2058	-	-0.0005	2.50	-6.23	-4.32
High Income	£0.6442	-	-0.0016	3.77	-9.11	-5.05
Sterling Bond	£1.2376	-	-0.0035	2.06	-8.14	-4.88
Brooks Macdonald International Multi Strategy Fund Limited						
Cautious Balanced Strategy	£1.2587	-	0.0015	0.00	-0.96	0.93
Cautious Balanced Strategy A	£0.9021	-	0.0011	1.11	-0.46	-
Balanced Strategy	£0.9313	-	0.0027	0.09	2.99	-
Balanced Strategy A	£0.9343	-	0.0027	0.57	3.50	-
Growth Strategy	£1.9724	-	0.0089	0.00	3.40	5.02
Growth Strategy A	£0.9447	-	0.0043	0.49	3.92	-
High Growth Strategy	£2.7593	-	0.0146	0.00	4.14	6.57
High Growth Strategy A	£0.9430	-	0.0050	0.12	4.66	-
US$ Growth Strategy	$1.7315	-	0.0129	0.00	4.62	3.78

Dealing Daily. Initial Charge Nil for A classes and up to 2% for other classes

Brown Advisory Funds plc (IRL)
http://www.brownadvisory.com Tel: 020 3301 8130
FCA Recognised

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
US Small Cap Blend Fund USD B	$21.25	-	0.13	0.00	4.83	12.36
US Flexible Equity Fund USD B	$24.75	-	0.27	0.00	10.49	12.88
Global Leaders Fund USD C	$21.95	-	0.22	0.00	12.28	12.27
US Sustainable Growth Fund USD C	$24.82	-	0.42	0.00	13.44	11.08
Global Leaders Sustainable Fund USD C	$13.24	-	0.14	0.00	10.61	12.13
US Equity Growth Fund USD B	$49.43	-	0.72	0.00	10.63	4.39
US Smaller Companies Fund USD B	$35.30	-	0.21	0.00	9.15	9.32
US Mid-Cap Growth Fund USD C	$17.07	-	0.23	0.00	10.13	5.42
Global Sustainable Total Return Bond GBP B	£9.46	-	-0.03	0.89	-1.69	-

CG Asset Management Limited (IRL)
25 Moorgate, London, EC2R 6AY
Dealing: Tel. +353 1434 5098 Fax. +353 1542 2859
FCA Recognised
CG Portfolio Fund Plc

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Absolute Return Cls M Inc	£134.29	134.90	-0.10	1.67	-3.25	4.10
Capital Gearing Portfolio GBP P	£36860.03	37053.40	-32.13	1.69	-3.98	4.49
Capital Gearing Portfolio GBP V	£179.41	180.40	-0.16	1.69	-3.98	4.49
Dollar Fund Cls D Inc	£165.15	165.64	0.07	1.24	-5.35	-1.36
Dollar Hedged GBP Inc	£94.52	94.80	-0.42	1.19	-6.80	-1.25
Real Return Cls A Inc	£197.73	198.33	-0.12	1.73	-4.67	-1.18

Candriam Investors Group (LUX)
FCA Recognised

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Candriam Eqts L Australia Cap	A$1935.11	-	27.42	0.00	6.81	17.46

Candriam Investors Group
Other International Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Candriam Eqts L Emerging Mkts Cap	€837.25	-	5.74	0.00	-13.03	1.06
Candriam Bonds Credit Opportunities	€198.11	-	-0.07	0.00	2.81	-0.16
Candriam Bds Euro High Yield Cap	€1193.82	-	-0.68	0.00	2.15	1.61
Candriam Bds Euro Sh.Term Cap	€1999.94	-	-1.80	0.00	-1.53	-0.92

Chartered Asset Management Pte Ltd
Other International Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
CAM-GTF VCC	$287397.45	287397.45	1722.97	-	-6.36	3.78
CAM GTi VCC	$780.49	-	-32.39	-	12.31	4.69
RAIC VCC	$1.64	1.64	0.03	2.06	5.74	-1.66

Consistent Unit Tst Mgt Co Ltd (1200)F (UK)
Stuart House, St John's Street, Peterborough, PE1 5DD
Dealing & Client Services 0345 850 8818
Authorised Inv Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Consistent UT Inc	60.40	60.40	0.05	1.03	-4.13	15.75
Consistent UT Acc	164.10	164.10	0.20	1.03	-4.09	15.76
Practical Investment Inc	243.20	243.20	0.70	3.76	8.36	12.42
Practical Investment Acc	1548.00	1548.00	4.00	3.76	8.33	11.76

CP Global Asset Management Pte. Ltd.
www.cpglobal.com.sg, Email: customer_support@cpglobal.com.sg
International Mutual Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
CP Multi-Strategy Fund	$310.69	-	-0.14	-	6.31	11.28

CP Capital Asset Management Limited
www.cpgbl.com, email: fundservices@cpgbl.com
International Mutual Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
CPS Master Private Fund	$426.36	-	1.33	-	8.35	10.56
CP Global Alpha Fund	$349.79	-	0.58	-	7.94	10.83

DWS (LUX)
Tel: +44 (0) 20 7541 8999 www.dws.com
FCA Recognised

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
DWS Invest Top Dividend	£148.22	148.22	-0.44	3.15	-0.66	8.20
DWS Invest Top Euroland	£161.14	161.14	0.08	-	12.41	12.20
DWS Invest Multi Opportunities	£117.68	117.68	-0.18	0.00	3.95	6.93
DWS Invest Global Bonds	£93.05	93.05	-0.10	0.00	-3.91	-2.23

Dodge & Cox Worldwide Funds (IRL)
48-49 Pall Mall, London SW1Y 5JG.
www.dodgeandcox.worldwide.com 020 3713 7664
FCA Recognised

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Dodge & Cox Worldwide Funds plc - Global Bond Fund						
EUR Accumulating Class	€15.98	-	0.04	0.00	1.59	2.85
EUR Accumulating Class (H)	€10.59	-	-0.03	0.00	1.73	0.77
EUR Distributing Class	€11.44	-	0.03	3.42	0.45	1.88
EUR Distributing Class (H)	€7.51	-	-0.03	3.39	0.40	-0.33
GBP Distributing Class	£12.20	-	0.04	4.18	3.98	1.76
GBP Distributing Class (H)	£8.10	-	-0.02	3.47	1.94	0.56
USD Accumulating Class	$12.42	-	-0.05	0.00	4.55	2.36
Dodge & Cox Worldwide Funds plc-Global Stock Fund						
USD Accumulating Share Class	$29.84	-	0.02	0.00	5.93	18.11
GBP Accumulating Share Class	£39.55	-	0.29	0.00	5.33	17.42
GBP Distributing Share class	£26.55	-	0.19	0.80	4.86	17.04
EUR Accumulating Share Class	€41.59	-	0.28	0.00	2.87	18.63
GBP Distributing Class (H)	£13.73	-	0.01	0.76	3.44	16.16
Dodge & Cox Worldwide Funds plc-U.S. Stock Fund						
USD Accumulating Share Class	$37.73	-	0.22	0.00	1.78	17.38
GBP Accumulating Share Class	£47.30	-	0.59	0.00	1.24	16.71
GBP Distributing Share Class	£28.28	-	0.36	0.17	0.64	16.34
EUR Accumulating Share Class	€45.42	-	0.55	0.00	-1.11	17.92
GBP Distributing Class (H)	£14.87	-	0.08	0.36	-0.50	15.57

Dragon Capital
www.dragoncapital.com
Fund information:info@dragoncapital.com
Other International Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Vietnam Equity (UCITS) Fund A USD	$25.72	-	0.10	0.00	-20.69	10.43

EdenTree Investment Management Ltd (UK)
PO Box 3733, Swindon, SN4 4BG, 0800 358 3010
Authorised Inv Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Amity Balanced For Charities A Inc	99.99	-	-0.01	5.71	-0.66	7.90
Amity Global Equity Inc for Charities A Inc	157.50	-	0.70	-	6.23	9.27
EdenTree European Equity Cls A Inc	329.50	-	0.10	1.91	14.71	16.30
EdenTree European Equity Cls B Inc	333.20	-	0.10	2.40	15.32	16.97
EdenTree Global Equity Cls A Inc	339.30	-	2.30	0.53	9.20	9.14
EdenTree Global Equity Cls B Inc	342.60	-	2.40	1.04	9.77	9.75
EdenTree Responsible and Sust S Dtd Bd B	92.95	-	-0.13	1.63	-1.94	-0.96
EdenTree Sterling Bond Cls A Inc	83.66	-	-0.39	4.13	-7.82	-2.63
EdenTree Sterling Bond Cls B Inc	94.67	-	-0.44	4.13	-7.30	-2.02
EdenTree UK Equity Cls A Inc	225.80	-	0.20	1.53	3.90	3.87
EdenTree UK Equity Cls B Inc	225.40	-	0.20	2.08	4.46	4.50
EdenTree UK Equity Opps Cls A Inc	278.20	-	1.30	1.16	1.97	5.44
EdenTree UK Equity Opps Cls B Inc	284.30	-	1.30	1.72	2.53	6.05
Edentree Global Impact Bond B	85.15	-	-0.27	3.14	-3.43	-
Edentree Green Future B Net Inc	101.50	-	0.80	0.48	8.38	-
EdenTree Managed Income Cls A Inc	122.90	-	-0.10	4.87	-0.49	8.21
EdenTree Managed Income Cls B Inc	131.40	-	-0.20	4.87	0.00	8.77

Euronova Asset Management UK LLP (CYM)
Regulated

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Smaller Cos Cls One Shares	€55.34	-	0.40	0.00	1.62	5.90
Smaller Cos Cls Two Shares	€35.25	-	0.26	0.00	1.12	4.32
Smaller Cos Cls Three Shares	€17.59	-	0.13	0.00	1.09	4.11
Smaller Cos Cls Four Shares	€23.19	-	0.17	0.00	1.13	4.90

Fidelity Investments International
Other International Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Emerging Mkts NAV	£7.21	-	-0.16	2.04	-4.67	-2.46

FIL Investment Services (UK) Limited (1200)F (UK)
Beech Gate, Millfield Lane, Lower Kingswood, Tadworth, KT20 6RP
Callfree: Private Clients 0800 414161
Broker Dealings: 0800 414 181
OEIC Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Allocator World Fund W-ACC-GBP	£2.68	-	0.01	-	6.14	10.97
American Fund W-ACC-GBP	£56.87	-	0.60	-	16.18	6.47
American Special Sits W-ACC-GBP	£21.52	-	0.11	-	-2.62	14.33
Asia Fund W-ACC-GBP	£14.95	-	0.01	-	-2.10	1.64
Asia Pacific Ops W-Acc	£2.83	-	0.02	-	2.06	9.82
Asian Dividend Fund W-ACC-GBP	£2.29	-	0.01	3.03	-0.48	8.20
Cash Fund W-ACC-GBP	£1.04	-	0.00	-	2.58	0.86
China Consumer Fund W-ACC-GBP	£2.49	-	-0.03	-	-5.57	-8.18
Emerging Asia Fund W-ACC-GBP	£1.83	-	0.00	-	1.84	5.38
Enhanced Income Fund W-INC-GBP	£0.86	-	-0.01	6.46	7.76	10.63
European Fund W-ACC-GBP	£25.85	-	0.13	1.46	21.53	14.26
Extra Income Fund W-ACC-GBP	£1.26	-	-0.01	4.64	-6.66	-0.86
Global Dividend Fund W-ACC-GBP	£3.07	-	0.01	2.65	8.76	8.99
Global Enhanced Income W-ACC-GBP	£2.39	-	0.01	4.36	8.92	8.34
Global High Yield Fund W-ACC-GBP	£13.74	-	-0.01	5.18	-2.07	0.39
Global Property Fund W-ACC-GBP	£1.79	-	-0.02	2.05	-14.64	0.19
Global Special Sits W-ACC-GBP	£55.83	-	0.36	-	6.02	10.66
Index Emerging Markets P-ACC-GBP	£1.65	-	0.00	2.99	-0.72	3.64
Index Europe ex UK P-ACC-GBP	£2.05	-	0.01	-	19.07	13.73
Index Japan P-ACC-GBP	£1.99	-	-0.02	-	9.99	6.37
Index Pacific ex Japan P-Acc-GBP	£1.89	-	0.01	-	1.93	9.08
Index Sterling Corporate Bond Fund P-ACC-GBP	£0.82	-	-0.01	2.95	-9.00	-
Index UK Gilt Fund P-ACC-GBP	£0.72	-	-0.01	2.02	-17.60	-
Index UK P-ACC-GBP	£1.64	-	0.00	-	9.36	12.26
Index US P-ACC-GBP	£3.53	-	0.03	-	9.62	13.51
Index World P-ACC-GBP	£2.77	-	0.01	1.70	10.06	12.55
Japan Fund W-ACC-GBP	£5.98	-	-0.06	-	11.44	12.12
Japan Smaller Companies Fund W-ACC-GBP	£3.66	-	-0.02	0.65	9.82	1.68
MoneyBuilder Balanced Fund W-ACC-GBP	£0.60	-	-0.01	3.18	-2.06	3.11
MoneyBuilder Dividend Fund W-INC-GBP	£1.30	-	0.00	4.06	6.39	10.70
Multi Asset Allocator Adventurous Fund W-ACC-GBP	£2.14	-	0.01	1.05	4.14	7.94
Multi Asset Allocator Defensive Fund W-ACC-GBP	£1.31	-	0.00	1.18	-1.87	-1.02
Multi Asset Allocator Growth Fund W-ACC-GBP	£1.85	-	0.00	1.03	2.04	4.83
Multi Asset Allocator Strategic Fund W-ACC-GBP	£1.59	-	0.00	-	0.00	1.83
Multi Asset Balanced Income Fund W-INC-GBP	£0.94	-	-0.01	3.93	-4.05	0.96
Multi Asset Income & Growth Fund W-INC-GBP	£1.01	-	-0.01	3.83	-2.77	3.17
Multi Asset Income Fund W-INC-GBP	£0.86	-	-0.01	4.79	-7.16	-0.79
Multi Asset Open Advent W-ACC-GBP	£1.77	-	0.01	1.51	3.21	8.05
Multi Asset Open Defen W-ACC-GBP	£1.34	-	0.00	2.04	-1.25	1.99
Multi Asset Open Growth Fund W-ACC-GBP	£1.67	-	0.00	1.69	2.76	7.57
Multi Asset Open Strategic Fund W-ACC-GBP	£1.52	-	0.00	1.89	0.40	4.62
Open World Fund W-ACC-GBP	£2.32	-	0.01	-	6.52	11.20
Select 50 Balanced Fund PI-ACC-GBP	£1.15	-	0.00	-	-0.35	3.34
Short Dated Corporate Bond Fund W-ACC-GBP	£10.63	-	-0.02	3.76	-1.34	0.12
Special Situations Fund W-ACC-GBP	£43.35	-	-0.17	3.26	6.77	16.20
Strategic Bond Fund W-ACC-GBP	£1.18	-	0.00	3.46	-4.68	-2.80
Sustainable Emerg Mkts Equity Fund A-ACC Shares	£1.52	-	0.01	4.74	-13.81	-0.91
Sustainable Emerg Mkts Equity Fund A-ACC Shares	£1.52	-	0.01	4.74	-13.81	-0.91
Sustainable European Equity Fund W-ACC-GBP	£5.88	-	0.02	0.97	20.27	10.21
Sustainable Global Equity Fund W-ACC-GBP	£33.94	-	0.23	0.42	9.94	8.56
Sustainable MoneyBuilder Income Fund W-ACC-GBP	£12.11	-	-0.07	-	-9.76	-4.24
Sustainable Multi Asset Balanced Fund W-ACC-GBP	£0.94	-	0.00	1.57	0.11	-
Sustainable Multi Asset Conservative Fund W-ACC-GBP	£0.90	-	0.00	1.68	-4.57	-
Sustainable Multi Asset Growth Fund W-ACC-GBP	£0.97	-	0.01	1.43	2.16	-
Sustainable Water & Waste W-ACC-GBP	£1.16	-	0.01	0.54	3.93	8.00
UK Opportunities Fund W-ACC-GBP	249.60	-	0.70	1.26	-10.05	6.66
UK Select Fund W-ACC-GBP	£3.75	-	0.01	2.48	8.11	10.91
UK Smaller Companies W-ACC-GBP	£3.70	-	-0.02	-	7.03	23.01

Findlay Park Funds Plc (IRL)
30 Herbert Street, Dublin 2, Ireland Tel: 020 7968 4900
FCA Recognised

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
American EUR Unhedged Class	€158.21	-	2.27	-	6.76	-
American Fund USD Class	$170.43	-	1.66	-	9.40	9.64
American Fund GBP Hedged	£83.27	-	0.80	0.00	6.95	8.31
American Fund GBP Unhedged	£137.34	-	1.97	-	9.44	9.00

Foord Asset Management
Website: www.foord.com - Email: info@foord.com

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
FCA Recognised - Luxembourg UCITS						
Foord International Fund | R	$50.04	-	-0.27	0.00	1.68	5.98
Foord Global Equity Fund (Lux) | R	$16.70	-	0.03	0.00	2.99	-
Regulated						
Foord Global Equity Fund (Sing) | B	$19.97	-	0.03	0.00	5.67	6.39
Foord International Trust (Gsy)	$48.60	-	-0.18	0.00	1.74	5.51

Fundsmith LLP (1200)F (UK)
PO Box 10846, Chelmsford, Essex, CM99 2BW 0330 123 1815
www.fundsmith.co.uk, enquiries@fundsmith.co.uk
Authorised Inv Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Fundsmith Equity T Acc	633.90	-	3.47	0.16	16.85	9.27
Fundsmith Equity T Inc	577.72	-	3.16	0.16	16.85	9.27

GAM
funds@gam.com, www.funds.gam.com
Regulated

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
LAPIS GBL TOP 50 DIV.YLD-Na-D	£119.71	-	0.75	2.67	-3.17	11.61
LAPIS GBL F OWD 50 DIV.YLD-Na-D	£105.21	-	-0.14	1.03	6.28	7.79
LAPIS GBL MED DEV 25.YLD-Na-D	£97.21	-	-0.46	-	-	-

Guinness Global Investors

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Guinness Global Equity Income Y GBP Dist	£19.25	-	0.17	2.18	8.90	13.63
Guinness Global Innovators Y GBP Acc	£27.86	-	0.56	0.00	11.10	11.63
Guinness Sustainable Global Equity Y GBP Acc	£11.21	-	0.18	-	8.62	-

HPB Assurance Ltd
Anglo Intl House, Bank Hill, Douglas, Isle of Man, IM1 4LN 01638 563490
International Insurances

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Holiday Property Bond Ser 1	£0.48	-	0.00	0.00	1.26	-2.57
Holiday Property Bond Ser 2	£0.63	-	0.00	0.00	0.32	-0.63

Hermes Property Unit Trust (UK)
Property & Other UK Unit Trusts

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Property	£6.35	6.82	-0.01	-	-12.57	-1.71

Janus Henderson Investors (UK)
PO Box 9023, Chelmsford, CM99 2WB Enquiries: 0800 832 832
www.janushenderson.com
Authorised Inv Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Janus Henderson Asia Pacific Capital Growth Fund A Acc	1109.00	-	1.00	-	-2.72	-0.09
Janus Henderson Asian Dividend Income Unit Trust Inc	76.63	-	0.24	6.03	-4.64	0.91
Janus Henderson Cautious Managed Fund A Acc	286.80	-	-1.20	-	0.03	4.64
Janus Henderson Cautious Managed Fund A Inc	140.20	-	-0.60	-	0.07	4.91
Janus Henderson China Opportunities Fund A Acc	1086.00	-	-12.00	0.28	-13.95	-10.64
Janus Henderson Emerging Markets Opportunities Fund A Acc	189.90	-	0.10	0.76	-4.72	1.39
Janus Henderson European Growth Fund A Acc	306.20	-	1.30	1.15	13.45	12.04
Janus Henderson European Selected Opportunities Fund A Acc	2340.00	-	8.00	1.15	16.19	12.01
Janus Henderson Fixed Interest Monthly Income Fund Inc	17.28	-	-0.11	4.92	-6.34	-2.77
Janus Henderson Global Equity Fund Acc	4231.00	-	5.00	0.00	3.93	5.50
Janus Henderson Global Equity Income Fund A Inc	67.62	-	0.17	3.28	8.60	10.50
Janus Henderson Global Sustainable Equity Fund A Inc	485.20	-	4.50	0.00	8.62	10.30
Janus Henderson Global Technology Leaders Fund A Acc	3092.00	-	50.00	0.00	14.26	8.77
Janus Henderson Instl UK Index Opportunities A Acc	£1.17	-	0.00	2.87	9.15	11.76
Janus Henderson Multi-Asset Absolute Return Fund A Acc	163.90	-	-0.60	0.81	0.49	5.60
Janus Henderson Multi-Manager Active Fund A Acc	257.70	-	0.20	-	1.78	5.59
Janus Henderson Multi-Manager Distribution Fund A Inc	125.60	-	-0.10	2.59	-1.26	2.97
Janus Henderson Multi-Manager Diversified Fund A Acc	86.97	-	-0.26	2.40	-2.26	0.44
Janus Henderson Multi-Manager Global Select Fund Acc	315.40	-	2.40	0.00	6.48	9.58
Janus Henderson Multi-Manager Income & Growth Fund A Acc	188.70	-	-0.10	-	-0.74	3.34
Janus Henderson Multi-Manager Income & Growth Fund A Inc	146.80	-	-0.10	2.71	-0.73	3.35
Janus Henderson Multi-Manager Managed Fund A Acc	315.70	-	0.00	0.24	2.00	5.23
Janus Henderson Multi-Manager Managed Fund A Inc	304.60	-	0.00	0.31	2.02	5.24
Janus Henderson Sterling Bond Unit Trust Acc	201.30	-	-1.30	1.82	-10.13	-5.60
Janus Henderson Sterling Bond Unit Trust Inc	54.66	-	-0.35	1.84	-10.19	-5.61
Janus Henderson Strategic Bond Fund A Inc	102.00	-	-0.80	3.26	-6.86	-3.48
Janus Henderson Absolute Return Fund A Acc	170.50	-	0.10	0.00	4.22	2.16
Janus Henderson UK Alpha Fund A Acc	141.20	-	0.40	1.12	1.22	5.60
Janus Henderson UK Equity Income & Growth Fund A Inc	508.50	-	0.50	4.96	3.34	13.32
Janus Henderson US Growth Fund A Acc	1766.00	-	24.00	-	10.72	7.56

MANAGED FUNDS SERVICE

Kleinwort Hambros Bank Limited (UK)
5TH Floor, 8 St James's Square, London, SW1Y 4JU
Dealing and enquiries: 033 0024 0785
Authorised Inv Funds
Unit Trust Manager/ACD - Host Capital

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
HC Kleinwort Hambros Growth A Acc	239.98	-	0.92	1.36	1.20	5.17
HC Kleinwort Hambros Growth A Inc	217.74	-	0.84	1.38	1.20	5.18
HC Kleinwort Hambros Equity Income A Inc	96.13	-	-0.54	3.06	-0.58	9.82
HC Kleinwort Hambros Equity Income A Acc	193.96	-	-1.09	4.50	-0.58	9.82
HC Kleinwort Hambros Multi Asset Balanced A Acc	170.76	-	0.36	0.81	-1.01	2.12
HC Kleinwort Hambros Multi Asset Balanced A Inc	161.40	-	0.34	0.81	-1.02	2.12
HC Kleinwort Hambros Fixed Income A Acc	123.89	-	-0.03	3.44	-10.06	-2.73
HC Kleinwort Hambros Fixed Income A Inc	93.86	-	-0.02	3.44	-10.06	-2.73

Lazard Fund Managers Ltd (1200)F (UK)
P.O. Box 364, Darlington, DL1 9RD
Dealing: 0870 6066408, Info: 0870 6066459
Authorised Inv Funds
Lazard Investment Funds (OEIC) B Share Class

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Developing Markets Acc	115.98	-	-0.03	0.53	-2.69	1.39
Developing Markets Inc	113.56	-	-0.92	0.54	-3.63	3.25
Emerging Markets Acc	360.59	-	0.17	4.84	3.35	8.64
Emg Mkts Inc	269.95	-	0.13	5.07	3.35	8.64
European Alpha Acc	1111.34	-	-0.21	1.13	16.47	11.38
European Alpha Inc	949.54	-	-0.18	1.14	16.47	11.38
European Smaller Cos Acc	681.06	-	3.19	1.12	-0.63	8.36
Global Equity Income Acc	226.63	-	0.24	3.42	2.72	11.97
Global Equity Income Inc	112.81	-	0.12	3.50	2.73	11.97
Managed Bal Inc	183.84	-	-0.08	2.17	0.74	5.65
UK Income Acc	1659.28	-	1.61	3.90	6.66	12.01
UK Income Inc	592.86	-	0.58	4.00	6.66	12.01
UK Omega Acc	298.47	-	0.95	1.92	14.41	13.45
UK Omega Inc	244.62	-	0.78	1.95	14.42	13.45
UK Smaller Cos Inc	2001.70	-	8.44	-	-24.24	1.74

Lothbury Property Trust (UK)
155 Bishopsgate, London EC2M 3TQ +44(0) 20 3551 4900
Property & Other UK Unit Trusts

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Lothbury Property Trust GBP	£ 1632.89	1677.74	-3.56	3.42	-23.91	-4.16

M & G Securities (1200)F (UK)
PO Box 9038, Chelmsford, CM99 2XF
www.mandg.co.uk/charities Enq./Dealing: 0800 917 4472
Authorised Inv Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Charifund Inc	1467.14	-	-0.58	5.69	2.27	11.62
Charifund Acc	29615.31	-	-11.68	4.81	2.27	11.61
M&G Charibond Charities Fixed Interest Fund (Charibond) Inc	£ 1.07	-	-0.01	2.43	-4.85	-2.43
M&G Charibond Charities Fixed Interest Fund (Charibond) Acc	£ 38.94	-	-0.19	1.97	-4.85	-2.38
M&G Charity Multi Asset Fund Inc	£ 0.89	-	0.00	3.87	4.59	10.49
M&G Charity Multi Asset Fund Acc	£ 108.40	-	0.00	3.54	4.59	10.50

MMIP Investment Management Limited (GSY)
Regulated
Multi-Manager Investment Programmes PCC Limited

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
UK Equity Fd Cl A Series 01	£ 3312.15	3338.48	59.65	0.00	4.51	17.87
Diversified Absolute Rtn Fd USD Cl AF2	$ 1688.02	-	45.93	-	-1.51	1.32
Diversified Absolute Return Stlg Cell AF2	£ 1580.96	-	25.26	-	-1.45	2.70
Global Equity Fund A Lead Series	£ 1752.47	1755.76	-19.13	0.00	-1.30	8.17

Marwyn Asset Management Limited (CYM)
Regulated

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Marwyn Value Investors	£ 329.72	-	-6.14	0.00	-	-7.17

McInroy & Wood Portfolios Limited (UK)
Easter Alderston, Haddington, EH41 3SF 01620 825867
Authorised Inv Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Balanced Fund Personal Class Units	6111.60	-	23.90	1.40	7.31	7.38
Income Fund Personal Class Units	2895.40	-	3.40	2.40	2.28	6.76
Emerging Markets Fund Personal Class Units	2230.30	-	-5.10	1.48	5.23	5.48
Smaller Companies Fund Personal Class Units	6264.40	-	43.80	1.30	4.51	5.64

Milltrust International Managed Investments ICAV (IRL)
mimi@milltrust.com, +44(0)20 8123 8316 www.milltrust.com
Regulated

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
British Innovation Fund	£ 121.92	-	2.89	0.00	-	-
MAI - Buy & Lease (Australia)	A$ 103.45	-	0.50	0.00	-16.53	1.41
MAI - Buy & Lease (New Zealand)	NZ$ 91.20	-	-6.06	0.00	-7.20	-2.67
Milltrust Global Emerging Markets Fund - Class A	$ 95.03	-	-0.06	0.00	-9.05	6.71

Milltrust International Managed Investments SPC
em@milltrust.com, +44(0)20 8123 8316, www.milltrust.com
Regulated

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Milltrust Alaska Brazil Fund SP A	$ 88.47	-	0.25	0.00	8.80	19.95
Milltrust Laurium Africa Fund SP A	$ 93.51	-	-1.60	0.00	-6.25	10.25
Milltrust Marcellus India Fund SP	$ 123.87	-	-0.68	0.00	-1.18	-
Milltrust Singular ASEAN Fund SP Founders	$ 128.68	-	0.00	0.00	-7.90	14.63
Milltrust SPARX Korea Equity Fund SP A	$ 112.21	-	1.44	0.00	-7.60	4.23
Milltrust Xingtai China Fund SP A	$ 96.00	-	0.27	0.00	-8.84	-8.15
The Climate Impact Asia Fund SP A	$ 79.16	-	0.21	0.00	-0.34	-
The Climate Impact Asia Fund (Class B)	$ 78.36	-	0.21	0.00	-0.84	-

Ministry of Justice Common Investment Funds (UK)
Property & Other UK Unit Trusts

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
The Equity Idx Tracker Fd Inc	1923.00	-	6.00	2.45	6.06	9.57

Distribution Units

Mirabaud Asset Management (LUX)
www.mirabaud.com, marketing@mirabaud-am.com
Please find more details on our website: www.mirabaud-am.com
Regulated

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Mir. - Glb Strat. Bd I USD	$ 116.05	-	-0.03	0.00	-0.63	1.01
Mir. - DiscEur D Cap GBP	£ 165.93	-	-0.24	0.00	-6.87	8.71
Mir. - UKEq HA Cap I GBP	£ 135.20	-	-0.83	0.00	-1.27	7.55

Oasis Crescent Global Investment Funds (UK) ICVC (UK)
Regulated

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Oasis Crescent Global Equity Fund USD A (Dist)	$ 34.56	-	0.05	0.50	-2.75	5.48
Oasis Crescent Global Income Fund USD A (Dist)	$ 10.02	-	-0.02	3.07	0.43	0.77
Oasis Crescent Global Low Equity Fund USD D (Dist)	$ 12.12	-	-0.04	1.01	-3.38	2.47
Oasis Crescent Global Medium Equity Fund USD A (Dist)	$ 13.54	-	-0.02	0.32	-2.85	3.56
Oasis Crescent Global Property Equity Fund USD A (Dist)	$ 7.62	-	-0.07	1.51	-13.79	4.76
Oasis Crescent Global Short Term Income Fund USD A (Dist)	$ 0.93	-	0.00	2.17	-0.56	0.05
Oasis Crescent Variable Fund GBP A (Dist)	£ 9.74	-	0.01	0.37	-3.17	4.17

Omnia Fund Ltd
Other International Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Estimated NAV	$ 941.41	-	0.53	0.00	20.53	23.64

Orbis Investments (U.K.) Limited (GBR)
28 Dorset Square, London, NW1 6QG
www.orbis.com 0800 358 2030
Regulated

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Orbis OEIC Global Cautious Standard	£ 12.03	-	0.01	0.00	2.22	7.34
Orbis OEIC Global Balanced Standard	£ 19.81	-	0.08	0.37	5.96	13.60
Orbis OEIC Global Equity Standard	£ 22.22	-	0.21	2.55	8.20	11.17
Orbis OEIC UK Equity Standard	£ 12.47	-	0.05	2.94	17.33	25.87

Platinum Capital Management Ltd
Other International Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Platinum All Star Fund - A	$ 147.71	-	-	-	-1.91	5.84
Platinum Global Growth UCITS Fund	$ 8.13	-	0.00	0.00	-6.12	-8.72
Platinum Essential Resources UCITS Fund SICAV USD Class E	$ 9.50	-	-0.22	0.00	-22.39	12.40
Platinum Global Dividend UCITS Fund	$ 45.85	-	-0.43	0.00	-6.71	-2.01

Polar Capital Funds Plc (IRL)
Regulated

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Automation & Artificial Intelligence CL I USD Acc	$ 16.31	16.31	0.26	0.00	9.32	9.30
Asian Starts I USD Acc $	$ 14.04	-	0.11	-	-1.61	5.85
Biotechnology I USD	$ 39.61	39.61	-0.35	0.00	20.69	9.46
China Stars I USD Acc $	$ 10.76	10.76	-0.05	-	-3.93	-2.28
Emerging Market Stars I USD Acc	$ 11.26	-	0.06	0.00	-1.23	4.28
European Ex UK Inc EUR Acc	€ 15.44	15.44	0.05	0.00	11.56	14.63
Financial Opps I USD	$ 13.93	-	0.08	2.12	4.92	15.10
Global Convertible I USD	$ 13.60	13.60	-0.03	0.00	-0.44	1.08
Global Insurance I GBP	£ 10.16	-	0.15	0.00	12.36	18.67
Global Technology I USD	$ 73.72	-	1.50	0.00	9.78	6.53
Healthcare Blue Chip Fund I USD Acc	$ 19.34	19.34	0.01	0.00	7.50	10.10
Healthcare Dis I Acc USD $	$ 13.10	-	-0.06	0.00	9.53	7.69
Healthcare Opps I USD	$ 69.84	-	-0.49	0.00	18.39	9.26
Income Opportunities B2 I GBP Acc	£ 2.98	2.98	0.01	0.00	4.78	16.30
Japan Value I JPY	¥ 162.88	162.88	-0.01	-	27.96	17.88
North American I USD	$ 33.74	33.74	0.31	-	5.77	13.40
Smart Energy I USD Acc $	$ 9.60	9.60	0.12	0.00	16.50	-
Smart Mobility I USD Acc $	$ 9.08	9.08	0.13	0.00	9.93	-
UK Val Opp I GBP Acc	£ 12.84	12.84	0.04	0.00	0.94	9.80

Private Fund Mgrs (Guernsey) Ltd (GSY)
Regulated

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Monument Growth 16/05/2023	£ 551.29	556.53	1.96	0.00	2.36	7.48

Prusik Investment Management LLP (IRL)
Enquiries - 0207 493 1331
Regulated

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Prusik Asian Equity Income B Dist	$ 181.31	-	0.77	4.83	4.13	11.08
Prusik Asia Emerging Opportunities Fund A Acc	$ 178.30	-	-0.82	0.00	-3.36	13.82
Prusik Asia Fund U Dist.	£ 204.62	-	0.49	0.00	-6.43	3.10
Prusik Asia Sustainable Growth Fund A Acc	$ 88.26	-	0.27	0.00	-1.62	-

Purisima Investment Fds (UK) (1200)F (UK)
65 Gresham Street, London, EC2V 7NQ
Order Desk and Enquiries: 0345 922 0044
Authorised Inv Funds
Authorised Corporate Director - Link Fund Solutions

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Global Total Fd PCG A	403.63	-	4.64	0.17	14.78	11.68
Global Total Fd PCG B	398.15	-	4.57	0.00	14.50	11.40
Global Total Fd PCG INT	390.37	-	4.48	0.00	14.21	11.12

Purisima Investment Fds (CI) Ltd (JER)
Regulated

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
PCG B ✠	304.83	-	4.46	0.00	5.74	10.29
PCG C ✠	296.28	-	4.34	0.00	5.52	10.05

Ram Active Investments SA
www.ram-ai.com
Other International Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
RAM Systematic Emerg Markets Eq	$ 218.04	218.04	-0.59	-	2.14	12.44
RAM Systematic European Eq	€ 538.19	538.19	-1.86	-	-1.03	12.70
RAM Systematic Funds Global Sustainable Income Eq	$ 149.82	149.82	0.58	0.00	-1.00	13.21
RAM Systematic Long/Short European Eq	€ 146.68	146.68	0.29	-	-5.72	1.45
RAM Systematic US Sustainable Eq	$ 336.66	336.66	5.61	-	-2.22	5.02
RAM Tactical Global Bond Total Return	€ 140.04	140.04	-0.24	-	-2.18	-1.86
RAM Tactical II Asia Bond Total Return	$ 146.80	146.80	-0.24	-	0.05	-0.04

Royal London (UK)
55 Gracechurch Street, London, EC3V rlam.co.uk
Authorised Inv Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Royal London Sustainable Diversified A Inc	£ 2.38	-	0.01	0.86	4.10	3.17
Royal London Sustainable World A Inc	354.90	-	1.90	-	8.74	5.87
Royal London Corporate Bond Mth Income	74.71	-	0.18	4.26	-6.77	-3.00
Royal London European Growth Trust	216.60	-	1.20	1.10	19.67	13.06
Royal London Sustainable Leaders A Inc	812.60	-	1.10	1.15	11.74	9.15
Royal London UK Growth Trust	635.50	-	1.20	2.04	9.20	10.40
Royal London UK Income With Growth Trust	205.90	-	-0.40	5.09	0.12	8.67
Royal London US Growth Trust	385.50	-	4.30	-	13.22	14.05

Additional Funds Available
Please see www.royallondon.com for details

Ruffer LLP (1000)F (UK)
65 Gresham Street, London, EC2V 7NQ
Order Desk and Enquiries: 0345 601 9610
Authorised Inv Funds
Authorised Corporate Director - Link Fund Solutions

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
LF Ruffer Diversified Rtrn C Acc	101.16	-	-0.56	1.87	-3.90	-
LF Ruffer Diversified Rtrn C Inc	99.31	-	-0.55	1.88	-3.90	-
LF Ruffer European C Acc	780.30	-	-11.50	0.80	0.28	10.58
LF Ruffer European C Inc	139.98	-	-2.06	-	0.29	10.59
LF Ruffer Equity & General C Acc	573.53	-	-2.15	0.76	2.52	10.31
LF Ruffer Equity & General C Inc	518.15	-	-1.94	0.76	2.52	10.31
LF Ruffer Gold C Acc	260.80	-	-13.55	0.00	-3.02	-0.28
LF Ruffer Gold C Inc	157.85	-	-8.20	0.00	-3.01	-0.28
LF Ruffer Japanese C Inc	166.45	-	2.06	-	7.89	6.76
LF Ruffer Japanese C Acc	358.59	-	4.44	0.24	7.89	6.76
LF Ruffer Total Return C Acc	550.44	-	-4.66	2.89	-2.15	5.46
LF Ruffer Total Return C Inc	338.80	-	-2.86	2.96	-2.13	5.48

Rubrics Global UCITS Funds Plc (IRL)
www.rubricsam.com
Regulated

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Rubrics Emerging Markets Fixed Income UCITS Fund	$ 138.74	-	-0.55	0.00	3.08	1.44
Rubrics Global Credit UCITS Fund	$ 16.91	-	-0.02	0.00	-0.52	0.38
Rubrics Global Fixed Income UCITS Fund	$ 171.90	-	-0.41	0.00	-0.57	-1.93

Scottish Friendly Asset Managers Ltd (UK)
Scottish Friendly Hse, 16 Blythswood Sq, Glasgow G2 4HJ 0141 275 5000
Authorised Inv Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Managed Growth ♦	349.80	-	0.90	0.00	5.08	11.00
UK Growth ♦	413.00	-	0.50	0.00	7.33	14.41

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

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Khaleej Equity Fund	$ 559.15	-	21.22	0.00	-15.41	18.08
SICO Kingdom Equity Fund	$ 32.48	-	1.06	0.00	-18.71	19.96
SICO Gulf Equity Fund	$ 152.31	-	1.68	0.00	-16.41	15.38

Slater Investments Ltd (UK)
www.slaterinvestments.com; Tel: 0207 220 9460
FCA Recognised

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Slater Growth A Acc	622.67	622.67	-0.69	0.00	-14.01	7.70
Slater Income A Inc	139.05	139.05	-0.15	5.22	-1.35	13.42
Slater Recovery A Acc	323.89	323.89	0.62	0.00	-11.53	10.59
Slater Artorius	278.60	278.60	-1.92	0.54	-16.71	11.52

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

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
SI Asia Pacific A Acc	1589.36	-	9.94	0.00	10.36	10.51
SI Asia Pacific A Inc	£ 2.81	-	0.01	0.00	10.08	10.06
SI Asia Pacific Leaders A Acc	860.60	-	2.46	-	3.06	9.10
SI Asia Pacific Leaders A Inc	£ 2.92	-	0.01	-	3.02	9.04
SI Asia Sustainability A Acc	730.61	-	3.00	-	9.61	11.25
SI Global Emerging Mkts A Acc	796.54	-	3.08	1.79	6.09	8.56
SI Global Emerging Mkts Leaders A Acc	548.13	-	2.26	1.08	3.07	7.39
SI Global Emerging Mkts Sus A Acc	364.63	-	1.43	0.00	7.07	5.39
SI Indian Sub-Cont A Acc	764.29	-	0.74	-	12.43	23.85
SI Latin America A Acc	£ 2.18	-	-0.01	2.87	-4.66	-8.93
SI Worldwide Equity A Acc	£ 2.36	-	0.05	-	21.94	8.37
SI Worldwide Equity A Inc	£ 2.39	-	0.05	-	23.40	8.80
SI Worldwide Leaders A Acc	615.01	-	5.53	-	16.39	10.26
SI Worldwide Sus A Acc	£ 2.72	-	0.02	0.00	13.66	5.85
SI Worldwide Sus A Inc	£ 2.63	-	0.01	0.00	13.64	5.93

STONEHAGE FLEMING
GLOBAL BEST IDEAS EQUITY FUND

Stonehage Fleming Investment Management Ltd (IRL)
www.stonehagefleming.com/gbi
enquiries@stonehagefleming.com
Regulated

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
SF Global Best Ideas Eq B USD ACC	$ 246.29	-	2.17	0.00	12.93	8.39
SF Global Best Ideas Eq D GBP INC	£ 301.16	-	4.07	0.00	12.98	7.76

SUPERFUND INVEST BETTER

Superfund Asset Management GmbH
www.superfund.com, +43 (1) 247 00
Other International Funds
Other International Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Superfund Green Gold	$ 1009.67	-	-5.50	0.00	-38.33	-10.84
Superfund Green Silver	$ 863.39	-	-1.03	0.00	-37.20	-4.48

Regulated

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Superfund Green US$	$ 733.16	-	-1.00	0.00	-41.62	-12.03

Thesis Unit Trust Management Limited (UK)
Exchange Building, St Johns Street, Chichester, West Sussex, PO19 1UP
Authorised Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
TM New Court Fund A 2011 Inc	£ 18.88	-	0.09	0.00	2.94	6.89
TM New Court Fund - A 2014 Acc	£ 19.04	-	0.09	-	2.92	6.89
TM New Court Equity Growth Fund - Inc	£ 20.62	-	0.12	0.00	3.25	8.35

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

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Aptus Global Financials B Acc	£ 5.13	-	0.04	3.35	19.33	26.40
Aptus Global Financials B Inc	£ 3.27	-	0.02	3.45	19.35	27.95

Toscafund Asset Management LLP
www.toscafund.com

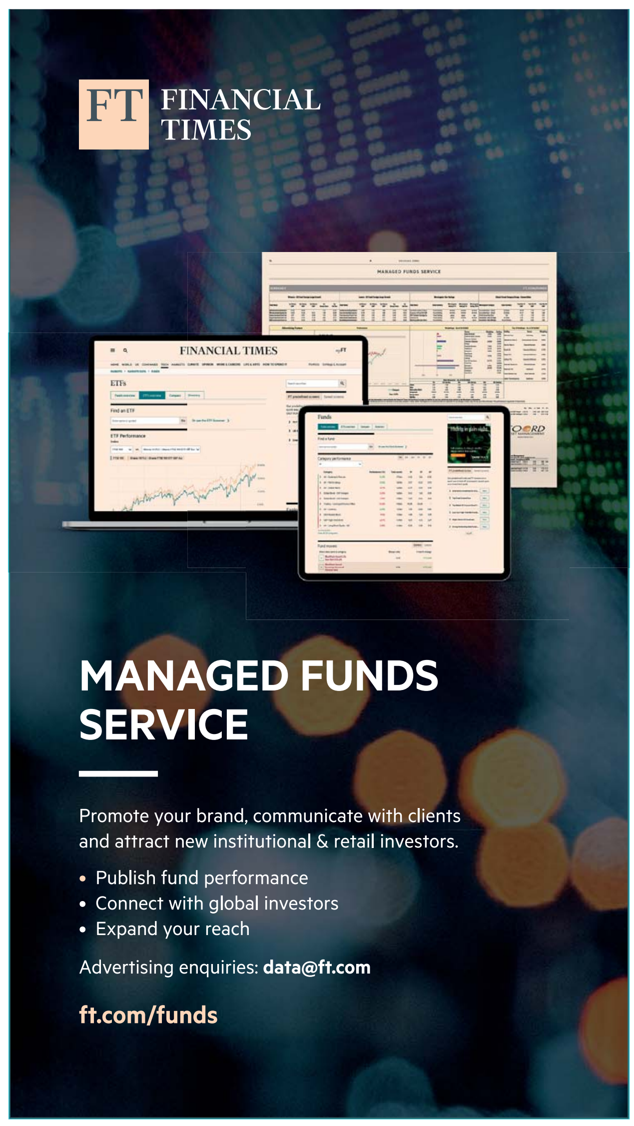
Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Tosca A USD	$ 453.88	-	17.64	0.00	8.16	19.08
Tosca Mid Cap GBP	£ 150.51	-	-17.62	0.00	-34.81	-0.02
Tosca Opportunity B USD	$ 252.81	-	-15.03	0.00	-29.95	-19.96
Pegasus Fund Ltd A-1 GBP	£ 35.81	-	-0.10	0.00	-31.63	-3.44

Troy Asset Mgt (1200) (UK)
65 Gresham Street, London, EC2V 7NQ
Order Desk and Enquiries: 0345 608 0950
Authorised Inv Funds
Authorised Corporate Director - Link Fund Solutions
Trojan Investment Funds

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Trojan Ethical O Acc	128.28	-	-0.04	0.07	2.06	4.09
Trojan Ethical Global Inc O Acc	103.38	-	0.12	2.56	4.87	-
Trojan Ethical Global Inc O Inc	99.41	-	0.11	2.59	4.89	-
Trojan Ethical O Inc	127.93	-	-0.03	0.08	2.07	4.08
Trojan Ethical Income O Acc	142.05	-	-0.08	-	6.46	3.89
Trojan Ethical Income O Inc	117.24	-	-0.06	-	6.46	3.90
Trojan Fund O Acc	388.91	-	-0.27	0.25	2.06	4.47
Trojan Fund O Inc	314.00	-	-0.21	0.25	2.07	4.47
Trojan Global Equity O Acc	507.91	-	5.27	0.00	14.11	8.07
Trojan Global Equity O Inc	419.07	-	4.35	0.00	14.11	8.07
Trojan Global Income O Acc	155.07	-	0.17	-	2.09	5.88
Trojan Global Income O Inc	127.45	-	0.14	-	2.07	5.87
Trojan Income O Acc	350.17	-	0.02	2.80	5.50	3.71
Trojan Income O Inc	170.22	-	0.01	2.87	5.51	3.71

Zadig Gestion (Memnon Fund) (LUX)
FCA Recognised

Fund	Bid	Offer	+/-	Yield	1Yr	3Yr
Memnon European Fund - Class U2 GBP	£ 264.86	-	-0.20	0.00	17.86	19.35



Guide to Data

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Prices are in pence unless otherwise indicated. The change, if shown, is the change on the previously quoted figure (not all funds update prices daily). Those designated $ with no prefix refer to US dollars. Yield percentage figures (in Tuesday to Saturday papers) allow for buying expenses. Prices of certain older insurance linked plans might be subject to capital gains tax on sales.

Guide to pricing of Authorised Investment Funds: (compiled with the assistance of the IMA. The Investment Association, Camomile Court 23 Camomile Street, London EC3A 7LL. Tel: +44 (0)20 7831 0898.)

OEIC: Open-Ended Investment Company. Similar to a unit trust but using a company rather than a trust structure.

Different share classes are issued to reflect a different currency, charging structure or type of holder.

Selling price: Also called bid price. The price at which units in a unit trust are sold by investors.

Buying price: Also called offer price. The price at which units in a unit trust are bought by investors. Includes manager's initial charge.

Single price: Based on a mid-market valuation of the underlying investments. The buying and selling price for shares of an OEIC and units of a single priced unit trust are the same.

Treatment of manager's periodic capital charge: The letter C denotes that the trust deducts all or part of the manager's/operator's periodic charge from capital, contact the manager/operator for full details of the effect of this course of action.

Exit Charges: The letter E denotes that an exit charge may be made when you sell units, contact the manager/operator for full details.

Time: Some funds give information about the timing of price quotes. The time shown alongside the fund manager's/operator's name is the valuation point for their unit trusts/OEICs, unless another time is indicated by the symbol alongside the individual unit trust/OEIC name.

The symbols are as follows: ✠ 0001 to 1100 hours; ♦ 1101 to 1400 hours; ▲ 1401 to 1700 hours; # 1701 to midnight. Daily dealing prices are set on the basis of the valuation point, a short period of time may elapse before prices become available. Historic pricing: The letter H denotes that the managers/operators will normally deal on the price set at the most recent valuation. The prices shown are the latest available before publication and may not be the current dealing levels because of an intervening portfolio revaluation or a switch to a forward pricing basis. The managers/operators must deal at a forward price on request, and may move to forward pricing at any time. Forward pricing: The letter F denotes that that managers/operators deal at the price to be set at the next valuation.

Investors can be given no definite price in advance of the purchase or sale being carried out. The prices appearing in the newspaper are the most recent provided by the managers/operators. Scheme particulars, prospectus, key features and reports: The most recent particulars and documents may be obtained free of charge from fund managers/operators. * Indicates funds which do not price on Fridays.

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Getting back on track
America's ramshackle railways are in need of a regulatory overhaul
OREN CASS, OPINION

Life in the age of mass lay-offs

Pilita Clark
Business Life

Kenneth Andersson

When Arthi Raghu was suddenly laid off from her sales development job the other week, she went straight on to LinkedIn to write a guide to surviving the first crushing 48 hours of losing your job. So far so normal, except for one thing: the company laying off Raghu — and more than 700 of her colleagues — was LinkedIn.

As one of the thousands of people who saw her story wrote, being laid off from LinkedIn and posting about it on LinkedIn was "sort of a boss move".

I guess it was, but her case is just one in a sickening wave of mass lay-offs that has been ripping through industries. Tech companies alone have cut 194,000 jobs so far this year by one estimate — more than in all of 2022.

This raises two big questions: how are these losses shaping the workforce of the future and what are the odds that being made jobless has any remotely plausible upside?

There is of course plenty of evidence that the human toll of being laid off can be dire. The research shows it can increase the chances of illness and even suicide, while those spared the axe often face more work with less help, plus the anxiety of wondering if their head will be next.

But what if lay-offs have become such a standard business practice that they are changing the nature of the workforce? That is what academics at the University of Wisconsin suggested in a 2015 paper that raised what it called the "new, and rather ominous, concern" of a more quit-friendly workforce.

"Our study suggests, all else equal, that commonplace lay-offs may be contributing to a vast population of employees who are less likely to remain with their subsequent employers," they said.

In other words, getting rid of hundreds of people at once might offer short term cost-savings for an individual company but wider problems for others trying to hang on to flightier staff. That finding chimes with the work of others such as

> **What if they have become such a standard business practice that they are changing the nature of the workforce?**

Stanford Graduate School of Business professor Jeffrey Pfeffer. He has written extensively about evidence showing lay-offs are toxic for workers and not necessarily good for business because they often do not cut costs, raise share prices or boost productivity.

Yet lay-offs persist, which is why it is mildly heartening to see signs that for some workers, suddenly losing your job or suffering other bad luck at work might not be the disaster one might think. This is what researchers at France's Audencia business school found when they recently asked nearly 700 managers who had studied at an elite business school how chance had affected their careers.

Academics tend not to study luck's role in career paths, but the French scholars found the careers of most of the managers they surveyed had been strongly affected by some sort of chance event. This had mostly been positive. One person bumped into their CEO and showed off work that led to a promotion. Another had chatted to a neighbour in her stairwell whose niece offered invaluable career advice.

But a significant share had also suffered rotten luck — a toxic new manager or a job loss due to restructuring, downsizing or a business closure. Unexpectedly, more than 70 per cent of the unfortunate said the blow had led to a positive outcome.

A man fired from a prestigious finance job in London during the financial crisis took a more lowly job in leafy Aix-en-Provence where he was promoted to a bigger role and a salary "I would never have hoped for in London".

A woman whose firm suddenly closed decided to switch gears and passed a national exam that opened up a raft of new opportunities.

Research co-author Professor Christine Naschberger cautions that this study is based on a select group of highly qualified managers, and others might find it harder to find a new job — especially older workers.

Still, for those suddenly thrust into the ranks of the redundant, it is worth remembering two things: it is harder than ever to manage a career today but an unexpected reversal at work may not be a permanent disaster.

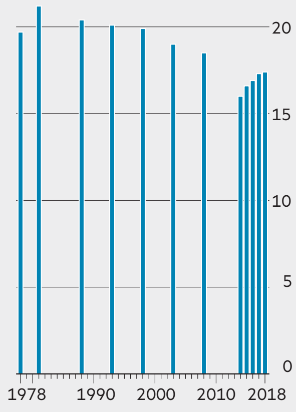
As Naschberger says: "A career is not always linear, things can turn out differently."

pilita.clark@ft.com

Lex.

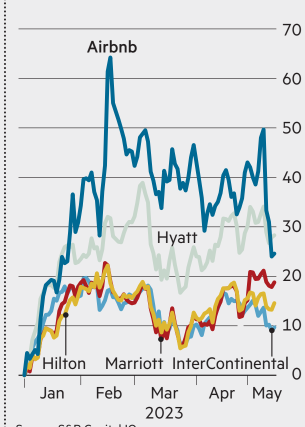
Workcations: step into my beach

Taking time off
Vacation days used



Source: US Travel Association

Checking into hotel stocks
Share prices (rebased)



Source: S&P Capital IQ

Americans are notoriously bad at taking time off. Could the "workcation" — a trip where some time is spent working — help change that? US travel companies are hopeful it might.

This will be the first year for three years when the upcoming Memorial day holiday will kick off America's so-called driving season without the deterrent of a pandemic.

Before coronavirus broke out, workers in the US took an average of 17.4 vacation days, according to the US Travel Association. The US is the only OECD country that has no paid vacation mandated by national government. The EU, on the other hand, requires at least 20 vacation days for all employees. Workers in the UK are guaranteed 28.

Moreover, nearly half of US workers who have paid time off report not using all of it, according to the Pew Research Center. Workcations are a compromise popularised by the rise of hybrid work. Employers allow staff to stay away from offices for longer than allotted vacation days would allow.

The downside is that workplace worries invade at least one part of a worker's trip away. They must also show they are cutting no corners to maximise leisure time. About one in four travellers reported their intention to work while on their longest trip of the holiday season, according to the findings from a Deloitte survey.

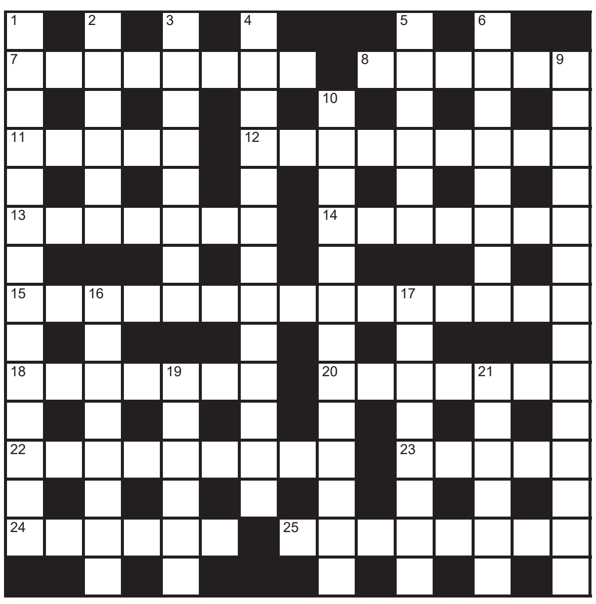
Workcations will be good news for leisure stocks if uptake is high enough. In the US, occupancy rates are nearing pre-pandemic levels, according to the American Hotel and Lodging Association. It predicts 63.8 per cent of the country's hotel rooms will be occupied this year, up from 43.9 per cent in 2020 and close to 65.9 per cent in 2019.

Shares in big hotel groups such as Hilton Hotels, Marriott International, InterContinental and the Hyatt have gained 15-28 per cent so far this year. Those for Airbnb, the home rental platform, are up 25 per cent despite a sharp sell-off this month after it warned that the pace of growth would slow in the second quarter. But valuations remain below pre-pandemic levels.

Business travel may never return to pre-pandemic levels. Workcations should help soak up some spare capacity in the travel industry. If they persist, it would be another sign that flexible working is here to stay. That requires trust on both sides — if staff produce slipshod work in their hurry to go sightseeing, all bets will be off.

CROSSWORD

No 17,421 Set by ARTEXLEN



ACROSS

7 Flatterer to join you in the future, we're told (8)
8 Convincing firm fellow (6)
11 Plant in the morning removed from across the pond (5)
12 This compiler in noon trip served wine (5,4)
13 Having uncovered keys, behold den opening (7)
14 Draw conclusions about back giving you hell (7)
15 They fix last of bust sirens having received foreigner's cash (15)
18 Group by a hill to the west turns round (7)
20 One wading quietly by lake bitten by snake (7)
22 I'm going to gossip after Romeo's knocked out by husband showing bad temper (3,6)
23 Period in charge of old characters (5)
24 Sample duck taken from kitchen appliance (6)
25 Barrier code, task to crack (8)

DOWN

1 Low drawer? (8,6)
2 Regularly encountered faults in French article that's no good (6)
3 Excavation made by feline on a search (8)
4 Understanding him once person translated (13)
5 Quite partial to caramels or toffees (4,2)
6 Access two overlapping outdoor leisure areas (8)
9 Panicky figure admits wrongdoings with con (6-8)
10 Cheerful one, new, announced welcome drinks (2,4,7)
16 Covering area, suspect locusts dominate (8)
17 Ability to speak about case in biased university shows persistence (8)
19 Time Out journalist praised (6)
21 Carriage left with content of haul (6)

JOTTER PAD

Solution 17,419

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You can't pin workforce problems all on Gen Z

Andrew Edgecliffe-Johnson
Management

I was just out of university and at the end of my first week in work when an older colleague took me aside, in the pub, inevitably. "You seem like a nice guy," said this carewom veteran, who might have been 32 at the time, "but you give the impression that you're studying journalism, not practising it."

He had a point, which I took to heart. But this exchange came back to me as I read the latest headlines about how anxious today's employers seem about their newest recruits.

Deloitte and PwC have felt the need to give their youngest UK staff extra coaching after concluding their years in Covid lockdowns and restrictions had left them less adept at networking and speaking up in meetings, the FT reported this month.

For those Gen Z members who entered the workforce after Covid-19 hit, "the pandemic turned their first jobs into a two-year video call", frets a new report by Oliver Wyman and The News Movement, which paints a picture of a detached cohort more interested in their side hustles than their day jobs.

We are witnessing one of the working world's periodic panics that its newest arrivals will decline to conform to the way things have been done. This time, that anxiety is heightened by a hunch that the pandemic years so disrupted normal university experiences that a Covid-scarred microgeneration is landing in workplaces without the usual social skills.

This fear is not consistently supported by surveys: a recent Conference Board study found that US workers' job satisfaction has never been higher, while Oliver Wyman found Gen Z workers were more likely to be thriving at work than their elders.

Even so, it is powering many of the anxieties employers harbour about getting people back to the offices where their Gen X and millennial managers started their careers. "Career development happens in teaching moments between team members," BlackRock told its staff last week to explain why they should be in its offices at least four days a week.

Managers are right to debate how often their youngest employees should be at their desks as they try to strike a balance between flexibility and "teaching moments". But they should also think about what they are doing for Gen Z employees once they are in the office — and how often they are taking them out of it.

Melissa Swift, a partner at the consultancy Mercer, sees Gen Z as being "caught in a whammy between Covid and ChatGPT". The pandemic left them "in the wilderness" as students and now artificial intelligence is upending much of the work with which early career professionals once learnt their trades, she says.

That said, she sees this group's unusual needs colliding with the fact that their managers are so burnt out they have little time to spend training the next generation, or even noticing what their workplace experience is like. You can't pin this all on Gen Z, in other words.

Companies have spent billions of dollars improving the customer experience, notes Tiffani Bova, Salesforce's global growth evangelist, but have made no comparable effort to improve the employee experience. Instead, their productivity pushes have left young employees overloaded, while they still promote bosses into management roles with little training on skills like coaching.

What, then, should Gen X and millennial managers be doing to improve Gen Z's working lives?

Wayne Berson, chief executive of the accountants BDO USA, says his firm has, like PwC and Deloitte, rethought its approach to training. But it has also assigned mentors to all its recruits, and talked to its leaders about how to create more camaraderie.

> Managers should think about what they are doing for younger employees once they are in the office — and how often they are taking them out of it

That can mean anything from getting teams to work in collaboration rooms to organising a happy hour or a dinner, he says. Swift is also an advocate of happy hours, and is encouraged by the restaurant clubs and sports leagues she sees young employees forming.

Staff entertainment budgets were cut during the pandemic, but there is a case for subsidising the informal occasions where colleagues can learn from each other in a less forced setting than a training course. Much of what I learnt about my trade, and the places I've plied it in, I learnt not at my desk but during evenings, lunches and coffees with my colleagues.

Employers also need to give managers and new arrivals time to do this, understanding that time spent swapping stories and advice is not stolen from the working day, but a vital part of it.

Not everyone is as comfortable in a pub as I was in my twenties, so if happy hour sounds like a recipe for unhappiness then at least take your new hires for lunch. And while you're dispensing the insights gleaned over your long career, spare a moment to ask what insights they have for you.

andrew.edgecliffe-johnson@ft.com

Leadership

How cyber security burst into the boardroom

Senior executives are realising that potential data breaches and digital threats are strategic issues, writes *Andrew Hill*

The push for greater cyber resilience offers chief executives opportunities to streamline processes
FT montage/Getty Images/ Dreamstime

Three days after being appointed to run US software group SolarWinds, Sudhakar Ramakrishna received a call any chief executive would dread. The company's general counsel had rung to warn him malware had been detected in updates sent out to thousands of clients in the private and public sectors.

"My first reaction was really one of curiosity," the veteran technology executive recalls. "I started visualising what could have happened."

Ramakrishna had not been due to take over until the following month but, given the gravity of the attack, part of a cyber-espionage campaign the US government later blamed on Russia, he was quickly appointed to SolarWinds' board so he could receive daily updates. Within days, he was revising his top 10 priorities for his new job to take account of the radically changed circumstances.

Few CEOs experience such a cyber-baptism of fire — one which prompted the US to set up a high-level task force to co-ordinate its response. Even fewer would respond as coolly. For leaders, cyber attacks "seem to be much more personal [and] emotional" than other crises, according to Michael Smets, management professor at Oxford's Saïd Business School.

Even a pretend attack can push executives to the brink. Luxembourg's House of Cybersecurity runs an intense hour-long exercise for business leaders, called Room#42, to promote resilience to cyber threats. Twice, executives have "lost control", even screaming at colleagues, says Pascal Steichen, who runs the cyber resilience unit.

Such responses may reflect a gulf exposed in a recent report that Smets and others prepared for Istari, the cyber risk management company owned by Singapore's Temasek. All 37 CEOs interviewed for the study said the buck stopped with them on cyber security, but nearly three-quarters were uncomfortable making decisions about it.

What is obvious is that the threat is increasing. Since the 2020 SolarWinds hack — dubbed Sunburst — hackers have succeeded in taking the Colonial Pipeline network offline with a ransomware demand, prompting petrol shortages in parts of the US, breached The Guardian newspaper's internal systems, and forced the UK's Royal Mail to suspend temporarily its international postal services. This month, USS — the UK's biggest private sector pension plan — warned the personal data of about 470,000 members could have been exposed to a cyber attack on outsourcing group Capita.

As experts point out, hacking is an asymmetric menace. "Attackers only have to get it right once," says Kelly Richdale, a board director and adviser on cyber security. Steichen says Luxembourg's simulator — which seeks out the flaws in a business's systems — is modelled on popular escape rooms, except "you can't escape, you can only fail".

Senior leaders increasingly realise that if no system is entirely protected against attempted breaches, then it is not enough to focus only on technological responses. Experts say CEOs should not shift responsibility on to their chief information security officer, or even on to their audit committee. Instead they should treat cyber attacks as a strategic issue, to be handled at the highest level. Properly addressed as a risk management problem, the threat can also be an opportunity to identify strategically important operations, and even to improve the business as a whole.

"You continuously improve but you're never fully secure," says SolarWinds' Ramakrishna. "You don't work from a position of fear, but constant learning and constant improvement."

Regulators have helped to put cyber security firmly on the boardroom agenda. The US Securities and Exchange Commission, Bank of England and European Central Bank are among regulators to have increased their focus on cyber resilience in the past year. For instance, an SEC proposal would require public companies to disclose directors' cyber security expertise "if any". "Not every [board] member has to be an expert in financial risk, but has to be able to read a spread sheet or a P&L [profit and loss account]," Richdale points out. Similarly, "the board has to be versed in the basics of cyber attacks and digital concepts" — a level of knowledge she says is lacking at many companies.

Achieving, or hiring, this level of expertise is easier for larger companies, adds Mitchell Scherr of cyber security company Assured Cyber Protection: "In midsized businesses, the board doesn't know what to ask and the tech folks don't know what to provide to them."

This gap is perilous because it is often small- and medium-sized companies that inadvertently open the backdoor of larger targets to hackers, through so-called "supply chain attacks". Sunburst was a classic example because the SolarWinds software had been installed by many customers (although the company estimates fewer than 100 private companies and nine federal agencies were targeted). In an attack on Australian health insurer Medibank last year, hackers gained access to customer data with a stolen username and password used by an outside information technology service provider. Richdale said: "The perimeter of cyber [security] has expanded."

This puts the problem squarely on the desk of CEOs, whose role is to maintain a strategic view of risks and opportunities in the entire supply network. CEOs and boards are also best placed to assess reputational risk. Experts advise that leaders are in a better position than CISOs to identify the "crown jewels" — strategically important assets or operations that need the highest level of protection. For a hotel, that might be guests' passport details; for a spa, it could be customers' health data.

> 'You don't work from a position of fear, but constant learning and constant improvement'

Scherr recalls one Chinese company that hacked into a start-up's system under cover of ordering its products. The attacker copied its innovative technique and started manufacturing and selling the same items at a quarter of the price. Once companies have addressed the main risks, they can move to cover any residual risk with cyber insurance.

Manuel Hepfer of Istari says the push for greater cyber resilience can also offer opportunities to streamline processes. "The CIO came to present at an executive meeting and asked us how many servers we thought the company had," one CEO told Istari. "The lowest estimate in the room was four, the highest 250. The reality was more than 4,000. That was an incentive for all of us to understand more. We realised that we spend millions each year on this kind of technology but don't really understand it."

Istari identified a "preparedness paradox". The companies that said they were best placed to withstand a cyber attack were less likely to be ready. Leaders whose companies had been hacked already said they had been able to rebuild better. Ramakrishna says he has rebuilt SolarWinds' culture on the basis of transparency, collaboration, and humility. "You're not going to be able to solve all the problems yourself. You might need the community to help," he says. When asked to advise other boards he urges them to adopt the same "bias to transparency" that SolarWinds uses, and to share knowledge of a cyber attack with their wider network.

How far to collaborate with rivals in a crisis is a decision only the CEO and board are likely to be able to take. Most err on the side of secrecy. Luxembourg's Steichen says 70 per cent of companies that have run a Room#42 simulation do not look for outside assistance in handling a cyber crisis. "Our general motto is: 'Don't suffer in silence'," he says.

SolarWinds' own mantra is "secure by design". Ramakrishna describes this as a "forever project". Could a Sunburst-style attack happen again? Ramakrishna points to recent breaches of companies "steeped in security", such as Microsoft, whose Exchange email programme was attacked by supposed Chinese hackers in 2021: "It could happen to SolarWinds, to any other company, no matter its size, scope, assets," says Ramakrishna. "What we can do is work together to reduce the likelihood."

Business books

Germany's tangled relationship with Russia

This month's recommended title

Die Moskau Connection: das Schröder-Netzwerk und Deutschlands Weg in die Abhängigkeit by Reinhard Bingener and Markus Wehner, *CH Beck*, €18, 320 pages

There are few cringier moments in the recent history of German diplomacy than the time Sigmar Gabriel asked Vladimir Putin for his autograph.

The then German economy minister was conveying a special request from "Oksana", a woman with Russian roots who worked in his wife's dental practice. Putin obliged and a grateful Gabriel took home a photo inscribed with the words: "Oksana, all the best."

It was October 2015, a year after Russia annexed Crimea and fomented war in eastern Ukraine. None of that stopped Gabriel, though, who fawningly thanked Putin for taking time out of his busy schedule. He had, after all, "so much to do, what with the conflict in Syria".

The incident is recounted in *Die Moskau Connection — "The Moscow Connection"* — a new book about Germany's tangled relationship with Russia by Reinhard Bingener and Markus Wehner, two reporters with the Frankfurter Allgemeine Zeitung. Meticulously researched and engagingly written, it amounts to a damning indictment of Gerhard Schröder, former chancellor, Kremlin lobbyist and close friend of Putin, as well as the circle of Social Democrat politicians around him — men like Gabriel and Frank-Walter Steinmeier, the former foreign minister and current federal president — and their all-too-trusting, all-too-indulgent approach to Russia.

The authors set themselves the task of explaining how Germany ended up so dependent on Russian gas and how German politicians could have been so naive about the tyrannical, neo-imperialist system Putin was creating. Taken together, they consider this "the biggest mistake in German foreign policy in the country's postwar history". It's a somewhat hyperbolic claim, but you can see what they mean.

Much inevitably hinges on Schröder's role and his preternaturally close relationship to Putin. The authors write how the Russian president used his KGB training to "recruit" Schröder as a kind of Russian agent of influence. Shortly after stepping down as chancellor in 2005, Schröder became chair of Nord Stream AG and in effect Gazprom's man in Germany, an appointment that left an indelible stain on German politics.

But where Bingener and Wehner's book proves revelatory is in its assessment of Gabriel and Steinmeier. They drove one of the most fateful and misguided infrastructure projects the country has ever embarked upon — the Nord Stream 2 gas pipeline, a venture that was from the start designed to tighten Russia's grip on European energy markets.

Steinmeier's pursuit of a "modernisation partnership" with Russia, his blinkered policy of "convergence through interdependence", comes in for particular criticism. fundamental beliefs".

The authors are especially scathing about Gabriel, who called for sanctions against Moscow to be lifted and consistently dismissed fears of Germany's growing reliance on Russia for energy. Before he became energy minister, about 35 per cent of Germany's imported gas came from Russia; by 2018, that share had risen to 55 per cent. Also on his watch, Germany sold some of its most strategic gas storage facilities to Gazprom.

Few come out of this book smelling of roses. Angela Merkel, German chancellor from 2005 to 2021, is faulted for pulling her punches with Putin and supporting Nord Stream 2 to the hilt.

But it is the triumvirate of Schröder, Steinmeier and Gabriel who are the unquestioned villains of the piece. "From the start", the three of them "misjudged, played down and at times even denied Russia's steadily growing aggression towards the west and Germany". "Chechnya, Georgia, Crimea, the murders [of Putin's political opponents] — there were plenty of warning signs."

It is a devastating conclusion, one that could end up casting a long shadow over the three men, while also shaping history's verdict on the SPD and its Ostpolitik.

Review by Guy Chazan

FEATURES

The Henry Mance Interview

‘Shareholders have all the power. It doesn’t have to be that way’

DANIEL CHANDLER

The economist and author of ‘Free and Equal’ argues that workplace democracy is as important as money in achieving shared prosperity

Charlie Bibby/FT

Who runs companies? After trying in vain to get employees back to the office since the pandemic eased, many executives feel the answer is: not them. Today’s bosses grumble they have to bend to staff demands to embrace flexible working, to stand up for liberal values, to make allowances for mental health and personal circumstances. Millennials and Gen Z expect nothing less.

But for Daniel Chandler, these stories — usually from well-paid, white-collar settings — are misleading. The power in most British workplaces lies almost wholly at the top. In Germany, France and elsewhere, many employees have a formal say in how their employers operate. But in the UK, the idea is outlandish. Workers do not have seats on boards, they do not have “works councils” to influence day-to-day conditions, they don’t even realise such things are possible.

In his new book, *Free and Equal*, Chandler, a 37-year-old doctoral student at the London School of Economics, argues the workplace, for many, “is a sphere of subservience and powerlessness quite unlike any other domain of life in modern democratic society”. Most British companies are “benevolent dictatorships”, but quite a few forgo the benevolent part — workers fear wrongful dismissal and victimisation and feel chronically anxious.

Chandler wants to kick-start a debate about power within businesses. In *Free and Equal*, he seeks to reinvent liberalism — recently tarred by left and right as outdated and naive — as a relevant, radical doctrine. The book comes with endorsements from economists Thomas Piketty, Amartya Sen and Sir

> ‘For a lot of people, there’s an absence of meaning and fulfilment that could come from work’

Angus Deaton. It comes alive with its proposals for workplace democracy.

“Our political debate has become very focused on the distribution of money as the key to fairness and justice. [There’s a] neglect of other questions like the connection of work to dignity, meaning, self-respect . . . For a lot of people, there’s the absence of opportunities for meaning and fulfilment that could come from work. Then there’s the presence of genuinely bad working conditions.”

Sharing power in the workplace would benefit not just workers, but companies and democracy itself. “Part of the success of right-wing populist movements is that they speak to a desire for respect and dignity.” If liberals can empower low-skilled workers in their daily lives, perhaps they can woo them away from the populists.

The son of a theatre agent and an actor, Chandler was studying history at Cambridge university when he first read the political philosopher John Rawls’s 1971 classic *A Theory of Justice*. Rawls posits that, if people didn’t know where in society they stood, they would agree to two principles. One, that individual freedoms should be respected. Two, that social and economic inequalities should be managed in a way to give most benefit to those at the bottom.

Rawls gripped academia, but not politics. His principles were seen as too abstract or as defences of the capitalist status quo. As Chandler worked in policy jobs, including at the UK’s Institute for Fiscal Studies, he felt too much discussion was simply tinkering. He began a PhD, revisited Rawls and became convinced the American philosopher’s radicalism had been underestimated. “The standard assumption is that he was just providing a justification for the welfare state. That really wasn’t what Rawls said in his later work.”

In *Free and Equal*, Chandler uses Rawlsian principles to disentangle modern-day political debates. This includes tilting the balance towards free speech (not hate speech laws), limiting big-money donations to political parties (and filling the gap with state funding), and backing a universal basic income (even though Rawls himself was sceptical). He also applies Rawls’s second principle — that power inequalities should be managed to benefit those at the bottom — to workplace hierarchies.

“The way we distribute power in companies needs to be justified,” says Chandler. “Shareholders have all the power. It doesn’t have to be that way.” It would be one thing if minimising workers’ power had real economic benefits. But having workers on boards, for example, does not appear to have hit German companies’ profits or longevity. It has actually increased their productivity and investment. “The costs for companies are likely to be small, and as likely to be positive as they are negative.”

What’s the prize? Putting workers on boards should ease the flow of information within a company, and give workers a greater feeling of ownership. Chandler cites studies suggesting that Germany’s “co-management” approach meant businesses were less likely to fire workers during the 2008-2009 recession, finding alternative paths to cut costs. Counter-intuitively, co-management does not have large effects on wages.

But Chandler argues empowered workers could negotiate flexible working arrangements and changes to how their jobs are organised. He cites the example of Suma, a whole foods co-operative, as an outlier where employees rotate positions “from truck driving or cooking to accounts”. (Co-operatives have a key place in his desire to shake up capitalism: he wants employees to have the right to initiate buyouts, perhaps with subsidised loans.)

How far could UK companies change? Chandler’s proposal is that all UK businesses should ultimately have to allocate half of the seats on their board to worker representatives. This would be subject to a size threshold, so as not to deter entrepreneurs. Employees would also have the right to establish a works council. “It would lead to a more co-operative relationship between workers and employers.”

This would be “a maximal version of the German model”. It would be introduced gradually. German workplace democracy operates in the context of wage bargaining: because pay matters are decided partly at a sector-wide level, company-level discussions can focus on less contentious matters. The UK should “probably” introduce sector-wide bargaining before workplace democracy, says Chandler. “I don’t think it would be sensible to jump from where we are now to giving workers half of the seats on every board.”

The UK has toyed with empowering workers. David Cameron’s government talked up worker-owned businesses, such as the John Lewis Partnership. Theresa May promised to put workers on boards, until then chancellor Philip Hammond stymied her. In 2018, the Corporate Governance Code was modestly updated to say companies should appoint an employee director, establish a workforce advisory panel, designate a non-executive director, or explain why they hadn’t done any of these.

Only a few companies, such as Capita, have appointed even one employee director. “I don’t think we should be leaving it to the goodwill of enlightened employers to bestow this upon their workers,” says Chandler, who adds that May failed to “make these ideas exciting to people”.

But if workplace democracy is the answer, why are so few employees interested in mechanisms that they have, such as trade unions? Chandler blames the perception that unions have little power. “A majority of workers would like more influence at work,” he says.

There are other doubts. How do companies with global workforces implement staff representation? How does it fit with regulators’ demands that boards in certain industries have more expertise? And, if workers have more influence, shareholders have less flexibility.

> ‘I don’t think it’s sensible to jump from where we are now to giving workers half of the seats on boards’

The London Stock Exchange is already losing out to the US: would limiting shareholder power not accentuate the problem?

One of the world’s largest co-operatives, Spain’s Mondragon, has excluded overseas employees from workplace representation. To address that, Chandler favours laws that cap the hiring of workers without ownership stakes. He supports laws that limit the temptation to share the spoils unsustainably among workers and encourage co-operatives to invest more for the long term.

Free and Equal adds to the Brexit-fuelled bandwagon of those who argue that the UK should look to continental social democracy. But France and Germany are not immune to populism or labour unrest. Germany’s co-management model, for example, came under scrutiny with the Volkswagen diesel scandal. When pressed, Chandler recognises he isn’t an expert on either country. He suggests their models are “incomplete”, but they have nonetheless avoided US levels of inequality.

The potential attraction of Chandler’s ideas is that they come at a time when the left arguably lacks a vision. Like centre-left writers such as Anthony Giddens and Will Hutton in the 1990s, he mixes boldness and pragmatism.

His ideas are an alternative to nationalisation, the route favoured by the former Labour party leader Jeremy Corbyn. “The traditional socialist model of public ownership is not a solution, because it just transfers power from one small group of owners to a small group of bureaucrats. The state can’t go in and redesign jobs, because it just doesn’t know enough about how individual companies work or what workers want.”

Chandler — talkative but not hectoring — recognises concern about immigration, and unlike much of the left, does not want to scrap university tuition fees.

His bolder proposals include addressing the climate and nature crises, even if this requires a “reduction in our material standard of living”, and abolishing private schools. Embracing his various spending commitments would, he guesstimates, take taxes up to 45-50 per cent of gross domestic product (from 37 per cent now).

How far is Sir Keir Starmer’s Labour party from Chandler’s blueprint? “Intellectually, not hugely far. But in terms of policy they’re quite far away at the moment.” Chandler insists his book, with its calls for a UBI and workplace democracy, is not “a blueprint for the next election” but a long-term project.

It’s easy to be seduced by Chandler’s talk of dignity at work; it’s harder to imagine how such a thing would be measured. At the time we meet, many workers have more concrete worries. Some are striking for higher pay, many are anxious generative artificial intelligence will take their jobs. Chandler insists the effects of AI could be better handled if, in addition to regulation, companies were co-managed. As for the strikes, they “reflect how far we’ve fallen away from that ideal of shared prosperity”.

Venice broadens its horizons to reach Africa

This year's Architecture Biennale is centred on the continent, featuring work by a diverse array of practitioners, writes Edwin Heathcote

There is a lot of earth at the Venice Architecture Biennale. Heaps of soil, hardened mud floors, ground that has been polished into screens for projections, earth built up into walls and surfaces, clay made into bricks and blocks, the terracotta tones of tiles, piles and leaching dirt. It is a stark contrast to the self-indulgent conceptual models, visionary urban plans and conceptual simulacra of perfectly projected architectures which have defined the Biennale for more than four decades. In fact, buildings barely feature in what is, perhaps, the most radical shift in the Biennale's history.

It has been curated by Lesley Lokko, a Ghanaian-Scottish architect, novelist and educator who has mobilised her expansive network of friends and collaborators (one Nigerian architect I spoke to said he could not refuse her invitation because "she is our matriarch") to produce a show centred on Africa, "decolonisation and decarbonisation", and which touches on the big issues of land: rights, ownership, extraction, agriculture and displacement. Hence, I guess, all that earth. The result is a show that is brave, necessary, uneven, occasionally strange, occasionally baffling, at times stimulating and at others elusive.

Africa is, Lokko suggests, the world's youngest continent and this is, without doubt, the youngest ever Biennale. Where once its halls were stalked by starchitects and the profession's established figures in a clear hierarchy of academic or cult success, here we have instead a diverse array of practitioners including many people from Africa and its diaspora who have barely begun to define their careers, let alone build substantial work. It is a long-needed recalibration.

Main: timber structure on the docks by David Adjaye, for reflection and events. Above: Biennale curator Lesley Lokko — Andrea Avezzù

In the Central Pavilion, for instance, there is the joyful Afrofuturism of Brooklyn-based architect and artist Olalekan Jeyifous imagining a retro-sci-fi airport in a jungle paradise of Afro-ecotourism shot through with 1970s glamour. There is Diébédo Francis Kéré's loving paean to handwritten shop signs in his native Burkina Faso, a calming sound installation by South African Sumayya Vally and photographer James Morris's powerful shots of traditional mud structures looking strikingly contemporary and strange. Though when you get to Ghanaian artist Ibrahim Mahama's engrossing installation using bits of salvaged and reused interiors reassembled into "Parliament of Ghosts" (itself recycled from the Whitworth in Manchester from 2019), you understand that artists are so much better at this kind of installation than architects.

The one architect here to present a battery of buildings is David Adjaye (another Ghanaian-British architect), who finds himself exalted to near cult-status, his room a dark shrine of spotlit models of African megastructures. His work appears again in a black wood temple on the docks and in a model of the vast new proposed Kiran Nadar Museum of Art in New Delhi.

But what might be seen as an optimistic vision of an African future might also be accused of naivety. Africa, here designated a "Laboratory of the Future", has its potential richly represented, but some brutal realities are less present: the massive Chinese construction projects which will leave countries in debt for generations, the civil wars and corruption, the mass migrations and the informal settlements in so many of its cities. This is deliberate and understandable on Lokko's part but it also diminishes the responsibility of architects to address these issues.

Moving into the Arsenale and the Corderie, the ancient, attenuated ropemaking halls, Lokko has left a lot more space than is usual and the building itself, decaying, its walls a tapestry of traces of repairs and reuse, is much more present, much more tangible, a wonderful metaphor for neglect, adaptation and potential.

That Venice was a place of global exchange and long a city with a black population crops up occasionally, along with explorations of slavery and the black body as a resource extracted by colonialists. The exhibits here become more diverse and diffuse, embracing other histories — and futures.

Forensic Architecture's excavation in the floor reveals a projection (on earth, of course) of the relatively recent discovery of Nebelivka, a large settlement in present-day Ukraine dating back 6,000 years which posits a different kind of city that we might have had, more dispersed, less hierarchical. Beside that is Liam Young's hyper-real scifi animation of fearsome, speculative megastructures for extracting carbon in a stormy, steamy world ruined by climate change, viaducts of massive turboprops, sinister machines for a near future.

Kéré Architecture's clay-walled 'Counteract' — Matteo de Mayda

The V&A's installation on Tropical Modernism, initially a European colonial project but one adopted and adapted by African nations, notably in post-independence Ghana by the Nkrumah government (Ghana is big here), is intriguing but it would have been interesting to see the eastern European equivalent in which the Soviets funded massive programmes of education and construction. The Russian pavilion remains shuttered.

The national pavilions have been largely well-behaved, sticking to Lokko's themes, examining extraction, climate, land rights and the cultures of first nations. The Nordics have inhabited their exquisitely beautiful Modernist pavilion (by Sverre Fehn from 1962) with a colourful and aromatic array of nomadic artefacts of the Sámi people, from reindeer skins to woodwork and tree bark, with earth and shards of pottery scattered across the usually impeccable concrete floor.

The US has an installation on the longevity of plastics; outside, there are garish sculptures created from barrels and buckets, creating a rather beautiful landscape of waste. Elsewhere the Uzbekistan pavilion is a paean to the disappearing blue-glazed bricks that were once a mainstay of its architecture, set into a labyrinth of brick walls in one of the Biennale's most impressive spaces at the back of the Arsenale. It was wonderful too to see Nigerian Demas Nwoko win the Golden Lion for Lifetime Achievement, thoroughly deserved for a rich career in architecture and art.

Lokko's Biennale represents not only a geographical but a radical generational shift. I heard many complaints about the scarcity of buildings on show. But this is an expression of the desires of another generation and another continent and it is vivid, vital and timely. The gap between Lokko's generous enthusiasm and the architectural establishment's apathy is a sign of a huge schism opening up in the culture and the profession, the biggest split in three decades of Biennales. That many of the African participants were refused visas for the opening is the perfect testament to how necessary this readjustment is.

Lokko's intent to open up the culture to other forms of expression, architecture by other means, what she calls

> This Biennale represents not only a geographical but a radical generational shift

"building knowledge" (rather than knowledge of building) is a serious stab at decolonising the culture of architecture and she is fully aware that she will face criticism. The questions, as ever, are about whether this is architecture.

The shift towards the tropes, politics and concerns of the art world have been apparent in architecture for a long time. But art is different. It can reflect and ask questions without the need to propose solutions. This is a huge cultural shift, provocative and essential, but in architecture the question is whether questions will be enough.

To November 26, labiennale.org

Olalekan Jeyifous's imagined Afrofuturist airport — Matteo de Mayda

'How masculine are you feeling today?'

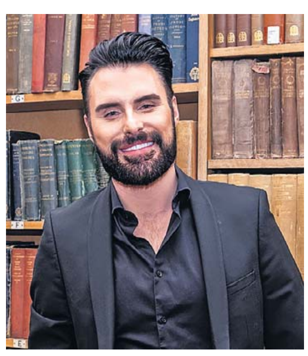
PODCASTS

Fiona Sturges

The transformation of Rylan Clark from TV talent-show also-ran to beloved broadcaster has been one of the more unexpected developments of recent times. Reality TV devotees may recall Rylan — who, like Kylie and Beyoncé, is now known by his first name — as the spray-tanned contestant who sobbed theatrically on *The X Factor* on learning he had made it to the next round of auditions (he was later voted off). A stint on *Celebrity Big Brother* followed, since when he has been a fixture on radio and TV. In that time a new Rylan has emerged: big-hearted, funny, with a clear awareness of the absurdity of the showbiz world he now inhabits.

Rylan currently presents a weekend show on BBC Radio 2, a job which is all about amiable small talk. On this basis, I wasn't sure that his new BBC podcast, *Rylan: How to Be a Man*, in which he interviews famous people about modern masculinity, would have the required gravitas. I was wrong. His interviewees include boxer Amir Khan, model David Gandy, comedian Phil Wang, interior designer Laurence Llewelyn-Bowen, gay footballer Jake Daniels and ex-Marine and Paralympian Mark Ormrod.

It is a curse among celebrity podcasts that, at the start of a show, host and guest shower each other in compliments and reminisce about when they last met. Rylan, however, doesn't mess about. Three minutes into his interview with Khan, he asks: "What is it like going to work knowing you are going to punch someone in the face, repeatedly, until you win?" The answer, which I won't spoil here, seems to take even Khan by surprise.



Rylan Clark presents the new podcast series 'How to Be a Man'

Rylan's opening question is the same for all: "How masculine are you feeling today?" This might sound glib, but the responses are as varied as they are fascinating and lead to reflections on such topics as fathers, sons, role models, fashion, class, porn and male genitalia.

Llewelyn-Bowen delivers a remarkable lesson in the history of masculinity, calling it a "moveable concept" that became unusually fixed in the 20th century — "which is why people [such as David Bowie] wanted to react against it".

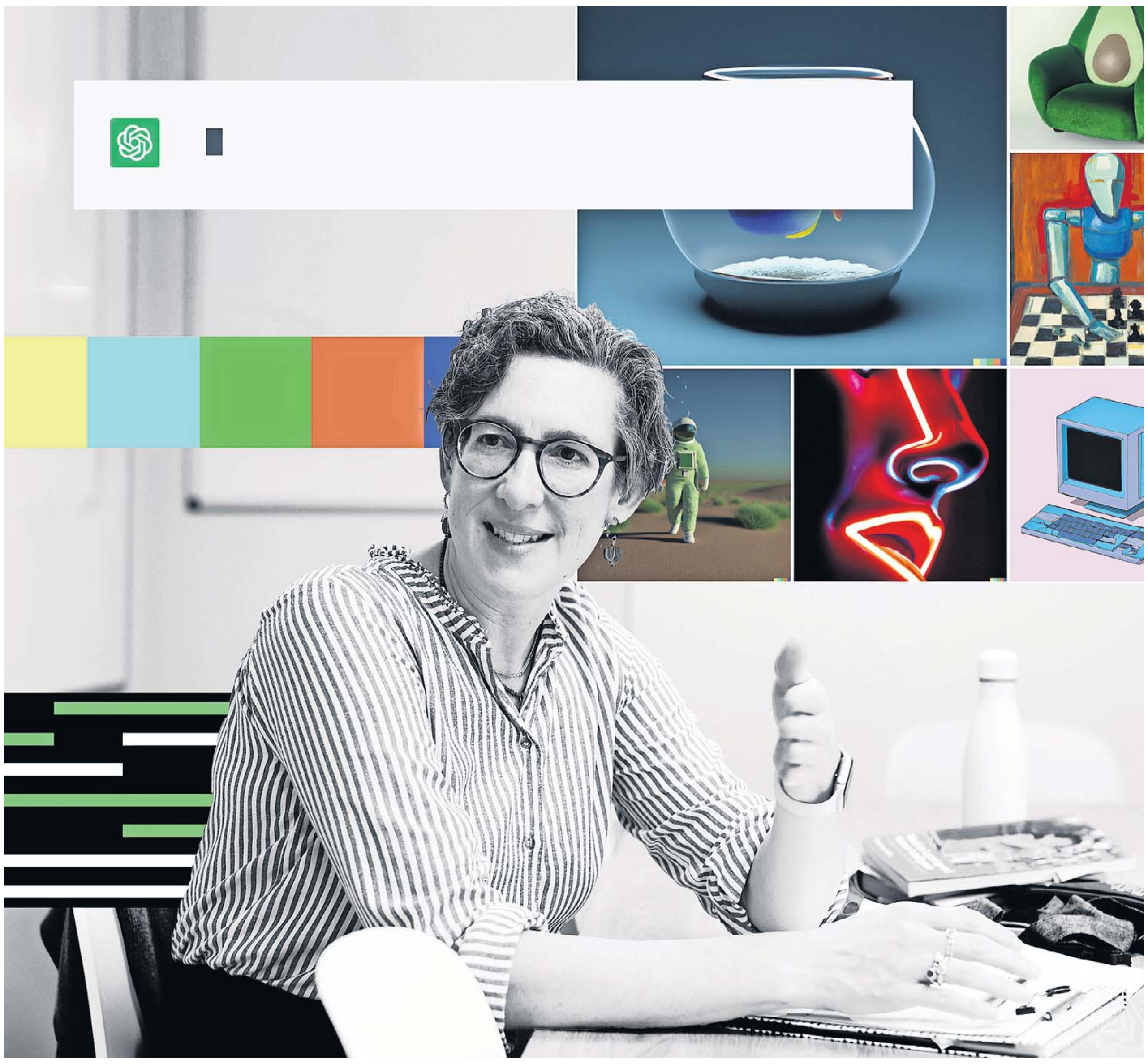
Ormrod reveals how he re-evaluated his definition of masculinity after losing both legs and an arm when he stepped on an explosive device in Afghanistan: "It's not about bravado and being outwardly macho. It's about developing yourself, being resilient, creating your own inner strength and power."

It's a reflection of the smart choice of guests and Rylan's skill as an interviewer that each of these short episodes (roughly 30 minutes each) digs deep and ends up where you don't expect. As host, Rylan is refreshingly direct, listens carefully and instinctively knows when to let a person speak and when to press them with a simple: "Why?" Note to other celebrity podcasters: this is how it's done.

bbc.co.uk

Schools and universities are adapting their methods as software like ChatGPT encroaches on the classroom, but how far can they go without undermining the fundamentals of learning?

By Bethan Staton and Madhumita Murgia



Education's AI revolution

When Lauren started researching the British designer Yinka Ilori for a school project this year, she was able to consult her new study pal: artificial intelligence.

After an hour of scouring Google for information, the 16-year-old pupil asked an AI tool called ChatGPT, in which you input a question and get a generated answer, to write a paragraph about Ilori. It replied with fascinating details about the artist's life that were new and — she later confirmed — factually correct.

"Some of the things it brought up I hadn't found anywhere online," says Lauren, a pupil at Wimbledon High School, a private girl's school in south London. "It was able to give me information that wasn't widely available, and a different perspective."

Since ChatGPT — a powerful, freely available AI software capable of writing sophisticated responses to prompts — arrived on the scene last year, it has prompted intense speculation about the long-term repercussions on a host of industries and activities.

But nowhere has the impact been felt more immediately than in education. Overnight, rather than labour through exercises designed to develop and assess learning, students could simply instruct a computer to compose essays or answer maths questions and pass the results off as their own.

As a result, schools and universities have been forced into a fundamental rethink of how they conduct both tuition and academic testing.

Worries about AI-based plagiarism have pushed a number of institutions to opt for an outright ban of bots such as ChatGPT. But enforcing this is difficult, because detecting when the technology has been used is so far unreliable.

Given how pervasive the technology already is, some educators are instead moving in the opposite direction and experimenting with ways to use generative AI to enhance their lessons.

Many students are keen for them to take this approach. For Lauren and her friends, months of playing around with ChatGPT have convinced them there is more to be gained from generative AI than simply cheating. And with the technology threatening to become a permanent communication tool in everyday lives, they are anxious to be prepared for the turbulence to come.

But these experiments raise the question of whether it is possible to open the door to AI in education without undercutting the most important features of human learning — and what it means to be numerate and literate.

"We don't yet understand what generative AI is going to do to our world," says Conrad Wolfram, the European co-founder of AI-driven research platform Wolfram, who has long pushed for an overhaul of the way maths is taught. "So it's hard to work out yet how it should affect the content of education."

AI enters the chat

When ChatGPT was launched by San Francisco-based tech company OpenAI in November 2022, the 300-odd-person team, backed by Microsoft, was expecting it to be a small-scale experiment that would help them build better AI systems in the future. What happened next left them stunned.

Within weeks, ChatGPT, a tool based on software known as a large language model, was being used by more than 100mn people globally. Now, it is being tested inside law firms, management consultancies, news publishers, financial institutions, governments and schools, for mental health therapy and legal advice, to write code, essays and contracts, summarise complex documents and run online businesses.

For lecturers at the University of Cambridge, the timing of ChatGPT's launch — as students headed home for Christmas holidays — was convenient. "We were able to take stock," says Professor Bhaskar Vira, the university's pro-vice-chancellor for education.

By the time students returned, the university had decided a ban would be futile. "We understood it wasn't feasible," Vira says. Instead, the university sought to establish fair use guidelines. "We need to have boundaries so they have a very clear idea of what is permitted and not permitted."

Their assessment was correct. A survey by Cambridge student newspaper Varsity last month found almost half of all students have used ChatGPT to complete their studies. One-fifth used it in work that contributed to their degree and 7 per cent plan to use it in exams.

Ayushman Nath, a 19-year-old engineering student at Cambridge's Churchill College, discovered ChatGPT on TikTok. At first, people were posting funny videos of the chatbot telling jokes, but then slowly there was a shift.

Nowadays, Nath says it is common for students to paste in long articles or academic papers and ask for summaries, or to brainstorm ideas on a broad topic. He has used it himself for research. "You can't use it to replace fundamental knowledge from scientific papers. But it's really useful for quickly developing a high-level understanding of a complex topic, and coming up with ideas worth exploring," he says.

Rachel Evans, director of digital learning & innovation at Wimbledon High School; below: professor Bhaskar Vira, Cambridge university's pro-vice-chancellor for education, has sought to establish fair use guidelines for ChatGPT; below right: Wimbledon students Rada, Lauren and Olivia have mixed views about ChatGPT's usefulness as a coursework aid

FT montage: Anna Gordon/Open AI; University of Cambridge; Anna Gordon/FT

However, Nath quickly learned that it can be an unreliable source: "It gave me some stats about electric vehicle batteries, and when I asked for citations, it told me it made them up."

Accuracy is one of the major challenges with generative AI. Language models are known to "hallucinate", meaning they fabricate facts, sources and citations in unpredictable ways as undergraduate Nath discovered.

There is also evidence of bias in AI-written text, including sexism, racism and political partisanship, learned from the corpus of internet data, including social media platforms like Reddit and YouTube, that companies have used to train their systems.

Underpinning this is the "black box" effect, which means it is not clear how AI comes to its conclusions. "It can give you false information . . . it's a vacuum that sucks a bunch of content off the internet and reframes it," says Jonathan Jones, a history lecturer at the Virginia Military Institute. "We found a lot more myth and memory than hard truths."

'There is no going back'

Earlier this year at the Institut auf dem Rosenberg, one of Switzerland's most elite boarding schools, 12th-grade student Karolina was working on an assignment for her sociolinguistics class. The project was on regional accents in Britain and its effects on people's social standing and job prospects.

What she handed in was not an essay but a video, featuring an analytical dialogue on the subject between two women in the relevant accents. The script was based on Karolina's own research, but the women were avatars generated by Colossyan Creator, AI from a London-based start-up. "I watched it and I was in awe," says Anita Gademann, Rosenberg's director and head of innovation. "It was so much more impactful in making the point."

Gademann says the school has encouraged students' use of AI tools, following other qualification bodies including the International Baccalaureate and Wharton, the University of Pennsylvania's business school. "There is no going back," she says. "Children are using tech to study and learn, with or without AI."

Over the past year, the school has observed that students' assignments have become more visual. Alongside written work, students regularly submit images or videos created by AI-powered art generators like Dall-E or Midjourney. The visuals themselves are a learning opportunity, says Gademann, citing a history class that evaluated anachronisms in AI-generated pictures of the Middle Ages, for instance.

There have been other successes: through repeated use, ChatGPT has improved the writing standard of students who previously struggled. "They are intelligent, they can analyse, but [putting] something on paper, it's hard," Gademann says.

At Rosenberg, roughly 30 per cent of grades are already earned through debate and presentations. Gademann says the advent of generative AI has made it clear that standardised testing models have to change: "If a machine can answer a question, we shouldn't be asking a human being to answer this same question."

This overarching dilemma — to what extent assessments should be reshaped for AI — has become a pertinent one. Despite their problems, large language models can already produce university-level essays, and easily pass standardised tests such as the Graduate Management Admission Test (GMAT) and the Graduate Record Examinations (GRE), required for graduate school, as well as the US Medical Licensing Exam.

'If a machine can answer a question, then we shouldn't be asking a human being to answer this same question'

Earlier this year, Wolfram, the AI pioneer, twinned ChatGPT with a plug in called WolframAlpha, and asked it to sit the maths A-level, England's standard qualification for 18-year-olds. The answer engine achieved 96 per cent.

For Wolfram, this was further proof that maths education in the UK, where he is based, is hopelessly behind technological advances, forcing children to spend years learning longhand sums that can be easily done by computers.

Instead, Wolfram argues schools should be teaching "computational literacy", learning how to solve tricky problems by asking computers complex questions and allowing them to do tedious calculations. This means students can step up "to the next level", he says, and spend time using more human capabilities, such as being creative or thinking strategically.

Teaching young people to enjoy knowledge, rather than rote learn it, will better prepare them for the future, Wolfram adds, predicting that menial jobs will be automated, while humans take on a higher-skilled supervisory role. "The vocational is the conceptual."

'Learning loss'

While AI tools are being rapidly implemented by students, and even integrated into the curriculum at some schools such as Rosenberg, the risks of the technology remain clear.

Anna Mills, a writing instructor at the College of Marin, a community college in California, has spent a year testing language models, the technology underlying ChatGPT, such as OpenAI's most advanced model GPT-4. Her main concern is that automating young people's day-to-day lessons by allowing AI to do the legwork could lead to "learning loss", a decline in essential literacy and numeracy skills.

At Wimbledon High School, Lauren's classmate Olivia has enjoyed using ChatGPT as a "creative spark" but is worried this could erode her own abilities. Her friend Rada is less worried. She has found ChatGPT unreliable for giving answers, but useful for helping to structure her arguments. "It's not good at answers, but it's good at 'flufferising' them," she says, referring to the chatbot's ability to turn rough ideas into something more digestible.

Mills agrees that AI-produced essays are often articulate, but they can lack originality and ideas. That, she says, should force educators to interrogate what students should get from essay tasks. "We assign writing because we think it helps people learn to think. Not to create more student essays," she adds. "It's the mainstay process that academia has developed to help people think and communicate and get further in their understanding."

Senior leaders at the Harris Federation, which runs 52 state-funded primary and secondary schools in London, are excited about the potential for generative AI to help students with research or free up teachers' time by generating lesson plans or marking work.

Yet the federation's chief executive, Sir Dan Moynihan, is concerned the technology could present an "equity issue". Not only may poorer students

'AI can give you false information . . . it's a vacuum that sucks a bunch of content off the internet and reframes it'

struggle to access paid-for AI technology that will make work easier, he says, schools with tight budgets may use AI to cut corners in a way that is not necessarily the best for learning.

"I'm not a pessimist, but we have to collectively avoid this becoming a dystopian thing," says Moynihan. "We need to make sure we don't end up with AI working with large numbers of kids [and] teachers acting as pastoral support, or maintaining discipline."

Life-changing technology

However, there are those who point out that educators are only just beginning to think of ways it might be used.

In September 2022, entrepreneur Sal Khan, the founder of Khan Academy, a non-profit whose free online tutorials are viewed by millions of children globally, was approached by OpenAI to test out GPT-4.

After Khan, who also runs a bricks-and-mortar private school in Silicon Valley, spent a weekend playing with it, he realised it was not just about producing answers: GPT-4 could provide rationales, prompt the student in a Socratic way and even write its own questions. "I always thought it would be 10-20 years before we could even hope to give every student an on-demand tutor," says Khan. "But then I was like, wow, this could be months away."

By March, a model from Khan's team had gone from "almost nothing to a fairly compelling tutor", called Khanmigo. The AI tutor debate with students, coach them on subjects ranging from physics and English, and answer questions as pupils complete tutorials.

The product is being rolled out to hundreds of children across Khan's physical and virtual schools, and up to 100,000 pupils across 500 US school districts partnered with Khan Academy will access it by the end of 2023.

Khan describes ChatGPT as the gateway to a "very powerful technology" that can be misused. However, if it is adapted to be "pedagogically sound, with clear oversight and moderation filters", he says, language models can be revolutionary. "I don't say lightly, I think it's probably the biggest transformation of our life . . . especially in education," Khan says.

Back in Wimbledon, Lauren and her classmates are becoming aware that generative AI, while useful, is no substitute for some of the most important and rewarding parts of the learning process.

"Generally in life you need to be able to overcome little hurdles to feel proud of your work," she says.

"It's so vital not to ban the use of it in education, but instead . . . learn how to use it through proper, critical thinking," her classmate Olivia adds. "Because it will be a tool in our futures."

The FT View

FINANCIAL TIMES
'Without fear and without favour'

ft.com/opinion

The UK and European electric vehicle trade

Hoping for delays to Brexit rules is not a strategy, least of all for British automakers

Everyone wants a slice of the electric vehicle market. Carmaking is not only a big employer, it has also long symbolised a nation's manufacturing prowess, from British Minis to Italian Ferraris. As the sector goes electric to meet climate change targets, the US, EU and China have been thrust into a race to build up domestic EV production capabilities. In the frenzy of subsidies and deals, electric automakers need to decide how best to locate their complex supply chains.

Last week, global carmaker Stellantis — which owns brands like Vauxhall, Peugeot and Citroën — warned UK lawmakers that it may have to close one of its electric van factories. It fears that production will soon cease to be competitive. From 2024, as part of the post-Brexit trading agreement, EVs traded between the UK and EU will need to have 45 per cent of their parts sourced from either region, or face 10 per cent tariffs. British and European carmakers say they are not ready, and worry about being displaced in each other's market.

While the so-called "rules of origin" regulations were clear when the Brexit deal was struck, carmakers claim Russia's invasion of Ukraine and supply chain upheaval since have altered cost dynamics. Battery factories on both sides of the channel are also being set up later than expected when the rules were set. The rule itself acts as an important stick to both auto- and policymakers to invest in building a thriving domestic EV ecosystem.

But if manufacturers feel this is not in place, the rules also risk denting the sector just as the US Inflation Reduction Act and China are luring them away. It could even mean EVs traded between the UK and Europe face tariffs, while petrol vehicles would not, keeping EVs more expensive for longer. That would not be ideal for the green agenda. At this stage an extension of the 2024 deadline, as firms are calling for, may make sense.

But carmakers and governments must not use it as an excuse to delay action further. Indeed, the UK — which is further behind Europe in the EV space — must recognise that the tariffs are just one element of the large effort needed to build a competitive EV system.

Batteries, which face local content rules too, comprise a significant share of EVs' total cost. But the UK has only a handful of battery gigafactories in its prospective pipeline, compared with Europe's 30. Attempts to woo battery makers from Asia and nurture homegrown ones have fallen flat — Britishvolt collapsed in January. The UK is trailing, right across the supply chain, even before factoring in broader issues like its high energy and logistics costs.

Developing a thriving EV and battery industry requires long-term and joined-up thinking across sectors. To date that is lacking in the UK. The government shuns the notion of an industrial strategy altogether, and recent political upheaval has not helped. It has been left chasing standalone deals and lobbying Brussels — an ineffectual approach compared to the billions being promised in the US and Europe. For electric automakers, Britain is not looking like a serious long-term bet.

> Britain must recognise that the tariffs are just one element of the large effort needed to build a competitive EV system

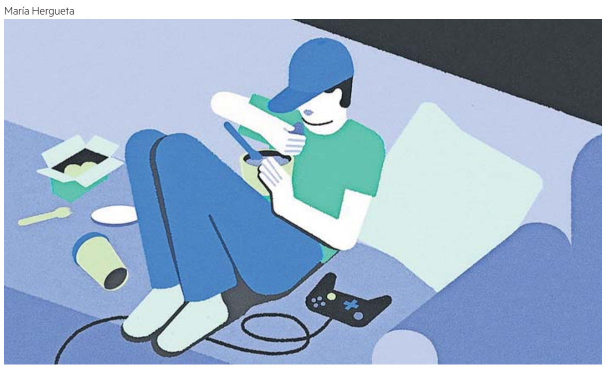
In the end, hoping the European Commission delays the regulations is not a strategy, for either UK or European carmakers. The EU may have an incentive to postpone tougher requirements, being further ahead of the UK in the sector. But, equally, it could judge that with the damage likely to be greater on the UK than its own car industry, given the UK's greater reliance on auto exports to the bloc, keeping it in place could help draw business across the Channel.

Either way, the global battle for EVs is shaping up to be cut-throat and those that lack a strategic approach will be left behind.

Opinion Asia

What Zelda soup tells us about corporate Japan

María Hergueta



Leo Lewis

For anyone grabbing lunch in Japan, themed temptation beckons from the refrigerators of Lawson convenience stores: branded *Zelda: Tears of the Kingdom* hearty salmon and fresh milk clam chowder.

For those that do not yet own the latest $70 *Zelda* game — declared by some to be the greatest of all time and a breezy seller of 10mn copies in its first three days — a $3.26 bowl of hero-labelled soup that (sort of) appears in the game is a cheap entry point for some precious Nintendo magic.

Lurking in its recipe, though, are hints of an important shift in the way Japanese companies may start to think about talent, its value and its portability.

Cross-marketing a new game with food is not unprecedented and Zelda chowder, of course, bubbles somewhere near the bottom of Nintendo's efforts to leverage its intellectual property beyond the games in which Mario, Link (hero of the Zelda series), Donkey Kong and others created that gargantuan brand equity.

> Nintendo is not alone in shifting views. Elsewhere it is happening with people rather than pixels

But it now forms part of a discernibly vaster project. Within the past few months, the Super Nintendo World attraction has opened at Universal Studios Hollywood, following the one that opened two years ago in Osaka, as construction on a third hums away in Singapore.

In April, *The Super Mario Bros. Movie* premiered in the US. It has since taken more than $1.2bn at the global box office, dwarfing the performance of every other cinema offering this year. Nintendo has been saying for some years that it wanted its IP to work harder and there is, very clearly, a lot more of this still to come.

When asked about that in a recent interview, Shigeru Miyamoto, the 70-year-old genius behind the most worshipped idols in the Nintendo pantheon, said: "Nintendo is like a talent agent. We have a lot more entertainers in store . . . we have various options [for using them]."

Miyamoto is no stranger to the mid-interview *bon mot* — see "a delayed game is eventually good, a rushed game is forever bad". But this sounded like the signal of something more psychologically substantial: an admission that Nintendo is in showbiz, and playing by showbiz rules.

A company that had once primarily contemplated the value of its IP in terms of the product it could shift is now judging that same IP's independent worth (and its responsibility to maximise it) in the context of a massive, multi-faceted global entertainment industry.

This change of perspective is not unique to Nintendo. A rather less abstract version is taking place elsewhere in corporate Japan and with people rather than pixels. The historically frigid Japanese job market has been thawed by a shortage of human capital, diminishing expectations of a job for life and the actively growing appeal (for some) of a career that progresses via multiple companies.

In a recent article, which cited data from government and academic sources, the economist Jesper Koll identified "unprecedented quit-rates" by young elite Japanese bureaucrats who would once have expected to see out their whole careers working for the government. The number of those resigning in their 20s has risen more than three-fold since 2014/15, while those quitting in their 30s have more than doubled in the same period.

These are early-ish days, but people are moving more fluidly between companies mid-career. And as the competition to secure them intensifies, more transparently measurable value is being affixed to talent, experience and the portability of both.

This process, and the realisation that a company's capacity to do business must be contextualised in a big, external job market, requires a significant mental leap for a lot of Japanese companies. Many are used to the idea that they will meet almost all their needs by hiring university graduates en masse, and retaining them through a combination of habit and loyalty.

But that appears to be nearing an end. Senior Nomura executives recently revealed to the FT that last year, and for the first time in the company's history, it had made more mid-career hires in Japan than it had taken on university graduates.

Other brokerage houses, they said after asking around, were fast approaching the same inflection point. In certain sectors, such as IT, the crossover is long past.

If, as seems increasingly likely, this pattern becomes prevalent across corporate Japan, the mental shift — from acquiring a wholesale consignment of ore to buying a finished commodity in a market — will be historic. Everyone, in effect, will become a talent agent.

leo.lewis@ft.com

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Case for increasing public debt is not supported by history

The claim of Andy Haldane (Opinion, May 16) that increases in the ratio of UK government debt to gross domestic product over the centuries reflected "an explicit societal choice to invest in the new sets of public goods necessary to support economic and social progress" is, at best, dubious. His argument only stacks up if such public goods are deemed to include Nelson's fleet at Trafalgar, the tanks deployed at the Battle of the Somme or the Lancasters of "Bomber" Harris.

The history of UK government debt is largely one of huge increases relative to GDP during wartime (sometimes accompanied by serious amounts of inflation) and sustained declines during peacetime. Shortly after the Battle of Waterloo, government debt stood at about 200 per cent of GDP, falling to less than 30 per cent by the beginning of the 20th century. The ratio hit a renewed peak of about 250 per cent in the aftermath of two world wars, thereafter dropping to 50 per cent or so by the early 1970s and halving again over the next 20 years.

From Waterloo through to the end of the first world war, public services were mostly not provided at all.

The subsequent increase in public services was funded through higher levels of taxation and generally modest amounts of borrowing. Government revenues, in turn, were bolstered by decent rates of economic growth, lifting the debt/GDP denominator and, thus, lowering the debt/GDP ratio even as public services expanded. In recent years, the debt/GDP ratio has headed back towards triple digits, a highly unusual development during peacetime reflecting terrible productivity growth, a painful financial crisis and the costs of Covid.

Thus, contrary to Haldane's view, rising government debt (as a share of GDP) tends to be a consequence of war or, more recently, sustained economic disappointment, not (as yet) a determinant of lasting economic success.

An economic case can be made for higher levels of government debt, but it would not begin with a history of the last 200 years.

Stephen King
Senior Economic Adviser, HSBC
London E14, UK

NAO should be invited to audit Teesside authority

Jennifer Williams' excellent Big Read about the former Tees Valley steel works site (May 16) highlights concerns about transparency over the use of taxpayers' money. This lack of transparency is a direct result of the then coalition government's decision to abolish the body that audited local councils. We have since seen a crisis emerge in local audit, with only 12 per cent of audits completed in time for the 2021/22 deadline and some councils having had no audits for two years. This leaves local councillors making decisions without full information and local taxpayers in the dark.

Belatedly, the government commissioned Sir Tony Redmond to review local audit but even his excellent work (published in 2020) does not fill all the gaps, with the government reluctant to accept his key proposal. Sir Tony had proposed having a strong system of local authority audit, but the government has instead embedded that task within the new private sector-focused Audit, Reporting and Governance Authority.

The big audit firms are seemingly less keen to take on local audit when the more lucrative private audit market provides plenty of work.

Many want the National Audit Office to fill that void, but the NAO's formal powers do not extend into local authorities — it only has automatic rights to audit government and its arms-length bodies and, more recently, the BBC and the Bank of England. It can only audit another body by ministerial request and if that body voluntarily agrees to open its books. The auditor general would also have to determine that there was reasonable public interest in carrying out such work.

The public accounts committee has repeatedly highlighted our concerns about government oversight of local authorities. Local audit committees are woefully under resourced, many councils have understrength finance teams and there is a shortage of experienced public auditors willing to call out risky investment decisions.

While I welcome the principle of devolution to metro mayors, the model introduced after 2015 did not include robust local audit plans.

In 2018 I met Mayor Ben Houchen to urge him to establish a stronger local audit structure to reassure voters that he was delivering value for money and to demonstrate to government the cost effectiveness of devolved funding to local areas. Any decision to invite the NAO to audit the authority is up to the mayor — who has agreed in principle — and to the levelling-up secretary. But in the interests of transparency, it would be wise for them to allow this.

Dame Meg Hillier MP
Chair, Public Accounts Committee
House of Commons, London SW1, UK

Greek debt spreads are 'very close' to levels at time of its independence war

Levelling-up bill needs a plan for young people

With the levelling-up bill stuck in the House of Lords, now is the time to question its provision for the social mobility of young people ("Devolution deal for England's regions is at risk, warn MPs", Report, FT.com, May 11).

Levelling up isn't delivering for young people. Whitehall policymakers have taken a "top down" approach for too long, creating policy for communities that doesn't reflect the needs of those it is set up to help.

The fact we treat young people as one homogenous group is evidence of this. Put it this way — government wouldn't design a catch-all policy for "grown-ups". Good policy must be driven by the views, needs and circumstances of those same people policy is designed to support.

Politicians and businesses both agree that young people in the UK are facing increasingly real struggles, only intensified by the rising cost of living. Our own research has found that "having enough money to cover basic needs" has now become the most common aspiration among young people, overtaking "buying a house" and "achieving their dream job".

It is concerning to me that basic needs are now aspirations for the next generation. Despite acknowledgments, few are willing to open the door to young people to listen and develop solutions with them.

The Co-op is taking that approach and working with Barnardo's to identify the barriers young people face, co-creating solutions with them.

But it can't just be us. We need co-ordinated effort from businesses, think-tanks and policymakers to create a fairer future for young people. That, I believe, is what real co-operative policymaking looks like.

Shirine Khoury-Haq
Chief Executive, The Co-op Group
Manchester, UK

Chicken and egg question for Marxist-run economy

So often we can't tell which comes first, the egg or the chicken. Reading Gideon Rachman's latest column, I wonder if China's aggression towards Taiwan isn't driven by the worsening economic outlook, rather than the other way around (Opinion, May 16).

Isn't China's "rise" overhyped anyway, as it is only about the left side of the balance sheet rather than the bottom right? It would be even more of a stretch to both acknowledge Xi Jinping as a self-proclaimed Marxist and to fantasise that "Xi still has that economic path to national greatness open". When was the last time that a Marxist did not run the economy into the ground?

Zhao Xiaoou
Shanghai, China

Energy trading is opaque — and that suits Big Oil

When I stepped on to a trading floor for the first time, the world of energy appeared incredibly complex. With its electronic screens, strange jargon and huge egos, energy trading had a unique and alluring mystique.

The article "'Black box' nature of trading arms hurts Europe's energy majors" (Inside Business, May 11) is right to question the lack of transparency regarding trading profits among Big Oil energy firms. However, lifting the lid on the black box reveals a deceptively simple driving concept that is easily overlooked: buy things cheap, sell things expensive.

There is one reason why Big Oil is reluctant to separate its trading profits. Financial markets undervalue trading profits because they do not understand them. Like an ice-cream business on sunny days, energy trading businesses experience bouts of unusually high profitability. When something isn't well understood, or consistent, surprises (even positive ones) are scary. The natural inference is to assume (incorrectly) that large wins mean large losses are equally likely.

This means markets overlook trading rewards while the perceived risks are overweighted. Markets struggle to appreciate something they do not comprehend. Big energy firms know this well. These companies claim that their lack of transparency safeguards their business models. This is nonsense. Competitors can easily hire former traders from any given company and gain a deeper insight than they ever would extract from a financial report.

Those who possess an understanding of the system, and can navigate the operational complexity, are able to generate substantial trading profits. This is what Big Oil excels at.

Ayman Rahman
Chief Executive and Founder, Dare
London EC3, UK

Virgil's oft-quoted quip about Greeks and gifts

The article on Greece's "greatest turnround: from junk to investment grade", as the headline on the online version of the story puts it (Report, May 15), notes that Greece has moved on from being "Europe's problem child".

In fact, the World Bank's government effectiveness indicator, which measures the quality of policy formulation and implementation, shows that, among 214 countries, Greece has gone up from 80th place in 2012 (when it reached a selective default status) to 69th (latest data for 2021).

Greece's slight progress has not fully convinced international investors as the spread between Greek and international borrowing costs remains very close to what it was almost 200 years ago, when Greece started its war of independence against the Turks.

To paraphrase Virgil, international investors still fear the Greeks even when bearing (economic) gifts.

Professor Costas Milas
Management School
University of Liverpool
Liverpool, UK

McKenzie held his own — as a comic invention!

I was surprised to see that your obituary of Barry Humphries (FT.com, April 22) made no mention of Barry McKenzie, one of Humphries' greatest comic inventions, who appeared as a cartoon strip in Private Eye from 1964 and in two compendium volumes: *The Wonderful World of Barry McKenzie* and *Bazza Pulls it Off*.

McKenzie was an Australian ingenu who arrived in London in the midst of the swinging sixties. He is most notable for his unrelentingly inventive use of the English/Aussie language (requiring an extensive glossary to understand it) and his unquenchable optimism — notwithstanding his perpetual failure to get laid.

Despite the outrageous plot lines, for readers who were not there, the strip gives a strangely authentic sense of swinging London at the time.

Laurie Elks
London E9, UK

Corrections

● There is an error in the note on methodology in today's Executive Education Rankings, published in a separate magazine. It states that if a business school featured in both the 2022 and 2023 rankings, "the weighting is 60:40, with 2022 data counting for 40 per cent". The correct figures are 55:45 and 45 per cent respectively.

● Neutrality is not enshrined in the Irish constitution, as wrongly stated in an article on May 19.

Opinion

'Boomy' talk about China is a charade

MARKETS
Ruchir Sharma

Something is rotten in the Chinese economy, but don't expect Wall Street analysts to tell you about it.

There has never been a bigger disconnect, in my experience, between some of the rosier investment bank views on China and the dim reality on the ground. Perhaps reluctant to back off their calls for a reopening boom this year, sellside economists keep sticking to their forecasts for growth in gross domestic product in 2023, and now expect it to come in well above 5 per cent. That's even more optimistic than the official target, and wildly out of line with dismal news from Chinese companies.

Hopes for a reopening boom were based on the premise that, once released from lockdown, Chinese consumers would go on a spending spree, but company reports show no sign of one. If China's economy were growing at 5 per cent, then based on historical trends corporate revenues should be growing faster than 8 per cent. Instead, revenues grew at 1.5 per cent in the first quarter.

Corporate revenues are now growing slower than officially stated GDP in 20 of China's 28 sectors, including consumer favourites from autos to home appliances. Weak revenues are in turn depressing earnings for consumer goods companies, which normally track GDP growth quite closely, but shrank in the first quarter. Instead of a reopening rush, the MSCI China stock index has fallen 15 per cent from the January peak and consumer discretionary stocks are down 25 per cent since then.

If the analysts were right, and consumer demand was picking up in what one described as a "boomy" economy, imports would be strong. Imports fell 8 per cent in April. When retail sales and industrial output came in way below analysts' estimates last week, one attributed this miss to "seasonal adjustment", as if spring had come unexpectedly this year.

China's credit growth is weakening too, up by just Rmb720bn ($103bn) in April, half as fast as forecasters expected. The debt service burden of Chinese consumers has doubled in the past decade to 30 per cent of disposable income — a level three times higher than in the US. Many Chinese youth need a job before they can join a spending spree: urban youth unemployment is rising and last month topped 20 per cent.

> A growth model dependent on stimulus and debt was always unsustainable, and now it has run out of steam

These facts point to the source of the rot. Since 2008, China's economic model has been based on government stimulus and rising debt, much of it pouring into the property markets, which became the main driver of growth. With debts so high, the government was much more restrained in its stimulus spending during the pandemic.

By the start of this year, the Chinese had accumulated excess savings during the pandemic equal to 3 per cent of GDP. The comparable figure in the US was 10 per cent of GDP. While the US got a big reopening boost from stimulus, China did not get one this time.

A growth model dependent on stimulus and debt was always going to be unsustainable, and now it has run out of steam. Much of the stimulus in the past decade flowed through local governments in China, which used their own "financing vehicles" to borrow and buy real estate, propping up the property markets. Those vehicles are fast running out of cash to finance their debts, which is curbing their investment in the property market and industry as well. Industrial sectors are slowing faster than the consumer-related businesses at the centre of the reopening story.

Though Beijing still aims for growth of 5 per cent, its potential has fallen to half that. Potential for GDP growth is a function of population and productivity growth: China's negative population growth means fewer workers are entering the labour force, and heavy debts are slowing output per worker.

China's government has long been suspected of massaging its GDP numbers to hit its growth targets. But cheerleading from Wall Street seems to be reaching a crescendo now, as analysts who called for a reopening boom find it more opportune to stay the course — even if this requires highly selective use of official data — than to reverse themselves.

While analysts may have little to lose from rosy forecasts, the rest of us do. "Boomy" chatter has contributed to investors' loss of hundreds of billions of dollars in China in just the past four months. Further, global growth may prove weaker than expected in 2023, since the hope is that a US downturn will be countered by the China reopening boom, which may never come. It is time to expose this charade before the fallout gets worse.

The writer is chair of Rockefeller International

On railroads, Republicans concede limits of the market

POLITICS
Oren Cass

The Republican party's instinctive opposition to regulation has collided head-on with the reality of lax safety standards on the nation's railroads. American freight trains derail ten times as often as their British counterparts, according to the industry's own data, and the February disaster in East Palestine, Ohio, demonstrated just how costly the accidents can be. Tankers in a 149-car Norfolk Southern train carrying vinyl chloride caught fire and derailed after an overheating wheel bearing went undetected until too late. Residents in two states had to evacuate their homes.

In response, Ohio's senators, Republican JD Vance and Democrat Sherrod Brown, led the bipartisan introduction of the Railway Safety Act to address a range of shortcomings in existing railroad regulation. Enthusiasm from Brown and his fellow Democrats is no surprise. But Vance and his GOP co-sponsors, senators Marco Rubio and Josh Hawley, have been steadily building support as well: in an improbable confluence last week, Donald Trump and Senator Mitt Romney announced their support just hours apart.

Rail safety is not typically a hot-button political issue, but the RSA has made concrete the ideological debate raging between American conservatives and libertarians over the role of government regulation in the free market. The right-of-centre's typical pro-business position is that federal mandates imposed on industry will raise costs and stifle innovation, while market forces can more effectively protect the public interest.

> American freight trains derail ten times as often as their British counterparts

Unfortunately, the risks of mile-long trains carrying hazardous materials are not something the free market will provide incentives to address. One might attempt to measure accurately the costs associated with each accident and hold the railroads liable for those amounts, thus encouraging them to take all cost-effective safety measures. But this assumes the costs can be measured, the court system can adjudicate the claims and corporate managers can optimise their safety investments accordingly.

Conservatives have become increasingly cognisant in recent years that regulation can be far from perfect and yet still far better than the status quo. The RSA is a case in point: modest, sensitive to cost, and focused on a narrow set of serious concerns.

For instance, there is a requirement that all big freight lines maintain two-man crews. This is unnecessary, opponents say, because it was not the cause of the Ohio accident. Though of course where the bill is directly responsive, mandating more frequent use of devices to detect overheated bearings, opponents object on the opposite ground that this represents knee-jerk overreaction.

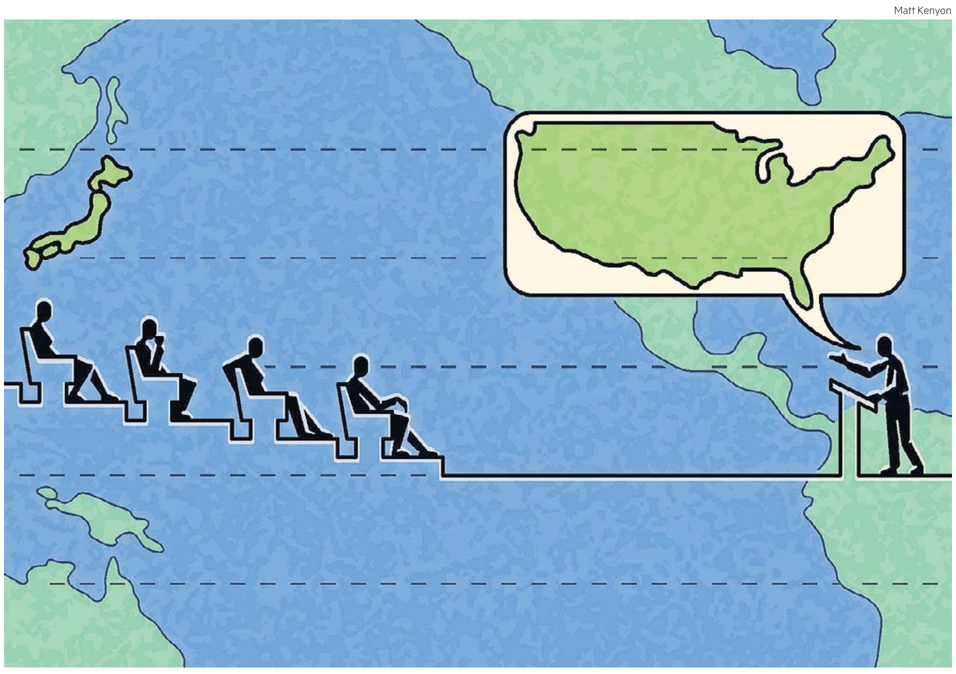
The railroads, incidentally, agree two-man crews and increased use of detectors are necessary, but they want flexibility to depart from the standards if they deem that technology would allow it. Should regulators trust the railroads to put safety first in making the determination? The evidence suggests not.

Rather, the railroads have shown great enthusiasm for cutting costs by any means possible — reducing staff by 30 per cent in the past six years, harming the freight system's reliability while returning nearly $200bn in the past decade to shareholders. From 2019 to 2022, Norfolk Southern reduced its headcount by 23 per cent, returned more than $14bn to shareholders while investing less than $7bn back in its network, and saw its accident rate climb every year — by 25 per cent in total.

Thus far, six Republican senators have endorsed the RSA; at least nine are needed for its passage. Washington will be watching to see how many conservatives are prepared to take responsibility for making determinations in the public interest that — imperfect though they may be — improve upon what the pursuit of profit will provide.

The writer is executive director of American Compass

A US foreign policy for the middle class



Matt Kenyon

BUSINESS
Rana Foroohar

What's good for America is good for the world. That's the message the US was trying to sell at the G7 meeting in Hiroshima. The Biden administration has recently been accused by both allies and adversaries of putting America first, if not alone, in some of its economic policies. But in Japan, the US team tried to connect the dots between their people and place-based domestic economic strategies and their new approach to foreign policy.

Joe Biden's national security adviser Jake Sullivan recently gave a speech saying that gross domestic product growth for its own sake isn't good enough — it must be sustainable and equitable. This is the challenge of the past few decades and a clear move away from the traditional Washington consensus model, which focused on unfettered growth via deregulation and trade liberalisation.

Having succeeded in getting the Europeans, Canadians and Japanese on board with shared clean energy supply chain efforts before the G7, the administration used its time in Japan to push forward the details of what a US-led industrial policy around climate might look like — particularly in the global south. This too, is new — the Washington consensus was all about handing a single playbook of growth to the world. Today's world is far more multipolar, a reality that the US must acknowledge and adjust to as it attempts to bring a greater coalition of nations into a new economic order — albeit one that does not yet have an entirely unified theory.

Some principles, however, are starting to take shape, notably that global markets must be incentivised in new ways to prioritise not just the planet, but its people — or, specifically, its workers. One of the core problems with the old system of globalisation was that it consistently prioritised capital over labour. That can result in strong growth, although not always. But it certainly results in more financialisation and financial fragility (as measured by the increasing number of financial crises).

It also leads to rising inequality as wealth becomes concentrated in a handful of places. One of Biden's main goals at home has been to fight this. In a 2021 speech, he laid out a new approach to domestic competition policy, designed to prioritise workers. That approach was in evidence, too, at the G7, in the promise to fight "economic coercion", whether it comes from companies or from states.

The immediate targets on that front are Russia's weaponisation of commodities and Chinese mercantilism. But the end goal is to avoid economic chokepoints wherever they occur. This builds on the push for resilience over "efficiency", which is less about "decoupling" with China than in "de-risking" across many markets. By framing a new trade and foreign policy not around US-China conflict but in terms of limiting dangerous concentrations of power in any nation or company, the administration hopes to address multiple problems at once — unfair state subsidies, monopoly issues at home and abroad, and national security concerns — without sparking a new war.

That means building more redundancy in supply chains that have the potential to be weaponised. It also means working with new partners in the global south to create more robust supplies of commodities such as rare earth minerals. This was also up for discussion at the summit as the US attempted to show that "friend-shoring" wasn't something that had to be done with the EU, Japan, Canada and Australia alone.

> Coming up with the metrics and institutions for Biden's new world order will be a long and difficult process

De-risking is a message that G7 nations, and indeed many others, are responsive to. Nobody wants to live in a world where European grain or gas supplies can be turned on and off by an autocrat, or the global supply of high-end semiconductors can be ringfenced by blockading a single island. Hence efforts to work with Europe, Japan, Korea, Taiwan and India to co-ordinate new semiconductor incentives, subsidising more chips everywhere.

But coming up with the metrics and institutions for this new world, and figuring out how to better incentivise sustainable and equitable growth, will be a long and challenging process. While the US is open to putting issues such as World Bank reform on the table, it hasn't spent nearly as much time on the bigger hot-button issue of how to reform the World Trade Organization. And tensions remain. The G7 communiqué made clear the desire to take on any "non-market policies and practices", which, for the US, includes those in China that adversely affect workers or the environment, and limit access to technologies that compromise national security.

Still, Biden did finally give the world a clearer argument about why signature domestic economic programmes such as the Inflation Reduction Act, the Chips Act, and the earmarking of more money for infrastructure linked to high labour and environmental standards, are not about nationalism but a new approach to growth both domestically and globally. "The president believes that a bottom-up, middle-out approach, focused on resiliency, sustainability and empowering workers is the best thing for the US, but for the world," says deputy national security adviser Mike Pyle.

Whether you call it a foreign policy for the middle class, or a new global industrial policy, it is certainly very different to the "market knows best" strategy the US has taken at home and abroad for the past several decades.

rana.foroohar@ft.com

Doom-mongers are wrong to underestimate the European economy

ECONOMICS
Martin Sandbu

Not even a recession." That is the verdict on how Germany coped when it abruptly had to do without Russian energy supplies last year — a dependency that had been cultivated by all German governments of the past half-century, for both commercial and political reasons.

The phrase is the title of a new study by economists Benjamin Moll, Moritz Schularick and Georg Zachmann, who compare the outcome for the German economy with the predictions made immediately after Vladimir Putin's full-scale assault on Ukraine. The invasion triggered what they call "the great German gas debate" between disagreeing groups of economists, with business lobbies and unions weighing in about whether the economic cost of ending Russian gas imports would be bearable.

As Moll and his colleagues remind us, some of these predictions were apocalyptic: up to 12 per cent loss of economic output and millions losing their jobs. Those arguing the losses would be much smaller were berated by chancellor Olaf Scholz for "irresponsible" theorising.

Politically, the debate was won by the doom-mongers. The impressive speed with which Berlin found substitute sources of gas and built emergency infrastructure makes it easy to forget that Germany did not in fact choose to go without Russian gas. That was a decision Putin made for it by throttling gas supplies before stopping them late last summer. And the EU as a whole took too long to agree its still-incomplete restrictions on Russian energy imports.

But the truth was on the optimists' side. (I had a dog in this fight: I argued a week into the war that Europe could and should go "cold turkey" on Russian gas imports.) As Moll and his colleagues make clear, Germany's growth outcome has been as good as the rosiest estimates of the energy war's toll. There was no "cascade" of production cuts, bankruptcies and lay-offs from energy-intensive sectors to the wider economy. Despite a drop in March, manufacturing output remains greater than a year earlier.

The authors even find that, according to German meteorological data, temperatures were no higher than the multiyear trend: if so, the idea that Germany was saved by a warm winter seems to be a myth. The gas left in storage by the end of the heating season means Germany never needed the Russian gas it bought before Putin closed the taps. Cold turkey would have been perfectly feasible.

> Germany's success in ending reliance on Russian gas shows the EU's adaptability and resilience

The resilience of Germany's economy is something to celebrate. More important is to learn the right lesson. Why did the balance of opinion wrongly oppose a morally and geostrategically right policy for being prohibitively expensive?

The inexcusable answer is a desire by some in corporate Germany not to have to face any economic cost at all for standing up to Putin. The more understandable, if disappointing, answer involves intellectual mistakes. There is a lack of appreciation in continental Europe — for this goes beyond Germany — of how adaptable market economies are. It is reinforced by mistaking challenges to existing businesses for threats to the overall economy, when in fact the creative destruction of unadaptive companies is what makes market economies grow. In addition, European leaders have long internalised an outdated criticism of the European economy as particularly inflexible and "sclerotic".

Germany's great gas debate is only the most egregious example of how Europeans underrate their own economic adaptability. There are others. Few expected that the post-pandemic recovery would take employment rates to record highs — in stark contrast to the lagging US and UK labour markets. The EU's taboo-breaking recovery fund is fuelling growth in countries many had written off as perennial basket cases.

If we don't draw the right lessons from such examples, we will persist in an overly timid understanding of what Europe's economies can deliver. The policy risks from such misdiagnosis are all around us, reinforced by the self-pleading of corporate incumbents.

Brussels has been forced to slow the pace of its decarbonisation policies. Germany and France have mounted actions against legislation. French President Emmanuel Macron has demanded a "regulatory break". German carmakers want to delay the EU-UK trade deal's penalisation of electric cars with batteries made outside Europe.

In all these examples, the argument is that too much change is too difficult. But as the German gas debate shows, an economy is more flexible than the sum of its parts. If some companies are unwilling to change, dynamic markets make space for those that are willing and able to adapt. European economic policy should reinforce these market pressures, not protect against them.

martin.sandbu@ft.com


The Legendary Designs
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