FINANCIAL TIMES

TUESDAY 15 DECEMBER 2020 | WORLD BUSINESS NEWSPAPER | EUROPE

End ‘too big to jail’
Top executives must finally be held to account — JOHN PLENDER, PAGE 6

EU holds the cards
If a Brexit deal is agreed, it will be on Europe’s terms — GIDEON RACHMAN, PAGE 19

The little guy pays
US’s huge lending scheme is failing small businesses — BIG READ, PAGE 17

Frontline first
US vaccine rollout starts

Mark Lennihan/ AFP

Nurse Annabelle Jimenez, left, congratulates colleague Sandra Lindsay yesterday after she became the first person in the US to be inoculated with the Pfizer/BioNTech vaccine at Long Island Jewish Medical Center in New York.

But Bill de Blasio, New York City’s mayor, warned yesterday of another “full shutdown” as the second wave of coronavirus rages across the US.

Meanwhile, the UK has identified a new fast-spreading variant of the virus as London and other southern regions of England became the latest areas to return to the toughest level of restrictions, with pubs, restaurants, theatres and museums again closing their doors.

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Editorial Comment page 18

Spy agencies scramble to counter ‘nation-state’ cyber attack on US

- Pentagon among agencies exposed to malware
- Partners warned to ‘secure networks’

HELEN WARRELL — LONDON
KATRINA MANSON — WASHINGTON
HANNAH MURPHY — SAN FRANCISCO

Intelligence agencies around the world are rushing to assess the extent of a wide-ranging espionage attack by a “nation-state attacker” on US federal agencies, companies and other groups.

The US issued an emergency warning on Sunday after learning that software that may have been used by most Fortune 500 companies and multiple federal agencies, including the US military and the Pentagon, had been hijacked to gain entry to secure IT systems.

“We urge all our partners — in the public [and] private sectors — to assess their exposure to this compromise and to secure their networks,” said the US Cybersecurity and Infrastructure Agency, after a cyber security company unearthed the “global intrusion campaign”.

Washington has not identified the attacker. But FireEye, the US cyber security group that first flagged the hacking push last week and was itself a victim, attributed it to a nation-state.

SolarWinds, the software group whose “Orion” product was used to gain entry to government systems, said the hackers inserted malware into software updates between March and June, which means hackers could have been lurking in systems for up to nine months. SolarWinds added that “fewer than 18,000” of its 275,000 customers may have been exposed.

The National Security Council at the White House said yesterday that it was working with CISA, the FBI, the intelligence community and affected agencies “to co-ordinate a swift and effective whole-of-government recovery and response to the recent compromise”.

Jeremy Fleming, head of British signals intelligence agency GCHQ, said that his staff were “working at pace” with US partners and the private sector to understand the implications.

It is still unclear which US government agencies have been compromised. The US commerce department confirmed that one of its bureaus had been breached and there were media reports that the US Treasury had been hacked. A spokesperson declined to comment.

Theresa Payton, former White House chief information officer and chief executive of cyber security consultancy Fortalice Solutions, said that it was “very likely that [hackers] have access to months worth of data . . . which means staffer emails, messages, documents and more have been monitored, read, copied, intercepted”.

The group whose software was used says that fewer than 18,000 of its 275,000 customers may have been exposed

Rosa Smothers, a former CIA cyber threat analyst and technical intelligence officer, described the incident as “a very high-end attack” that could have a wider impact on the US’s Five Eyes intelligence-sharing partners. She said that the hack was most likely perpetrated by APT 29, a hacking group also known as Cozy Bear, which is known to have links to Russian intelligence.

Dmitry Peskov, President Vladimir Putin’s spokesman, said that Russia had “nothing to do” with the attack.

Google major outage page 8

Briefing

▸ AstraZeneca shares hit by Alexion deal
Shares in Anglo-Swedish drugmaker AstraZeneca fell almost 6 per cent as investors worried about its $39bn acquisition of Alexion, the biggest sector deal since the start of the pandemic.— PAGE 6; LEX, PAGE 20

▸ Navalny tracked by agents, report finds
Secret-service agents shadowed opposition leader Alexei Navalny across Russia for years, including when he was poisoned with novichok in August, a report by investigative site Bellingcat says.— PAGE 4

▸ Gig groups to pass on costs to customers
Uber, Lyft and DoorDash will start to give more benefits to their “gig” workers in California this week, but they will pass on extra fees to customers to cover the cost.— PAGE 8

▸ EA makes counterbid for Codemasters
Electronic Arts is trying to gazump its US gaming rival Take-Two with a £945m offer for UK-based Codemasters. A deal for Codemasters would rank as EA’s largest ever acquisition.— PAGE 8

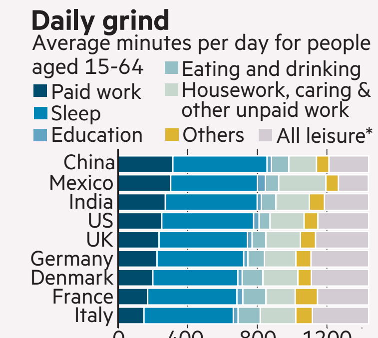
▸ German double-dip recession fears rise
A hard German lockdown means the country is set for a double-dip recession, economists say, hitting hopes that Europe’s largest economy will rebound to pre-pandemic levels by the start of 2022.— PAGE 2

▸ Tokyo launches digital overhaul drive
Japan plans to recruit some 500 computer experts for a national digital agency amid a scramble to match the success of Taiwan and South Korea in electronic government services.— PAGE 4

▸ Barnier sees ‘narrow path’ to trade deal
The EU’s chief Brexit negotiator has said there is a “narrow path” to a British trade deal, while warning that success will hinge on achieving breakthroughs in tough areas.— PAGE 2; GIDEON RACHMAN, PAGE 19

Datawatch

Daily grind
Average minutes per day for people aged 15-64



*Includes seeing friends, sports and watching TV or attending events
Source: OECD

People in China and Mexico on average work twice as many hours as those in Italy and France. There is a general pattern of people in richer nations spending more of their day eating, drinking and relaxing.

Covid and Brexit spark key changes for London hub

Analysis ▸ PAGE 9

Exxon pledges emissions cuts as Biden agenda adds to investors’ climate push

MYLES MCCORMICK — NEW YORK
JUSTIN JACOBS — WASHINGTON

ExxonMobil has promised to cut emissions for every barrel of oil it produces by up to a fifth over the next five years, following investor pressure for action on climate change.

The company said yesterday it would aim for a cut of 15-20 per cent per barrel by 2025, compared with 2016 levels.

The announcement was made as Exxon faces a vocal shareholder campaign to increase efforts to reduce its environmental impact.

A number of US oil producers have promised to cut emissions ahead of the inauguration of Joe Biden, the US president-elect, who has said he will “transition away from the oil industry”.

Exxon, which was once the world’s largest company by market capitalisation, is a symbol of big oil in the US. It has stuck to a strategy of expanding crude output despite a shift by rivals towards greener forms of energy production and some forecasts pointing to a peak of global crude consumption this decade.

Unlike many European producers, Exxon’s new targets apply purely to its scope 1 and 2 emissions — those produced by its own operations and its power providers. They do not apply to its scope 3 emissions — those produced by burning its oil. However, Exxon did say it would start to publish scope 3 emissions figures annually.

“It’s been of keen interest to stakeholders we meet with,” said Pete Trelenberg, the company’s director of greenhouse gas and climate change. The new targets are focused on reducing emissions from oil and gas operations, Exxon said, and did not indicate a switch towards more investment in low-carbon power such as wind and solar.

Exxon’s targets include a 40-50 per cent cut in methane emissions per barrel produced and a 35-45 per cent reduction in per barrel flaring — the burning-off of less valuable gas found alongside oil — by 2025. The company would also eliminate routine flaring by 2030.

However, environmentalists warned that Exxon’s new targets did not go far enough. Ben Ratner, of the Environmental Defense Fund, said they were “inadequate to the challenges and opportunities facing the energy industry”.

The incoming Biden administration has promised to crack down on the oil and gas sector’s methane emissions and gas flaring and to put the US on a path to net zero emissions by 2050.

Unilever shareholders’ vote page 8

Austria	€3.90	Malta	€3.70
Bahrain	Din1.8	Morocco	Dh45
Belgium	€3.90	Netherlands	€3.90
Bulgaria	Lev7.50	Norway	NKr40
Croatia	Kn29	Oman	OR1.60
Cyprus	€3.70	Pakistan	Rupee350
Czech Rep	Kc105	Poland	Zl 20
Denmark	DKr38	Portugal	€3.70
Egypt	E£45	Qatar	QR15
Finland	€4.70	Romania	Ron17
France	€3.90	Russia	€5.00
Germany	€3.90	Serbia	NewD420
Gibraltar	£2.90	Slovak Rep	€3.70
Greece	€3.70	Slovenia	€3.70
Hungary	Ft1200	Spain	€3.70
India	Rup220	Sweden	SKr39
Italy	€3.70	Switzerland	SFr6.20
Lithuania	€4.30	Tunisia	Din7.50
Luxembourg	€3.90	Turkey	TL19
North Macedonia	Den220	UAE	Dh20.00

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World Markets

STOCK MARKETS

	Dec 14	prev	%chg
S&P 500	3677.27	3663.46	0.38
Nasdaq Composite	12524.77	12377.87	1.19
Dow Jones Ind	30111.49	30046.37	0.22
FTSEurofirst 300	1513.23	1508.73	0.30
Euro Stoxx 50	3509.06	3485.84	0.67
FTSE 100	6531.83	6546.75	-0.23
FTSE All-Share	3678.41	3680.43	-0.05
CAC 40	5527.84	5507.55	0.37
Xetra Dax	13223.16	13114.30	0.83
Nikkei	26732.44	26652.52	0.30
Hang Seng	26389.52	26505.87	-0.44
MSCI World $	2621.89	2628.59	-0.25
MSCI EM $	1257.66	1255.03	0.21
MSCI ACWI $	629.83	631.05	-0.19

CURRENCIES

	Dec 14	prev		Dec 14	prev
$ per €	1.213	1.211	£ per $	0.751	0.757
$ per £	1.332	1.321	€ per £	1.098	1.091
£ per €	0.911	0.917	¥ per €	126.197	125.852
¥ per $	104.080	103.945	£ index	77.348	78.231
¥ per £	138.598	137.323	SFr per £	1.183	1.177
SFr per €	1.077	1.079			
€ per $	0.825	0.826			

COMMODITIES

	Dec 14	prev	%chg
Oil WTI $	46.45	46.57	-0.26
Oil Brent $	49.85	49.97	-0.24
Gold $	1842.00	1844.35	-0.13

INTEREST RATES

	price	yield	chg
US Gov 10 yr	105.92	0.90	0.02
UK Gov 10 yr		0.22	0.05
Ger Gov 10 yr		-0.62	0.02
Jpn Gov 10 yr	101.11	0.01	0.00
US Gov 30 yr	118.06	1.64	0.03
Ger Gov 2 yr	105.70	-0.77	0.01

	price	prev	chg
Fed Funds Eff	0.09	0.09	0.00
US 3m Bills	0.08	0.08	0.00
Euro Libor 3m	-0.57	-0.56	-0.01
UK 3m	0.03	0.04	-0.01

Prices are latest for edition | Data provided by Morningstar

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INTERNATIONAL

Pandemic

Germany faces risk of double-dip recession

Hard lockdown hits hopes for return to pre-outbreak recovery in early 2022

MARTIN ARNOLD — FRANKFURT
VICTOR MALLET — PARIS

Germany is heading for a double-dip recession after Berlin imposed a hard lockdown, economists have predicted, denting hopes that Europe's largest economy will rebound to pre-pandemic levels by the start of 2022.

Angela Merkel's government announced at the weekend that schools and most shops would be closed from tomorrow until January 10 in an effort to contain a surge in Covid-19 infections.

"Germany must brace itself for a second recession," said Jörg Krämer, chief economist at Commerzbank.

The hard lockdown would knock 4 percentage points off Germany's daily growth rate, he said, compared with a 2.5 percentage point daily hit from the previous "lockdown lite".

The economy would shrink 1 per cent in the fourth quarter and 0.5 per cent in the next quarter, he said — meeting the definition for a recession, which is two successive quarters of negative growth. But he stuck to his forecast for 4.5 per cent growth next year.

Carsten Brzeski, economist at ING, said it was "too early to call" whether the economy would decline in the first quarter of next year, while he cut his forecast for the current quarter from minus 1 per cent to minus 1.5 per cent.

"My guess is that the lockdown measures will not be eased significantly, which increases the chances of a technical recession and, even worse, more structural damage in the form of bankruptcies," said Mr Brzeski. The hard lockdown would postpone Germany's return to pre-pandemic levels from the final quarter of next year until the first quarter of 2022, he said.

> 'German industry will continue to cushion the negative impact thanks to tailwind from China'

Germany has benefited from its large manufacturing sector, which has been less disrupted by coronavirus restrictions, and rising exports to China. This was underlined by Eurostat data published yesterday showing eurozone industrial production rising 2.1 per cent in October.

"Whereas consumer spending is in for a pronounced setback, resilient German industry will continue to cushion the negative impact thanks to ongoing tailwind from China," said Katharina Utermöhl, economist at Allianz.

Germany's central bank raised its forecast slightly for the economy to rebound to its pre-pandemic level by the start of 2022, outpacing the overall eurozone, according to projections published yesterday but compiled before the latest lockdown was announced.

"The assumption here is that the containment measures will be rapidly eased from spring 2021 onwards due to medical progress, and finally be phased out completely in the first months of 2022," the Bundesbank said. It forecast the economy would shrink 5.5 per cent this year, before growing 3 per cent next year and 4.5 per cent in 2022.

France's central bank has forecast that its economy would rebound 5 per cent next year but would reach its pre-pandemic level of output only by mid-2022 after shrinking 9 per cent this year.

The Banque de France forecasts were slightly more pessimistic than predictions in September but close to those it made in June, as a result of the "negative shock" of the second nationwide lockdown that is still partly in force.

EU divorce

Brussels and London more upbeat on Brexit trade agreement

JIM BRUNSDEN — BRUSSELS
GEORGE PARKER — LONDON

The EU's chief Brexit negotiator has said there is a "narrow path" to a trade deal with the UK in the coming days, while warning that success will hinge on achieving breakthroughs in difficult areas, including fishing rights.

Michel Barnier told meetings of national ambassadors and EU parliamentarians yesterday that some progress had been made over the weekend on the crucial issue of fair competition rules for business, even though substantial gaps remained.

But he warned that the two sides were at an impasse over EU fishing rights in British waters, which may be the most intractable issue in the talks. Mr Barnier told ambassadors that an overall future-relationship deal was possible in the coming days if the fishing dispute could be unblocked, according to two participants at the meetings.

Meanwhile, the UK yesterday raised hopes that a deal was taking shape when it dialled down its rhetoric about the risks of a no-deal outcome. "No deal is a potential outcome," Boris Johnson's office said. The UK prime minister said on Friday that no deal was "a strong possibility" and on Sunday that it was "the most likely" outcome. But yesterday, Downing Street declined to use the same language, saying only that it was "possible", before later insisting that no deal remained "the most likely outcome".

Mr Johnson and Ursula von der Leyen, the European Commission president, announced on Sunday that talks would continue after the sides spent the weekend toiling over "level playing field" guarantees for companies. Negotiations resumed yesterday in Brussels.

"There might now be a narrow path to an agreement visible, if negotiators can clear the remaining hurdles in the next few days," an EU diplomat said after Mr Barnier's presentation.

But the two sides are up against the clock with under three weeks remaining until Britain leaves the EU single market with or without a trade deal. Failure in the negotiations would mean tariffs on goods and EU boats being expelled from their traditional fishing waters.

"It is our responsibility to give the talks every chance of success," Mr Barnier wrote on Twitter after the meetings. "The next few days are important, if a [trade agreement] is to be in place on 1 January 2021."

He said the talks on fishing rights in UK waters were stuck on multiple points. However, EU diplomats privately play down the idea that the entire EU-UK future-relationship negotiation would be derailed by fishing, although it remains acutely sensitive for coastal nations, such as France and Belgium.

Mr Barnier told ambassadors and MEPs that there had been important progress this weekend on the other chief sticking point in the talks: the EU's demands for a level playing field for its companies, those attending the meetings said.

He said that the big development had been an acceptance by the UK to work together with the EU in designing a "mechanism" to preserve fair competition.

Gideon Rachman see Opinion

Religion. Secular state

French Muslims split over law to curb Islamism

Uneasiness among minority of 5.7m as move to target radicalism raises tensions

VICTOR MALLET — PARIS

The varied reactions from French Muslims to Emmanuel Macron's planned law to curb radical Islamism and strengthen the powers of the secular state have underlined the political minefield faced by governments tackling religious extremism.

Some Muslims have expressed outrage at what they view as an increasingly hardline strategy, echoing the accusations of Islamophobia made by the leaders of Turkey and Pakistan, while others have voiced wholehearted support for the president.

Between these extremes, some of France's estimated 5.7m citizens from Muslim backgrounds — the largest such minority in western Europe — are uneasy amid increased tension after recent Islamist terror attacks and the radicalisation of young people whose parents or grandparents immigrated from former French colonies in the Maghreb or sub-Saharan Africa.

Nagib Azergui, who leads the Union of French Muslim Democrats, a party he founded eight years ago, is one of Mr Macron's harshest critics. "We are really second-class citizens, enemies of the interior ministry," he said. "Islamophobia is exploding in our country."

Mr Azergui said Mr Macron's draft law "to protect the principles of the republic" was part of a "witch-hunt" that had also included closing mosques. "They are flagging anyone who is a practising Muslim as a potential terrorist."

The legislation, which does not mention specific religious groups, bans "virginity certificates", curbs home schooling, outlaws gender segregation in public swimming pools and protects public servants from online hate speech — a measure introduced after teacher Samuel Paty was beheaded outside his school in October by a young Islamist enraged that he had used caricatures of the Prophet Mohammed in a class on freedom of speech.

For Mr Azergui, the law is an example of "Islamo-diversion", of a government attacking Muslims to hide its incompetence, while the mention of virginity certificates is an insulting cliché. "The Muslim community does not do this kind of tribal stuff any more," he said. "It is not the reality of French society."

Fatiha Agag-Boudjahlat, a teacher in Toulouse whose forebears migrated from Algeria, takes exactly the opposite view, welcoming the law, rejecting the Muslim "patriarchy" and criticising westerners who see France's minority Muslims as victims of an overbearing secular state under Mr Macron.

"As a daughter of immigrants, I am very happy to be treated as a citizen, not as a Muslim," she said. "I want to have access to the same emancipation as white women . . . We are not identities, we are people. I don't have a 'Muslim' brain or a 'Muslim' womb."

Mr Macron's government has made much of what it says is the Islamist influence in 15 districts across France that have been identified since 2018 as zones of "republican reconquest".

Hassen Chalghoumi, a moderate imam from Drancy, north of Paris, who supports Mr Macron and has campaigned against anti-Semitism, is in no doubt about the dangers of extremism. "This law is not against Muslims, but against Islamists," he said. "If the government doesn't respond like this, we will head towards civil war. There is a rise of hate and racism."

The law's opponents, however, insist that the government either misunderstands or deliberately misrepresents the problem by equating religious devotion with violent extremism.

"We need to understand that we have a common enemy — Islamists and terrorists," said Mr Azergui. "All these people who turned to terrorism did not go to the mosques. These are people really on the margins of society."

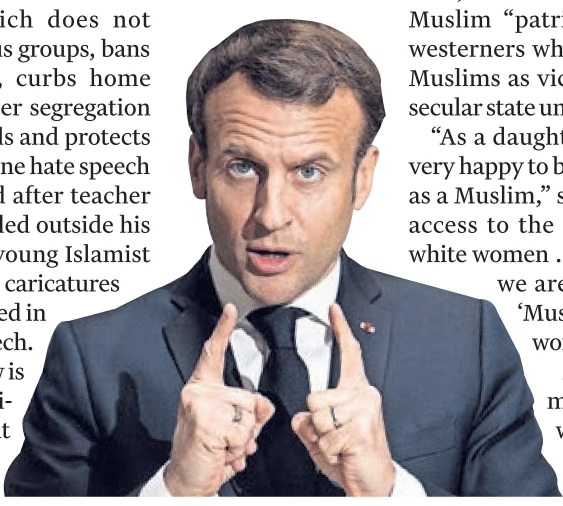
Tareq Oubrou, a Moroccan-born imam from Bordeaux who once adhered to the puritanical tenets of Salafism and the Muslim Brotherhood but has since adopted more moderate views, said the way Muslims lived and worshipped in France tended to separate them from society and exposed them to the risk of radicalisation. Muslims felt vulnerable and "stigmatised".

> 'There is a bigotry, a religious orthodoxy that is on the rise in the new generation'

There are some areas where the analyses of the authorities and Muslim leaders converge. They agree, for example, that prisons have been a breeding ground for radicalisation. And there is a consensus that the latest generation of people of Muslim immigrant origin feel increasingly alienated from the French customs adopted by their parents and grandparents.

According to an Ifop opinion poll in October, 57 per cent of French Muslims under 25 think sharia law is more important than the law of the French republic — a 10 percentage-point increase from four years ago.

"There is a bigotry, a religious orthodoxy that is on the rise in the new generation," said Ms Agag-Boudjahlat.



Worship: police keep watch at the Grand Mosque of Paris. Emmanuel Macron, below
Mohammed Badra/EPA-EFE

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Corporate scandal

German audit watchdog chief suspended over Wirecard trading

OLAF STORBECK — FRANKFURT

The head of the German audit watchdog has been suspended with immediate effect after admitting to trading shares in Wirecard while conducting a probe into the company's auditor, as the collapse of the payment group continues to wreak havoc in German corporate circles.

Ralf Bose, the Apas chief, was moved aside to "safeguard" the oversight body's "integrity" while he is investigated, said the Federal office of economics and export control, an agency reporting to the economy ministry yesterday.

In a separate move, it emerged that BaFin, Germany's financial regulator, which has been asked to investigate Mr Bose's share trading, had sacked an employee for violating disclosure rules on the buying and selling of Wirecard-related securities. Three other BaFin employees are being investigated over similar allegations.

Apas and BaFin, two of the most important regulators of corporate Germany, have come under fire for Wirecard-related stock market trades. In the first half of 2020, 56 BaFin employees disclosed 196 private trades in Wirecard securities.

Mr Bose did not respond to a request for comment.

A former senior partner at Big Four auditor KPMG, who has led Apas since 2016, he told parliament last week that he had purchased Wirecard shares in April and sold them at a loss the following month. At that time, Apas was in confidential talks with BaFin over Wirecard.

Matthias Hauer, an MP for Angela Merkel's CDU/CSU called Mr Bose's suspension "a consequent move" as his share deals were "utterly unacceptable" and undermined the "trust in the independence of Apas".

BaFin in October banned employees from trading shares and other securities of companies that it oversees. An internal investigation showed four employees this year had been in breach of disclosure rules by reporting trades in Wirecard securities with two to eight month delays.

One of the employees left BaFin at the end of November after his contract was terminated, the finance ministry said yesterday in a response to a written inquiry by Frank Schäffler, an MP for the liberal Free Democrats.

"Germany's financial regulator is acting like in a banana republic," said Mr Schäffler, adding that this was putting pressure on Olaf Scholz, the finance minister.

The finance ministry said that BaFin had so far found no evidence that staff were using insider information when trading Wirecard shares and noted that the four employees who violated disclosure rules did not work in departments that were involved in the Wirecard affair.

Meanwhile, Cansel Kiziltepe, an MP for Ms Merkel's coalition partners, the Social Democrats, filed a criminal complaint against EY partner Christian Orth yesterday, accusing him of giving false testimony to the Bundestag's inquiry commission into the Wirecard scandal last month.

Mr Orth had told the committee he had called Apas on the eve of his parliamentary grilling at the request of EY's legal department. Mr Orth said the sole purpose of his call was to find out who was in charge of a criminal complaint filed by Apas against EY.

Mr Orth insisted he did not ask about the content of the complaint, an assertion that was contradicted by the Apas employee who received the phone call.

"I assume that [Mr Orth] gave false testimony to the Wirecard inquiry committee," said Ms Kiziltepe.

Björn Gercke, a lawyer for Mr Orth said that the claims were baseless, stressing that Mr Orth did not inquire about the content of the criminal complaint.

EY declined to comment.

Wirecard: fallout from payments group's collapse continues

INTERNATIONAL

US alarmed over Mexico threat to curb agents in drugs battle

American experts believe draft law will stymie willingness to share intelligence

JUDE WEBBER — MEXICO CITY

Anti-narcotics co-operation between the US and Mexico could be set back three decades if Mexico's lower house of Congress approves a bill limiting the activities of "foreign agents", including the US Drug Enforcement Administration, in the country.

William Barr, the US attorney-general, has warned that the bill, which passed the Senate on December 9 and was expected to be approved by the lower house before it breaks for Christmas, "can only benefit the violent transnational criminal organisations and other criminals that we are jointly fighting".

Andrés Manuel López Obrador, Mexico's president, has defended the bill, saying it affirms Mexican sovereignty. No legal framework regulating co-operation with agents of other governments exists, and it is time to "put things in order", he said.

Some see the legislation as retaliation for the arrest in October of Salvador Cienfuegos, a retired general and former defence minister in Mexico, on drug trafficking charges at the DEA's request.

Mexico was not tipped off, sparking outrage in the army, which is an ally of the populist president. Mexico last month secured the former general's release after intense diplomatic pressure in which it reportedly threatened to expel the DEA.

The new rules would require the agency to hand all intelligence gathered in Mexico to local authorities. Experts said that would devastate joint anti-narcotics efforts.

"If we pass sensitive information, because of endemic corruption it's going to get leaked to criminal organisations — it's happened time and time again," said Mike Vigil, a former head of international operations at the DEA. "[Information sharing] is not going to happen."

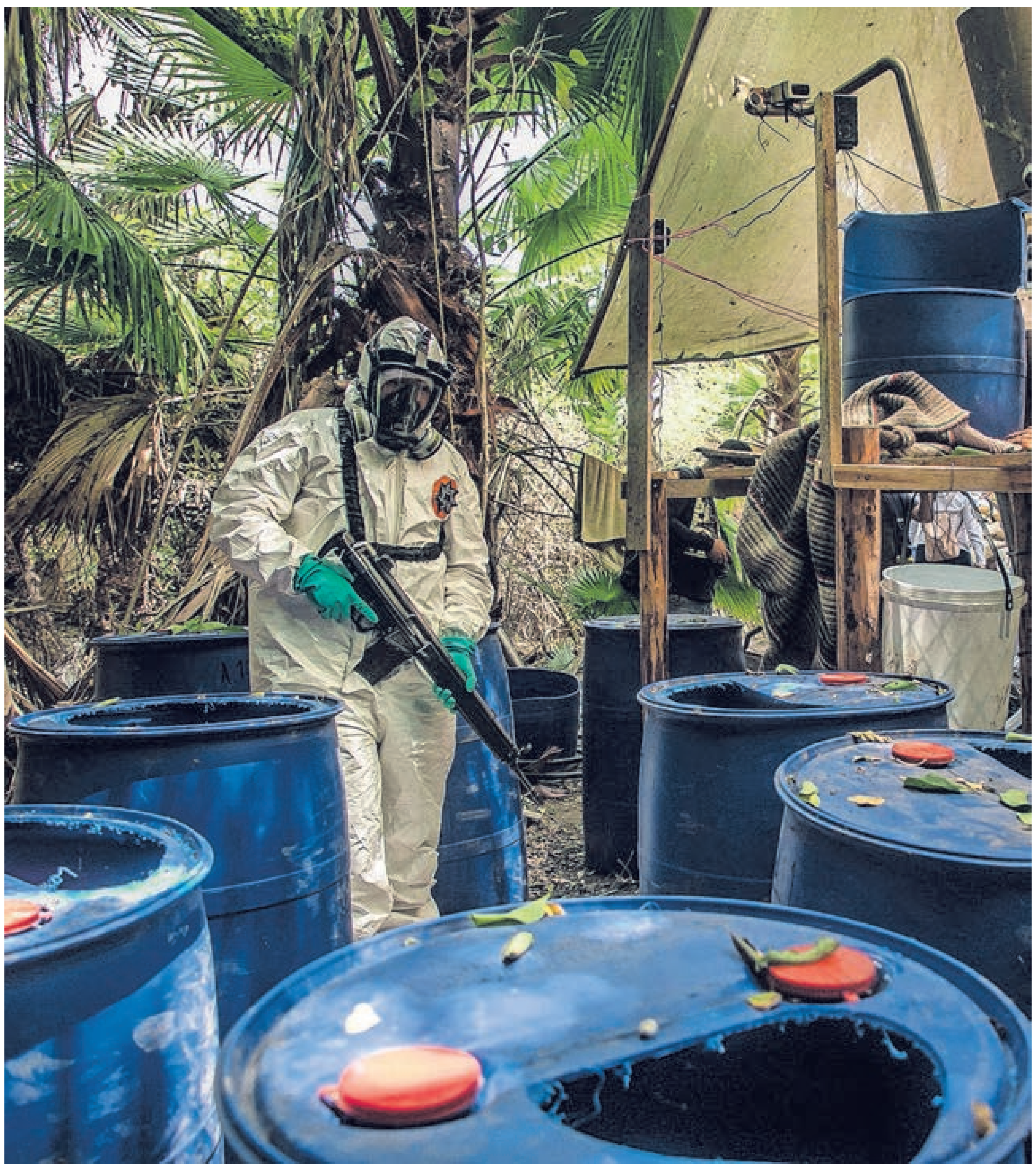
In addition, the DEA's counterparts in Mexico would have to report the content of every contact, and agents could be stripped of diplomatic immunity if charged with a crime.

"Who's going to take your call if they have to write a report every time they talk to you?" Mr Vigil said. "A lot of the information we provide . . . is tactical — for example, a truck coming from Veracruz with . . . cocaine going to Tijuana. [Now] they're not going to take your call. The vast majority of tactical information is going to go into the toilet."

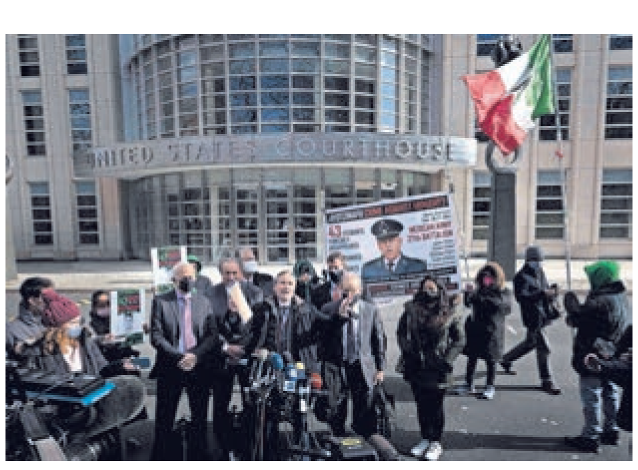
Vanda Felbab-Brown, an expert on security at the Brookings Institution, called the bill a "game-stopper" and a headache that could lead to strained relations with Joe Biden, the president-elect. "I think it will produce real difficulties with the Biden administration," she said. "The US will interpret this as a hostile relationship which seeks to undermine US-Mexican co-operation on crime."

The DEA declined to comment.

Since 2008, Mexico and the US have stepped up security co-operation under the so-called Mérida Initiative, under which Washington has supplied military hardware and helped strengthen law enforcement and prosecution. Mr López Obrador has taken a largely non-confrontational approach to drug cartels under a "hugs not bullets" strategy, even though Mexico is set to see a record number of murders this year.



Security agents dismantle a cartel lab in Sinaloa. Below, Salvador Cienfuegos's legal team leaves a New York court after charges were dropped
Rashide Frias/AFP/Getty; Justin Lane/EPA-EFE



His credibility came under fire after he went out of his way to greet the mother of jailed Sinaloa Cartel boss Joaquín "El Chapo" Guzmán this year.

That happened a few months after Mr López Obrador ordered the release of Ovidio Guzmán, one of Mr Guzmán's sons, whose bungled arrest for extradition to the US triggered a firefight.

> 'The US will interpret this as a hostile relationship which seeks to undermine US-Mexican co-operation on crime'

Mr López Obrador has said he wants to "reorient the Mérida Initiative completely because it hasn't worked". He said he would prefer to spend the money on development instead.

This bill could be the nail in the coffin. "If it goes through, it will really end US-Mexican collaboration as it exists and return it to the freezer of the early 1990s after the fallout from the Kiki Camarena affair," said Ms Felbab-Brown, referring to the kidnap, torture and murder in 1985 of DEA agent Enrique Camarena by a cartel in Mexico.

Damián Zepeda, a senior figure in the opposition National Action party, called the bill a "tantrum" over Mr Cienfuegos's arrest. Many analysts believe Mexico's promise to investigate the general after his return from the US is hollow.

Although both countries have a stake in the fight against powerful cartels, Mr Vigil said Mexico had the most to lose from the bill since high-profile captures relied heavily on US intelligence.

"This is nothing more than Mexico shooting itself in the foot," he said.

White House race

Electoral College set to seal Biden win as Trump digs in

LAUREN FEDOR — WASHINGTON

Joe Biden was set to be formally selected as the next president of the US yesterday, as electors met in statehouses across the country to cast their votes despite opposition from Donald Trump and his supporters.

The exercise is a crucial step in cementing Mr Biden's victory over Mr Trump, setting the stage for him to be sworn in as the 46th US president next month.

The meeting of the Electoral College is usually a rubber stamp exercise that garners little attention but it has become hotly politicised this year given Mr Trump's refusal to concede defeat. The president and some of his aides had insisted that electors should ignore the election day results and cast their ballots for him instead.

In Michigan, a Midwestern swing state where Mr Biden defeated Mr Trump, authorities closed the state capitol due to "credible threats of violence" before yesterday's meeting.

Mr Biden was expected to make a speech last night after electors in all 50 states and the District of Columbia had cast their ballots. Voting began in the day and, as of midday, several states had completed the process, including Arizona, Georgia and Pennsylvania.

More than 150m Americans cast ballots on November 3, with a record of more than 80m votes for Mr Biden, the Democratic candidate, while roughly 74m Americans voted for Mr Trump, the Republican incumbent.

Under the US constitution, the president and vice-president are officially selected not by the popular vote but by the Electoral College, an arcane system in which larger states have more electors. Each state's number of electors matches its numbers of representatives in Congress, and 270 electoral votes are required to win the White House.

Based on the November 3 results, Mr Biden was expected to receive 306 Electoral College votes, while Mr Trump should get 232. A majority of states legally require electors to endorse the winner of the popular vote in their state.

Mr Trump continues to refuse to accept the outcome, insisting that he won the election. On Sunday, the president tweeted: "VOTES CANNOT BE CERTIFIED. THIS ELECTION IS UNDER PROTEST!"

Mr Trump and his allies have sought to use the legal system to overturn the result. Their efforts, based on unsubstantiated claims of voter fraud, have been repeatedly struck down. On Friday, the US Supreme Court rejected the state of Texas's unprecedented bid to throw out election results in four states where Mr Trump lost to Mr Biden.

See Notebook

Inoculation

New York nurse among first in line for vaccine jab rollout

KIRAN STACEY — WASHINGTON

An intensive care unit nurse in New York became one of the first Americans to receive an authorised coronavirus vaccine yesterday, as the US moves to distribute millions of doses of the Pfizer/BioNTech shot just days after it was approved.

Sandra Lindsay had the jab shortly after 9am, live on camera, hours after the first doses arrived at hospitals across the country.

The inoculation marks the starting point for a process lasting several months aimed at immunising enough US citizens to slow the spread of the disease, which has killed more than 290,000 people in the country.

"It didn't feel any different from taking any other vaccine," Ms Lindsay said. "I feel hopeful today, relieved . . . I hope this marks the beginning of the end of a very painful time in our history."

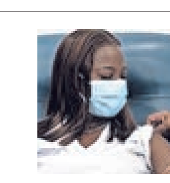
Andrew Cuomo, the governor of New York, watched the injection over video link. "I believe this is the weapon that will end the war. It's the beginning of the last chapter of the book, but now we just have to do it," he said.

Data from the Covid Tracking Project show that 187,000 people tested positive for the disease in the US on Sunday, and 1,482 died. The US has registered more than 16m cases since the pandemic began, the highest in the world by far.

Healthcare workers and people in care homes are set to receive the first doses of the vaccine, with 3m injections planned in the first week.

Government officials say they expect about 40m doses of a Covid-19 vaccine will be distributed by the end of the year — enough to vaccinate 20m people — though this will depend on whether the US Food and Drug Administration gives the go-ahead to Moderna's Covid-19 jab this week. The FDA approved the Pfizer/

Sandra Lindsay: 'I hope this marks the beginning of the end of a very painful time in our history'



BioNTech vaccine on Friday, and workers at Pfizer's plants in Michigan and Wisconsin spent the weekend making and shipping the initial batch of doses.

These were being received at 145 sites yesterday, and being sent to a further 425 today and 66 tomorrow. Most of the sites are large hospitals with facilities to keep the vaccine at -70C.

Donald Trump, the US president, said on Sunday night that he was not scheduled to receive a shot, and that senior White House officials would receive it "somewhat later in the programme", despite rules allowing senior government figures to have priority access.

Obituary

Novelist who used espionage to explore ethical issues

John le Carré
Writer
1931-2020

In *A Perfect Spy*, his most autobiographical novel, John le Carré describes his protagonist, the morally compromised double agent Magnus Pym, as having an agile stride, "his body forward-sloping in the best tradition of the Anglo-Saxon administrative class. In the same attitude, whether static or in motion, Englishmen have hoisted flags over distant colonies, discovered the sources of great rivers, stood on the decks of sinking ships."

British imperial decline, and the dubious strategies of the political classes and intelligence services to disguise that decline during the cold war, form the backdrop to many of the 25 novels of le Carré, who has died aged 89. Espionage was the genre that earned him fame. But he used it as a platform to explore larger ethical problems and the human condition with such insight that many fellow authors and critics regarded him as one of the finest English-language novelists of the 20th century.

Like Joseph Conrad's character Charles Marlow and Philip Roth's Nathan Zuckerman, le Carré's George Smiley recurs in his novels, reminding readers of the author's enduring concerns. Smiley, a middle-aged, ponderous but not unsympathetic spycatcher with a troubled private life, is the antithesis of Ian Fleming's James Bond, who seduces women and dismantles the nefarious plots of enemies with the kind of casual ease that prompted le Carré to deride him as a "gangster".

Le Carré had a sharp sense of humour and spoke in sentences as elegantly constructed as his prose. "A good writer is an expert on nothing except himself," he once said. "And on that subject, if he is wise, he holds his tongue." Nevertheless he put to good use his first-hand knowledge of espionage, deception and the frailties of the human character.

Born in 1931 in Poole on England's south coast, le Carré's real name was David John Moore Cornwell. His mother left the family home when he was five years old and his father was a "conman, fantasist, occasional jailbird", as he wrote in his memoirs, *The Pigeon Tunnel*.

In 1948 he abandoned his English private school, Sherborne, and travelled to Switzerland to study languages at the University of Bern. He was inspired to "embrace the German muse as a substitute mother", immersing himself in the works of Johann von Goethe, Heinrich von Kleist and Georg Büchner.

Le Carré joined the British Army Intelligence Corps in 1950, interrogating people in Austria who had crossed from communist eastern Europe to the west. After a spell at Oxford university he taught for two years at Eton, the British private school whose alumni he later described as "an absolute curse on the earth, leaving that school with a sense of entitlement and overeducated cultural posturing".

In the late 1950s and early 1960s he worked for MI5, the domestic intelligence service, and then for MI6, its foreign counterpart, which sent him to Bonn and Hamburg. By his own account, his duties were minor. But he acquired enough experience to write three spy novels, the third of which, *The Spy Who Came In From the Cold*, was an international bestseller and turned into a successful film starring Richard Burton and Claire Bloom.

In one of his last public appearances, at the German embassy in London in March, le Carré explained that the spy world of his novels — an arena of betrayal, broken lives and corroded morality — came primarily from his own imagination. He broke new ground for the genre by stripping his characters of glamour and constructing plots that resolutely avoided simple clashes between good against evil.

He was no neutral observer of the cold war, saying that whatever the shortcomings of western political systems, they were not to be compared with one-party dictatorships. After the end of communism, however, he said: "Spies did not win the cold war. They made absolutely no difference in the long run."

In his post-cold war novels, le Carré emerged as a searing critic of US and British foreign policy. Africa, Central America, the former Soviet Union and other regions were the settings for novels that dissected the arms trade, drug trafficking and pharmaceuticals.

He married Ann Sharp in 1954 and they had three sons, Simon, Stephen and Timothy. After their divorce in 1971, he married Valérie Jane Eustace, who contributed to his work with her editorial expertise. They had one son, Nicholas, a novelist who writes under the name Nick Harkaway.

Tony Barber

Africa

US deletes Sudan from state sponsor of terror blacklist

ANDRES SCHIPANI — NAIROBI

The US has removed Sudan from its list of state sponsors of terrorism in a move set to help the African country access debt relief, multilateral lending and western investment for its battered economy.

"The secretary of state has signed a notification stating rescission of Sudan's State Sponsor of Terrorism designation [yesterday]," the US embassy in Khartoum said yesterday.

General Abdel Fattah Burhan, the military head of Sudan's hybrid military-civilian transitional government, who met Mike Pompeo, US secretary of state, this year in Khartoum, tweeted: "Greetings and congratulations to the Sudanese people on the occasion of Sudan's exit from the list of states sponsoring terrorism."

The US put Sudan on the list in 1993 when then Omar al-Bashir's regime was hosting Osama bin Laden in Khartoum. The north-eastern African state, devastated by years of mismanagement, civil war and corruption, was cut off from the international finance system.

Sudan, which overthrew the 30-year dictatorship of Mr Bashir last year after protests triggered by a rise in food and fuel prices, had urged the US to remove it from the list. But Washington first wanted Khartoum to pay compensation to victims of alleged Sudanese-sponsored terrorism.

In April, Sudan agreed to pay compensation to the families of US sailors killed on the USS Cole in a 2000 attack in Aden.

In October, Donald Trump, US president, signed an executive order to remove Sudan from the terror blacklist after Khartoum agreed to pay $335m to the families of the victims of the 1998 al-Qaeda bombings outside US embassies in Nairobi and Dar es Salaam. Congress had 45 days to object to the order, which expired this week. The executive order was widely seen as a precursor to Sudan normalising ties with Israel.

After yesterday's announcement, sanctions on Sudan should be lifted. Without US backing, Sudan has been unable to write off $60bn in debts or access new multilateral lending or western investment for its economy, which is forecast to shrink 8.4 per cent this year.

Abdalla Hamdok, prime minister in the hybrid government, previously said US sanctions stemming from Sudan's terrorism status were "crippling our economy".

Stripped of hard currency, on the back of a sharp devaluation, inflation rocketed to 254 per cent last month, one of the world's fastest rates. Days-long queues outside petrol stations and breadlines have worsened this year.

Bellingcat report

Russia's FSB tied to Navalny poisoning

Secret service agents tracked Putin opponent for years, claims website

MAX SEDDON — MOSCOW

A team of Russian secret service operatives shadowed Alexei Navalny across the country for years, including when the opposition leader was poisoned with the nerve agent novichok in Siberia in August, according to a report by investigative website Bellingcat.

Mr Navalny claimed in a YouTube video responding to the report yesterday that the men "took orders from the president of Russia, Vladimir Putin" and had "tried to kill him several times".

Using phone metadata and flight records obtained on the black market, Bellingcat's researchers tied the men to a forensic unit of Russia's FSB, the successor agency to the KGB.

The men began following Mr Navalny across Russia in 2017, when he tried to challenge Mr Putin for the presidency, and tracked him in Novosibirsk and Tomsk in the days leading up to his poisoning, Bellingcat said.

In August, Mr Navalny fell unconscious on a flight from Tomsk to Moscow and was later flown to Berlin's Charité hospital, where he spent weeks in a coma. Specialist laboratories in Germany, France and Sweden independently found traces of novichok, the poison used in 2018 against former spy Sergei Skripal and his daughter in the English city of Salisbury, in Mr Navalny's system. Novichok was also detected on a water bottle that Mr Navalny's team took from his hotel room.

After his discharge from hospital last month, Mr Navalny said the use of novichok pointed to Mr Putin's direct involvement in his poisoning.

The Kremlin and FSB did not respond to requests for comment. Moscow has said that Mr Navalny's claims were "absolutely groundless and unacceptable".

Russia claims it found no traces of toxic substances during the two days Mr Navalny spent in a Siberian hospital and has refused to open a criminal investigation. Mr Putin said last week "we cannot open criminal cases each time when a person escapes death".

Bellingcat said phone data showed eight of the men worked in southwestern Moscow at an FSB facility under a military scientist with a chemical weapons background, who reported to the head of a forensic laboratory that Russian intelligence defectors have said serves as a front for a poison laboratory.

The site said flight records showed the men had tracked Mr Navalny on 37 trips in the past three years, usually flying a day earlier and returning on separate planes to avoid detection. On one occasion in this period, Mr Navalny said he broke into a cold sweat an hour into a flight and staggered to the bathroom, convinced he was about to die, before his symptoms passed 15 minutes later.

> 'After going through all this myself, I understand how bad it can be and how impossible it is to explain what happened'

During a holiday on the Baltic Sea in July this year, Mr Navalny said his wife Yulia reported similar symptoms before recovering within an hour. Three of the alleged FSB officers shadowed Mr Navalny on the trip and made calls to a chemical weapons expert while Ms Navalnaya felt ill, according to Bellingcat.

"Now, after going through all this myself, I understand how bad it can be and how impossible it is to explain what happened," Mr Navalny said. "Back then I thought it was just some rubbish."

Mr Navalny said he believed the incidents were dry runs for his poisoning in Tomsk two months later. On that trip, three of the alleged FSB officers followed him across Siberia, where one of them was located near a phone tower a short drive from Mr Navalny's hotel.

Balkans. Election

Romania far-right gains with church blessing

Nationalists target virus and taboo issues with effective social media campaign

VALERIE HOPKINS — BUDAPEST

Romania's general election on December 6 was supposed to be the most uneventful ballot in decades. Instead, a far-right party came seemingly from nowhere to win 9 per cent of the vote.

The ultranationalist Alliance for the Unity of Romanians, formed a year ago, capitalised on frustration with anti-coronavirus measures, support from the Romanian Orthodox Church, an effective social media strategy and a willingness to discuss taboo issues to become the fourth-largest party in parliament.

For years, Romania had been an outlier in central and eastern Europe as it had no prominent far-right party, although several mainstream parties have flirted with illiberal ideas. Now, the populist AUR will enter both chambers of parliament.

"A conservative revolution has commenced," Claudiu Tarziu, the AUR's co-founder said shortly after the vote.

Turnout in the election was 30 per cent, the lowest since the collapse of communism in 1989. That historically low figure "shows that political parties have ceased to be representative", said Oana Popescu, whose Global Focus think-tank has researched the success of Romania's far-right.

The AUR was founded on December 1 2019, Romania's "great union day", in the historic city of Alba Iulia. The city was chosen as it is the place where the union of Romania and Transylvania, which had been part of Hungary, was proclaimed after the first world war. The AUR calls for the union of all territories where ethnic Romanians live, especially neighbouring Moldova.

Mr Tarziu was among the organisers of a 2018 constitutional referendum to ban same-sex marriage. It failed because of low turnout but the loose coalition of conservatives it drew helped spark a new political force, said Laura Stefan of the Expert Forum think-tank in Bucharest. The referendum was also strongly supported by the Romanian Orthodox Church, which plays a prominent role in society.

Safety first: Covid protection measures in place at a polling station in Bucharest, the capital of Romania, where the AUR set out a nationalist stall
Daniel Mihailescu / AFP

The new party capitalised on existing ties with the church during the election campaign. Church leaders promoted the party by hosting discussions with its members on its popular television channels.

One significant moment during the campaign came when the government banned a public gathering in honour of St Andrew, one of Romania's most important saints, because of the pandemic. A conservative cleric in the coastal city of Constanta announced that the celebration would go ahead, while police stood by.

"The role of church in society has been very widely discussed on social media. It was a very high-profile topic," said Ms Popescu. "Yet no mainstream political party has dared to touch on this discussion openly."

The AUR also capitalised on economic inequality, especially as it is perceived by the Romanian diaspora in western Europe.

"A lot of votes came from Romanians doing hard work abroad, like agriculture and construction," said Ms Stefan. "They feel left out, and if someone can promise them a life they don't have, it's easy to use nationalism to tell people they are great and come from a great country."

The party organised protests against the economic effects of anti-coronavirus measures. It also lambasted influential "foreign companies that take their profits out of Romania". In a message that resonated with small business owners, AUR leaders campaigned against the decision to close small farmers' markets while allowing larger foreign-owned supermarket chains to continue operating.

Only 3 per cent of eligible voters backed the AUR in the election, but they may still be a thorn in the side of the next government, which is likely to be a coalition headed by Florin Citu, the finance minister of the National Liberal party.

Mr Citu is a US-educated economist who worked for the European Investment Bank and New Zealand's central bank. Ludovic Orban, the former premier, who had a convincing lead ahead of the polls, resigned last week after the party came second to the leftwing social democrats, who have been dogged by corruption scandals for years.

The new government will have to contend with an economy badly damaged by the pandemic and a budget deficit of more than 9 per cent of gross domestic product. Romania's credit rating is just above junk status.

It will also need to address the low levels of public trust in institutions. Ms Popescu pointed out that, according to surveys, only 11 per cent of voters say they trust parliament, while 28 per cent trust the president. The church, on the other hand, is one of the most trusted of institutions, with 55 per cent.

GLOBAL INSIGHT

EUROPE

Ben Hall

EU 'silver bullet' for bringing autocrats to heel remains elusive

Viktor Orban could not have been clearer about the EU's new regulation making access to EU funds conditional on respect for the rule of law. The Hungarian prime minister would not accept it, he told state radio on December 4. He dismissed the idea of a statement of reassurance from EU leaders about how the new rule would be applied. "Adding some declaration — like some little reminder stuck on a pinboard — won't work."

A week later at the EU summit, Mr Orban and his Polish counterpart, Mateusz Morawiecki, agreed to exactly such a declaration in return for dropping their blockade of the EU's €1.8tn budget and vitally important coronavirus recovery fund. The financial package, the EU's landmark achievement of 2020, is back on track. And a new mechanism allowing the EU to cut off funding to members that flout the rule of law will come into force next month, adding a much-needed tool to the bloc's malfunctioning kit for upholding fundamental values.

"It's a total defeat for Orban and a victory for democrats in Europe," said Klara Dobrev, a Hungary opposition MEP.

As Mr Orban previously acknowledged, a political declaration cannot change the legal force of the regulation agreed in November by the European Parliament and member states. The declaration largely restates the principles of the legislation: it will be applied in a targeted way according to objective criteria and any sanction will be proportionate to the breach.

The one big concession is a delay. Action against errant member states will not start until the European Court of Justice has ruled on an inevitable application by Budapest and Warsaw to have the regulation struck out as contrary to the EU treaties, a process that can take eight to 12 months. George Soros, the philanthropist, said it was a "true coup" for Mr Orban that implementation could be delayed until after Hungary's parliamentary elections in 2022, giving him "ample time" to change laws and constitutional provisions to protect his circle's financial interests.

> 'It's a total defeat for Orban and a victory for democrats in Europe'

If Ms Dobrev and fellow MEPs have their way, the delay could be much shorter. They will apply for an expedited ECJ review akin to that used when Britain activated the Article 50 EU exit clause. It took the ECJ less than three months to rule following a request from a Scottish court.

It will take the European Commission several months to draw up a methodology to examine compliance before building a watertight legal case for any breach. If the European court quickly upholds the new rule of law mechanism, the pressure will build on Brussels to act against Budapest in the run-up to the elections. The question is whether it would have the political will to initiate such a serious escalation. Under Ursula von der Leyen's presidency, the commission has shied away from confrontation.

Some legal experts said EU leaders overstepped their role by giving the commission instructions on how to interpret the new rule even if their declaration is not binding. "It will have a chilling effect," said Alberto Alemanno, professor of EU law at HEC in Paris. "The European Council intends to reframe how the rule of law mechanism will be used, in particular with the idea that it will only be used as an instrument of last resort when all other instruments have been exhausted." Ms Dobrev said she hoped the commission could quickly build a case.

But the commission is wary of taking a sweeping approach, which should be the job of the member states but which they have been reluctant to pursue. Instead, Brussels will want to tackle narrower, more concrete breaches and hope national capitals, especially Berlin, take a more robust stand against autocrats in their midst.

"It is not a silver bullet," said one official. "It is part of a salami slice method to put sufficient pressure [on a country] to stop certain things. The question is whether we will have sufficient political pressure as well."

ben.hall@ft.com

Japan

Tokyo to hire tech experts for digital overhaul

ROBIN HARDING AND KANA INAGAKI
TOKYO

Japan plans to recruit more than 500 computer experts for a new national digital agency as it races to match the success of Taiwan and South Korea in electronic government services.

Takuya Hirai, the newly appointed digital minister, told the Financial Times that the cross-departmental agency was part of an effort to make up ground after decades of halfhearted adoption of online government in one of the world's most advanced economies.

Japan's attachment to paper processes and its failure to put government services online has been harshly exposed during the coronavirus pandemic, as it struggled to manage its test and tracing programme.

"The coronavirus has made most people realise the need for digitisation," said Mr Hirai. "If we let this opportunity go there won't be another one . . . it's now or never."

The creation of a digital agency is one of biggest policy initiatives of Yoshihide Suga, the prime minister, who has picked Mr Hirai to lead it. While Japan has been making a digital push since the early 2000s, Covid-19 has revealed the gains by Taiwan and South Korea in moving their societies online.

"Even with a small start we'll have more than 500 people. With a mixed team of bureaucrats and the private sector, the governance can only be experimental," Mr Hirai said.

The digital agency represents one of biggest policy initiatives of Yoshihide Suga, the prime minister

He said the digital agency aimed to scale up rapidly after it is launched as early as September. The government will look for engineers and other technology experts both inside and outside Japan to create a digital infrastructure for government agencies.

One striking aspect of Japan's digital plan is the intention to recruit technologists direct into the bureaucracy rather than relying purely on private contractors. Governments around the world have often struggled when they have sought to act as developers. Mr Hirai said: "We want people to go in and out — we want a spell in the digital agency to be a boost for someone's career in the private sector."

The creation of the digital agency is also linked to plans to reduce the use of physical seals on documents, allowing electronic signatures instead. Although Japan has a global reputation for consumer electronics and technology, its greatest successes came in the era of analogue devices, and it has few large software companies.

Mr Hirai said that going digital would increase innovation and help Japan's economy more broadly. "There is no question that being late on digitalisation is one reason for our low potential growth, so if we can maximise our late-mover advantage [to catch-up] then we can raise Japan's economic growth rate."

The creation of a digital agency could help to spur change in the private sector, he added. "If you look at companies that are highly valued by the market such as Amazon, Japanese companies have been a little weak in qualities such as innovation and resilience in the face of change," Mr Hirai added.

Defaults

China to prosecute former rating agency head

HUDSON LOCKETT AND THOMAS HALE
HONG KONG

Chinese authorities are to prosecute the former general manager of a leading credit rating agency for allegedly taking "massive" bribes, as Beijing vows to improve oversight of the industry after unprecedented bond defaults.

The Central Commission for Discipline Inspection announced yesterday that Jin Yongshou, former general manager of Golden Credit Rating, would be prosecuted for allegedly taking bribes from issuers covered by the agency and helping numerous companies improve their credit ratings.

The watchdog made the announcement a day after the People's Bank of China pledged to improve its supervision of rating agencies. Last month, a string of defaults by highly rated issuers sent shockwaves through China's $15bn public debt market.

The prosecution of Mr Jin, together with a former local general manager for Golden Credit, comes a year after authorities announced the pair were under investigation for allegedly accepting money to boost companies' credit ratings, according to the CCDI. Companies without a high enough rating cannot issue publicly traded debt.

Pan Gongsheng, vice-president of the PBoC, has criticised the sector for artificially high ratings, poor differentiation of issuers' credit risk and other issues that have "constrained the high-quality development" of China's bond market.

> 'We don't expect it to be a common practice . . . They [the regulators] want to release some signals'

Regulators have recently reprimanded domestic rating agencies, including Golden Credit rivals China Chengxin and Dagong, for their slow responses to growing credit risk at the issuers they cover.

China Yongcheng, the coal miner that was the first to default last month, was rated triple A when it missed its first payment. China Chengxin, which covers Yongcheng, is under investigation in relation to its rating for the company.

Just five companies out of more than 5,000 were downgraded last month to below double A by domestic rating agencies, the minimum level at which regulators allow companies to issue debt in China's interbank market.

Together with competition from rival rating houses, most of which are state-run or have substantial government ties, Chinese agencies have little appetite to risk losing business by rating clients below double A. That can bring down entire agencies responsible for rating much of China's onshore debt.

In March 2019, an official investigation of Dagong found conflicts of interest and a lack of quality control that led to the group being taken over by a state-run investor the following month.

But the prosecution of Mr Jin is not directly linked to the recent defaults, and analysts were sceptical that there would be a wave of similar prosecutions.

"We don't expect it to be a common practice but more ad hoc," said Bruce Pang, head of macro strategy research at China Renaissance Securities.

"They [the regulators] want to release some signals," he added.

Additional reporting by Wang Xueqiao in Shanghai

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Robin Wigglesworth Despite the horde of zombie companies, fears over corporate debt seem misplaced ➔ MARKETS INSIGHT, PAGE 11

Companies & Markets

AstraZeneca hit as investors fret over $39bn Alexion deal

- Covid jab group's share price falls
- Shareholders split on biotech tie-up

ORTENCA ALIAJ AND HANNAH KUCHLER — NEW YORK
SARAH NEVILLE AND ATTRACTA MOONEY — LONDON

AstraZeneca shares fell almost 6 per cent yesterday as investors worried about the Anglo-Swedish drugmaker's $39bn acquisition of Alexion, the biggest pharmaceutical deal since the start of the coronavirus pandemic.

Shares in AstraZeneca were down more than 8 per cent at one point, with some shareholders sceptical of the tie-up, which values Alexion at $175 per share, a 45 per cent premium to the US biotech's previous closing price.

"Financial attractions are clear but strategic rationale less so and management track record in M&A [is] arguably unproven," said one top-30 AstraZeneca shareholder.

> 'AstraZeneca are looking to future-proof the business and broaden the platform they operate in'

The transaction comes after months of speculation that AstraZeneca chief Pascal Soriot was seeking a big target.

AstraZeneca approached Alexion in the summer, leading to a four-month "back and forth", mainly focused on the headline price, according to a person familiar with the matter. Alexion also pushed for a greater chunk of the deal to be in cash, the person added. But it became obvious AstraZeneca could not pay any more cash for such a big deal and nor could most Big Pharma groups. "This takes AstraZeneca out of the M&A market for a while," the person said.

Alexion had come under pressure from activist investor Elliott Management to put itself up for sale since May, arguing that the rare-disease specialist should take advantage of a surge in the valuation of biotech stocks during the coronavirus pandemic.

One large Alexion shareholder said they were "supportive of the deal" and found AstraZeneca to be "a good fit". Alexion shares were trading up more than 30 per cent at $159 yesterday.

Not all AstraZeneca investors were hostile. "AZ are looking to future-proof the business and broaden the platform they operate in," said another top-30 investor. "Their rationale has been explained well by management and we feel this is a positive deal for them."

Dan Mahony, co-head of healthcare at Polar Capital, which has a holding in AstraZeneca, said the deal showed there was still considerable value to be extracted from biotechs.

"For some of these large-cap biotechs people have been worried about growth and valuation. [The deal] shows there is still some value in there and quite a lot of cash generation," he added.

Alexion's rare-disease drugs may be easier to sell than other medicines in an environment in which governments and private health systems increasingly demand evidence of the effectiveness of treatments, Mr Mahony said.

"The beauty of some of these rare diseases is that showing the value of those medications is easier. If you can effectively cure a child, that shows obvious value and there is no discussion about what it's worth," Mr Mahony added.

Raju Prasad, an analyst at William Blair, said: "While the acquisition premium for Alexion is slightly lower than our comparable transactions, we see the potential for a higher bid after this announcement as unlikely."

See Lex

Opening stand Amazon primed for India cricket rights drive after maiden sports deal

Ambati Rayudu of the Chennai Super Kings during an Indian Premier League match — Robert Cianflone/Getty Images

BENJAMIN PARKIN — MUMBAI

Amazon Prime Video is building a live cricket offering in India as it seeks an edge over international rivals in the country's fast-growing media market.

The US company secured the rights last month to stream New Zealand cricket in India from 2021 to 2026, its first foray into live sports in the country and a move seen as a warm-up for a challenge for more lucrative rights to elite Indian matches.

Disney's rights to the two biggest prizes, the Indian Premier League and Indian national cricket, expire in 2023 and 2024, respectively.

"Expanding into a space which the country loves makes sense," Gaurav Gandhi, Amazon Prime Video's country manager, told the Financial Times, adding that the company would weigh further opportunities to secure cricket rights.

"You have to work for the rights structures, when the rights are available and so on," he said.

"I do feel that it does add an interesting dimension to our overall offerings . . . We're happy to look at each individual opportunity that goes by."

Global streaming platforms are trying to draw in audiences through live sports in addition to films and television series. Amazon already streams some American National Football League matches and Premier League football from England as well as US Open tennis.

In India, Disney's dominance of top cricket tournaments has helped propel it to the top of the streaming market. It is expected to end the year with 28m subscribers, thanks in large part to this year's IPL, according to Media Partners Asia, against 17m for Amazon Prime and 5m for Netflix.

Star India, which Disney acquired through its deal for 21st Century Fox, beat Facebook and Sony in 2017 to secure five years of rights to the IPL for $2.6bn.

For Amazon, New Zealand matches alone are unlikely to pull in bumper audiences in India, not least because the time difference means many games will take place in the early hours of the Indian morning.

"The New Zealand cricket rights probably sit at the tail-end of the hierarchy, largely because of the timing," one industry executive said.

"And yet . . . it tells you that whenever the IPL rights come up, or other major cricket rights come up, the competition this time is going to be very serious from the new technology and internet companies."

Vijay Subramaniam, Amazon Prime Video's head of India content, said: "We're here, we're really serious and we're committed to the long term. It's moving in the direction that we're very happy with."

Germany's CureVac starts final-round vaccine trial

JOE MILLER — FRANKFURT

German biotech group CureVac has launched a final-stage, large-scale trial for its Covid-19 vaccine that will eventually involve 35,000 participants across Europe and Latin America.

The company, which uses a similar mRNA platform to vaccines developed by BioNTech/Pfizer and US rival Moderna, said it would test its product on people aged 18 and over.

Shares in the company, which went public on the Nasdaq in New York in August, weeks after the German government paid €300m to take a 23 per cent stake, rose 7 per cent to $126 in premarket trading.

Unlike BioNTech's vaccine, which needs to be kept at roughly minus 70C during transit, CureVac's jab remains stable for at least three months at standard fridge temperatures, the company said. The group will join 13 other drugmakers in proceeding to phase 3 trials, according to the World Health Organization.

"The clinical safety and immunogenicity data achieved to date look promising and we are hopeful that this trial will continue to demonstrate the impact of mRNA technology and our vaccine," said Franz-Werner Haas, chief executive.

The Tübingen-based group is the oldest of the three leading companies developing vaccines and therapies based on messenger RNA technology, which sends instructions to the immune system through a genetic code.

The development of CureVac's Covid-19 shot, however, has lagged behind German rival BioNTech, which received US authorisation last week, and Moderna, which applied for emergency approval last month.

The company is unlikely to apply for regulatory approval until the middle of next year, according to people familiar with the matter.

CureVac, which tested several dosages in early-stage trials, will proceed with a dose of 12 micrograms, less than half that of BioNTech's vaccine, which requires 30 micrograms per dose. The smaller dose could make it easier to ship larger volumes of the shot.

The company has said it will have the capacity to produce up to 300m doses in 2021, and a further 600m doses in 2022 — far fewer than BioNTech/Pfizer, which expects to produce 1.3bn doses next year.

Time to get tough with bosses who think they are 'too big to jail'

INSIDE BUSINESS
FINANCE

John Plender

Since the financial crisis, the workings of white collar crime and punishment have been out of kilter. Crimes in the financial sector have continued — witness scandals over the rigging of Libor interest rates, money laundering, customer rip-offs and the rest.

But punishment has been largely confined to companies, not top executives, with innocent shareholders picking up the bills for huge fines imposed by the judicial authorities.

Yet, suddenly, a hint of change is in the air.

Dutch bank ING paid €775m in penalties in 2018 for compliance failures that allegedly allowed customers, including a Russian mobile phone operator and a Curaçao lingerie company, to launder hundreds of millions of euros and pay bribes over a six-year period. The settlement appeared to ensure, in the ritual post-crisis pattern, that ING and its board were not saddled with criminal charges.

This immunity now turns out to be potentially flimsy. A Dutch court in The Hague recently questioned ING's former chief executive Ralph Hamers to review whether the case should be reopened. In a statement last week, The Hague court of appeal said it believed grounds were, in fact, sufficient for a successful prosecution of Mr Hamers "as the de facto supervisor of the criminal offences committed by ING".

It added: "The facts are serious, no settlement has been reached with the director himself, nor has he taken public responsibility for his actions."

All very troubling for the Dutch executive and for Swiss bank UBS to where he has just moved to become chief executive. The Dutch court is nonetheless addressing the fundamental flaw in the judicial and regulatory response to the financial crisis — namely, that hitting companies, not individuals, fails to provide a deterrent to individuals' bad behaviour. Those few individuals who have been jailed were relatively junior employees or rogue traders.

In the US, the Department of Justice has tried to address the no-deterrence issue through a regime of non-prosecution agreements and corporate guilty pleas. These have been accompanied by fines and requirements that companies change their policies, corporate culture and internal incentives. Given the unending spate of scandals in banking, this has clearly not worked.

> Those few individuals who have been jailed were relatively junior employees or rogue traders

Jed Rakoff, a federal judge in New York, once argued that the use of deferred prosecution agreements to resolve criminal investigations without holding individuals to account is "technically and morally suspect". In a speech before the New York Bar Association, he said that not prosecuting individual malefactors after the financial crisis, despite widespread indications of fraud, may be judged "one of the more egregious failures of the criminal justice system in recent years".

It was not always like this. In the savings and loan crisis of the 1980s, where bailouts were estimated to have cost American taxpayers $124bn, the response of the Department of Justice was sweeping. Within six years of the crisis more than a thousand prosecutions had been brought against senior executives of collapsed S&Ls. Chief executives and presidents went to jail.

One reason cited for the lack of convictions in the financial crisis is that DoJ officials feared they might precipitate the failure of systemically important financial institutions. They were scarred by the collapse in 2002 of the big accountancy firm Arthur Andersen after it was found guilty of obstruction of justice over the audit of Enron, the fraudulent energy company.

Another explanation might be that the chief executives of S&L's were smaller fry than the giants of Wall Street, whose lobbying power and contributions to politicians' campaign finance are very substantial.

The interesting question is whether the case of Mr Hamers will be a watershed, and whether top bankers will be required to take personal responsibility for bad behaviour that takes place on their watch. Somehow I doubt it. Going for companies rather than individuals has been hugely lucrative for US authorities, turning criminal justice into a profit centre. It also makes for a more comfortable life for officials than tackling the macho giants of Wall Street.

In debate with Bernie Sanders in 2016, Hillary Clinton famously responded to taunts about her close relations with Wall Street by saying: "there should be no bank too big to fail, but no individual too big to jail".

A pious aspiration that will almost certainly remain unfulfilled.

john.plender@ft.com

Technology

Gig groups charge for worker benefits

Uber, Lyft and DoorDash pass on cost of California measures to customers

DAVE LEE — SAN FRANCISCO

Uber, Lyft and DoorDash will start to give more benefits to their gig economy workers in California this week, but will pass extra fees on to customers to cover the cost.

Last month, California's gig economy companies won the right to keep classing their workers as independent contractors after a $200m campaign to be exempted from the state's labour laws.

Instead they agreed to provide some long-sought benefits to their workers, such as healthcare subsidies and accident insurance, in a ballot measure called Proposition 22.

To pay for these measures, Uber said it would add up to $1.50 to the cost of its rides from yesterday and up to $2 on meal deliveries.

DoorDash, the meal delivery app that is now worth $50bn after its initial public offering last week, confirmed that it would increase service fees from tomorrow, but did not say how much extra it would be.

Lyft, a ride-hailing rival to Uber, also planned to roll out measures this week, it said, but would also not share details on any additional fee. Instacart, a grocery delivery company, declined to comment on whether it would add a surcharge.

The campaign to exempt the gig companies from the labour laws warned of severe price increases if they were forced to reclassify their workers. But in campaigning for their alternative, Prop 22, the companies did not mention plans for a direct levy. The detail was not part of the ballot text, nor was it included on the campaign's website or in advertising material.

> 'Neither riders nor drivers should be shouldering the costs of these meagre benefits'

"Neither riders nor drivers should be shouldering the costs of these meagre benefits on behalf of billion dollar corporations," said Shona Clarkson, an organiser with campaign group Gig Workers Rising. "In reality, the benefits promised by Prop 22 offer workers no real protections in the midst of this deadly pandemic."

As part of the plan, gig workers will receive a "minimum earnings guarantee" of 120 per cent of the minimum wage, which in 2021 will mean an hourly rate of $15.60.

But the companies will only count "active" hours on the app, discounting any time driving around waiting to be matched with a rider.

Under the new rules, any new gig workers who sign up in the new year will also need to take a state-mandated safety course before using a platform. Existing workers have until July 1.

If implemented across the entire US, analysts have estimated that the cost to Uber to pay for the benefits program would be in the region of $400m per year.

The company has promised investors its first profitable quarter — on an adjusted ebitda basis — in 2021. The company was $625m short of that goal in this year's third quarter.

Technology

Google's stable of services hit by major outage

TIM BRADSHAW — LONDON

Google experienced a widespread failure of its services including YouTube, Gmail, Maps and its Workspace collaboration tools yesterday, with reports of outages coming in from all over the world.

Users trying to access several Google services were met with error messages for almost an hour, although its search engine and associated advertising appeared to remain online.

YouTube's website was replaced with a picture of a monkey holding a hammer, and the message: "Something went wrong."

The affected services began to come back online after 12.30pm GMT.

Google outages are rare and costly for the Alphabet-owned internet group, with YouTube and Workspace — formerly known as G Suite, which includes Gmail — exceeding 2bn active users.

But the disappearance of Gmail, its Meet video conferencing tool, its Drive and Docs cloud storage systems and other corporate collaboration tools comes at a particularly critical time, when many offices are reliant on these tools for remote working during the Covid-19 pandemic.

Yesterday's outage followed two previous service interruptions to Gmail,

> Many offices are reliant on these tools for remote working during the Covid-19 pandemic

Drive and associated apps earlier in 2020, while YouTube also suffered video loading problems in mid-November. "We are aware that many of you are having issues accessing YouTube right now — our team is aware and looking into it," YouTube said at 12.09pm GMT yesterday from its Twitter profile.

Google said it had suffered an "internal storage quota" issue for "approximately 45 minutes" and said it would investigate further "to ensure this problem cannot recur in the future".

Google's Workspace status page showed that the outage was affecting all 25 services associated with the suite, including its remote education app Classroom, several communication tools and website analytics.

DownDetector, which collects user reports of website problems, showed that services were affected from Australia, Japan and India to Europe, the US and Latin America.

The outage appeared to primarily affect Google services that require users to be logged in. Other apps that rely on Google's authentication system, from games such as *Pokémon Go* to corporate messaging service Slack, also experienced difficulties with logging in users. However, Google did not report any issues affecting its Cloud platform.

Google's problems followed widespread disruption to Amazon Web Services last month. The AWS outage, which Amazon later said was caused by a minor configuration change, affected thousands of apps and sites that rely on the cloud computing platform, including Adobe and the Washington Post, which is owned by Amazon founder Jeff Bezos.

The service interruptions at Google and Amazon underscore the interconnected nature of the modern internet, with many businesses reliant on a relatively small number of IT infrastructure providers.

Retail & consumer

Unilever shareholders given vote on climate plans

JUDITH EVANS AND ATTRACTA MOONEY
LONDON

Unilever is to offer investors a regular vote on its plans to tackle climate change, becoming the world's largest company to do so as corporates face growing pressure to cut greenhouse gas emissions.

The maker of Dove soap, Hellmann's mayonnaise and Ben & Jerry's ice cream will put its climate plans to an advisory vote at its annual general meeting in May, after this year announcing ambitious plans to cut all emissions from its operations and those of its suppliers by 2039.

The move by the £118bn consumer goods group makes it the first FTSE 100 company to offer shareholders a recurrent say on its efforts to address global warming. It said it would do so every three years and would report on its progress annually.

Alan Jope, chief executive, said that five years after the Paris Agreement to limit global warming to below 2C, "we need to shift the dialogue away from setting targets to the plan to reach the targets. The actions we take in the next 10 years will affect the next 200 years".

He added: "Fund managers are asking us serious questions about environmental and social matters. I think the penny has dropped that the cost to the business of inaction is much greater than the likely cost of action. I think other companies will follow — it's a natural progression."

Unilever's move comes at the same time as a nascent investor campaign to force companies globally to give shareholders more say over their transition plans, led by billionaire hedge fund manager Chris Hohn.

The vote is akin to the advisory "say on pay" votes held at shareholder meetings in the UK and US. Mr Jope said he believed that most shareholders would back Unilever's plans.

"I think there will be a bell curve — there will be a few at one end that say you're not doing enough, and a few at the other end who say 'you're going far too fast, what does this cost?', but the overwhelming majority will applaud and support the plan," he said.

Unilever's larger rival Procter & Gamble in October faced a shareholder rebellion on climate issues, with two-thirds of votes cast in favour of a proposal critical of its use of palm oil and forest pulp.

Heat rising
Solar power insurance costs surge

Climate change is shaking up insurance coverage, and blazes in California this year have led underwriters to tighten terms for solar projects — Jose Carlos Fajardo/Bay Area News Group/San Jose Mercury News via AP

Solar power is crucial to addressing climate change, but extreme weather is making solar power projects more costly, damaging solar panels and driving up insurance premiums as much as fivefold over the past two years.

Hailstorms, wildfires and tornadoes have caused underwriters to restrict terms for renewable project owners, according to industry executives, following an above $70m payout for a Texas solar farm smashed by hail in 2019 and large claims on three solar farms scorched by record blazes in California this year.

"I can't see anything else which is driving this other than climate change," said Fraser McLachlan, chief executive of GCube, an underwriter of renewable energy projects. "Increased rain. Tornadoes in parts of the world that you wouldn't get tornadoes. Hail of a significance that three, four, five years ago you wouldn't have got. I don't see any other logical explanation for it."

Large-scale solar plants contain rows of panels mounted on outdoor racks covering hundreds or thousands of acres. Mr McLachlan said average premiums have increased 20 per cent to 30 per cent in the past 12 months, while insurers were raising deductibles and stripping away areas of coverage.

Premiums for some US solar plant owners have soared as much as 400 per cent in the past two years, kWh Analytics and Stance Renewable Risk Partners of California wrote last week.

Solar power is set to become "the new king of electricity," consistently cheaper than new coal- or gas-fired power plants in most countries, the International Energy Agency has said.

Yet rising insurance premiums and straitened terms for lenders and investors are creating challenges for solar developers. "We have seen projects that were achieving their expected returns no longer able to do that, as a result of the change in the cost of insurance," said Michael Kolodner, US power and renewables practice leader at Marsh, an insurance broker.

Prices are rising across commercial insurance markets, but premiums for solar properties have gained faster, Mr Kolodner said.

Insurers including CNA Hardy and Pioneer have ceased writing renewable energy business and begun to run off their accounts, according to a survey by Willis Towers Watson, a broker.

"Capacity has gone down and premiums have gone up," said Joe Watts, director of insurance and project risk management at Black & Veatch, an engineering and construction company that builds energy projects. "What we were paying in 2017, it's many multiples of that now."

Catastrophe insurance for solar projects had long limited payouts for earthquakes and hurricanes, but hail, wildfire and convective storm damage are now also losing complete coverage, said Erin Lynch, president of the global energy practice at broker Beecher Carlson Insurance Services. "Unfortunately right now, insurance has become a friction point for the successful transition to renewables," she said.

The May 2019 hailstorm at the 180 megawatt Midway Solar project built in the west Texas oil patch smashed panels and was a "tipping point" for the industry, Ms Lynch said. Her colleagues printed hats with the slogan "What the hail?" in recognition of the resulting tumult.

The project is owned by a renewable energy subsidiary of DE Shaw, the hedge fund. Insurance was underwritten by GCube, said people familiar with the matter.

Gregory Meyer

Travel & leisure

Electronic Arts makes late charge with £945m counterbid for games group Codemasters

ARASH MASSOUDI AND TIM BRADSHAW
LONDON

Electronic Arts is attempting to gazump its US gaming rival Take-Two Interactive with a £945m ($1.2bn) offer for UK-based video games maker Codemasters.

If completed, buying Codemasters would rank as EA's largest deal. But its move has disrupted a planned £759m cash-and-stock deal agreed between Take-Two and Codemasters last month, and there could still be a bidding war.

California-based EA's cash offer of 604p per share was announced yesterday morning, after talks between the companies were first reported on Sunday. The Codemasters board recommended the new offer, which came in 13 per cent above Friday's closing price of 534p and 56 per cent above its valuation before it emerged as a takeover target in early November. Codemasters shares jumped more than 20 per cent in London to close at 642p, above the offer price, suggesting investors believe a higher bid may be likely.

A deal with EA would unite the Silicon Valley-based publisher's formidable stable of sports and driving games, including the *Fifa* soccer and *Need for Speed* franchises, with Codemasters' racing simulators, such as *Formula One* and *Dirt*.

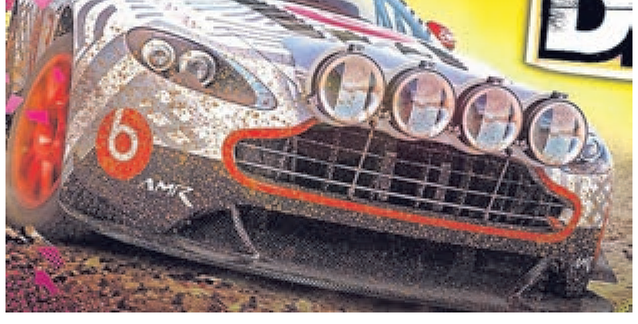
"We believe there is a deeply compelling opportunity in bringing together Codemasters and EA to create amazing and innovative new racing games for fans," EA chief executive Andrew Wilson said. "Our industry is growing, the racing category is growing, and together we will be positioned to lead in a new era of racing entertainment."

EA said it believed it could accelerate Codemasters' performance by using its expertise in data analytics and live services.

EA is one of the world's largest video games companies, valued at almost $40bn. It is strongest in the PC and console markets where Codemasters has also focused.

"The board of Codemasters firmly believes the company would benefit from EA's knowledge, resources and extensive global scale — both overall and specifically within the racing sector," said its chairman, Gerhard Florin.

Take-Two, the maker of *Grand Theft Auto* and *NBA 2K* games, and Codemasters had agreed a cash-and-stock deal last month that initially valued the Warwickshire company at about £759m.



A deal would unite the US publisher's stable of games with the racing simulators from Codemasters such as 'Dirt'

Although Take-Two's share price has subsequently risen, increasing the value of its offer, some Codemasters shareholders had expressed frustration that the 34-year-old games company had accepted only a modest premium to its previous trading levels.

EA said its offer came at a 14 per cent premium to the value of Take-Two's offer at Friday's close. A shareholder meeting to consider the offer had been scheduled for next Monday.

The battle for Codemasters follows a year of dealmaking in the gaming industry, capped by Microsoft's $7.5bn plan to acquire ZeniMax, as the pandemic drew record audiences to both console and mobile games.

Console makers such as Sony and Microsoft, as well as internet groups including Google and Amazon, have been racing to tie up exclusive content rights to win players to their platforms.

Sports games have proved particularly appealing during lockdowns as crowds have missed out on live events. That has accelerated momentum in competitive gaming, with Formula One racing running its own professional esports tournament based on Codemasters' software.

In a note to clients on Sunday night, after Sky News first reported the new talks, analysts at Mirabaud noted that EA's offer came as Codemasters was riding high on the back of strong reviews for its latest racing game, *F1 2020*.

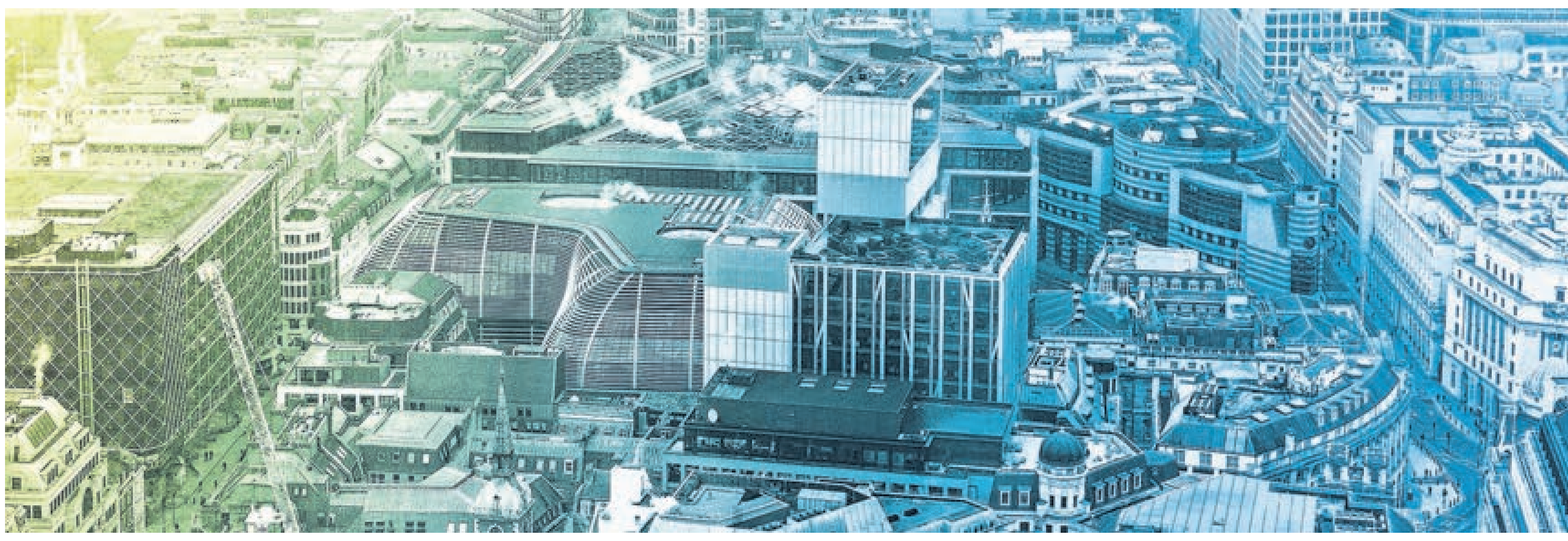
"In some respects, EA's move feels defensive, because they are already under attack from Take-Two and many of their franchises are becoming second-rate relative to leaders," wrote Neil Campling, head of TMT research at Mirabaud.

City's proud past gives way to uncertainty

FT Series London has long been a global hub for financial activity but Brexit and Covid are bringing significant change

FT REPORTERS

The FT is running a series examining the future of the City of London. Here we look back at how the UK capital established itself as an international financial centre and explore the geography and the business of the City.



The Square Mile has stolen a march on rival centres to emerge as a base for dealing in currencies such as China's renminbi — Charlie Bibby

Cross-border banks

As far back as 1980 banks operating out of the UK had cross-border exposures far greater than banks in Germany and France, according to data from the Bank for International Settlements. That speaks to the fact that big international banks use London for large syndicate loans that ultimately go to foreign clients. The City also attracts assets to support trading and liquidity management at banks that range from the UK's Barclays to big US investment banks such as Goldman Sachs.

Markets such as Hong Kong, Germany and Ireland have seen exposures grow faster in the past 20 years but from a lower base. More recently, Brexit has prompted banks to shift assets to their new trading hubs in Frankfurt and Paris.

Jobs

British jobs have not always kept pace with the growth of the City. Official registers in the UK, Hong Kong and New York vary in the jobs they track. Oliver Wyman data for the UK show that between 100,000 and 105,000 people work in wholesale banking, a key City activity, while another 80,000 to 85,000 work in related industries including asset management, data providers and fintechs. The consultancy group's overall tally of wholesale banking and related industry jobs has gone down by about 5,000 since 2015.

Trading volumes

A historic strength of London has been its role as a hub for trading currencies and interest rate derivatives. Its location allows traders to catch the end of the Asian day and the opening on Wall Street.

The good fortune of geography is underpinned by high-quality tech infrastructure. As a result, London accounts for 43 per cent of the turnover in the $6.6tn-a-day foreign exchange market and half of the daily $6.5tn traded in interest rate derivatives.

Brexit has not dented the UK capital's dominance in these markets. London has stolen a march on rival financial centres to emerge as a base for dealing in currencies such as China's renminbi.

Listings

New York long ago eclipsed London as the dominant centre for taking companies public. This year companies listing on Nasdaq and the New York Stock Exchange raised $150bn, dwarfing the $6bn or so raised in London. Mega US IPOs such as DoorDash and Airbnb, which raised a combined $6.2bn last week, have boosted the US IPO markets to record levels.

With today's fast-growing companies tending to hail from Asia and the US, London is unlikely to again challenge for the lead. "There are complex considerations, including home country, target market and media/public perception, that impact where a firm chooses to go public," said Adam Markson, head of UK capital markets at Accenture. He added that the UK government's vow to review listings requirements could enhance London's position.

Asset management

Portfolio managers in London oversee around £8.5tn in assets for savers in funds and mandates — equivalent to more than 400 per cent of GDP, according to the Investment Association. This makes the UK the primary investment management centre in Europe and the second-largest globally after the US.

Assets under management have almost tripled since 2009. Stockpickers have flocked to the UK thanks to its sophisticated ecosystem of brokers, sell-side analysts and lawyers, and ready access to liquid markets.

This has helped London to expand its market share at the expense of countries including France and Germany, where assets under management have fallen since the crisis, according to the European Fund and Asset Management Association. The UK's rise as an investment hub has been enabled by so-called delegation rights, which allow EU funds to be managed from other countries. This feature will remain in place after Brexit, barring any future attempts by European policymakers to limit it.

Real estate vacancies

Vacancy rates have risen since the Brexit vote. About 6 per cent of the commercial real estate stock in the City — home to banks, insurers and asset managers — is empty, according to Colliers International. That compares with 3.81 per cent at the end of 2016. By contrast, vacancy rates in La Défense in Paris have fallen more than 20 per cent. Rent remains resilient, however.

The West End still commands £120 per sq ft a year for commercial space, just as it did at the end of 2016. Rates in the City have even crept higher, to £72.50 per sq ft a year.

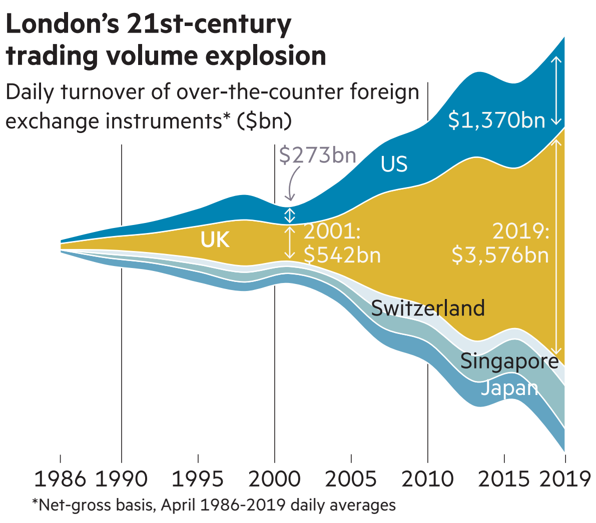
Will workers return after the virus?

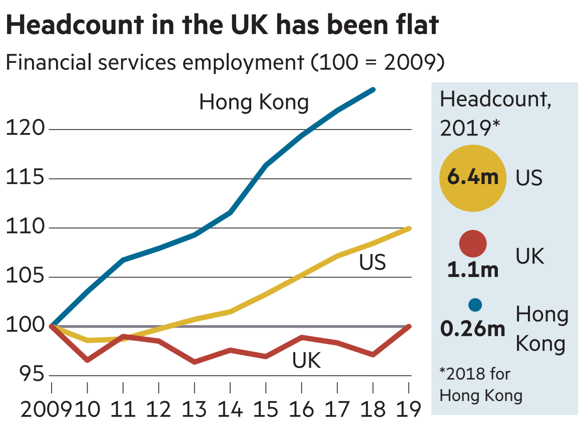
The Covid-19 pandemic prompted a sharp drop in virtually all types of activity in London, as office workers, shoppers and tourists stayed at home.

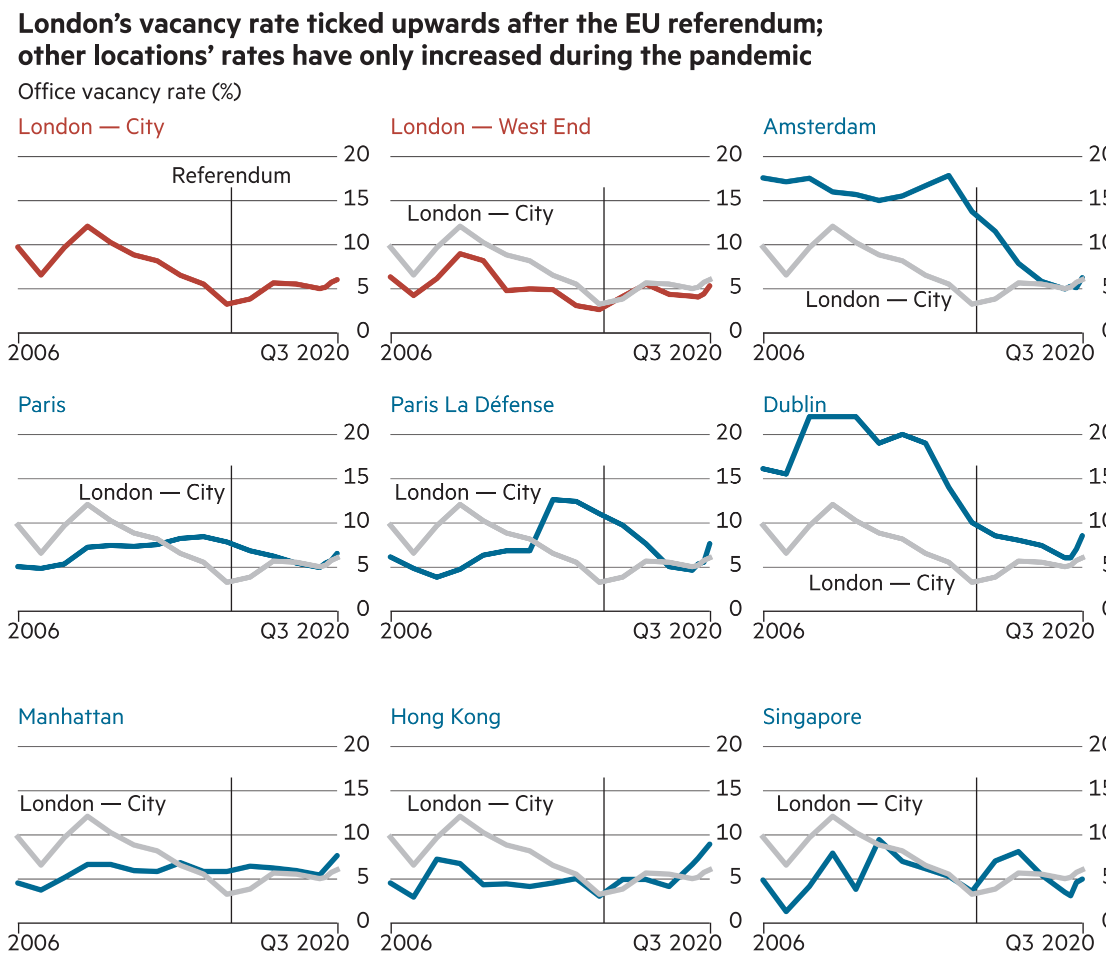
Nine months on, the recovery has been muted. Businesses in the City, an area dominated by offices with relatively few residents, are vulnerable. Those include around 1,150 shops, 300 restaurants and 247 bars and pubs, according to estimates from the City of London Planning Department. Weeks after City offices had begun to reopen in September, London went into a second lockdown, emptying them out again.

Even when the pandemic subsides, the City's woes will not be over. Some businesses will never reopen. Meanwhile, senior finance executives are rethinking how many people they need in their major offices after a prolonged period of working from home. Work could be done remotely full time, or moved to cheaper locations. This realisation could cost London's financial services industry more jobs than Brexit.

Reporting by Laura Noonan, Steven Bernard, Jonathan Guthrie, Liz Fauce, Alan Smith, Philip Stafford, Laurence Fletcher, Oliver Ralph, Siobhan Riding, Attracta Mooney, Tabby Kinder and George Hammond







Sources: BIS; ONS, US Bureau of Labor Statistics, Hong Kong Census and Statistics Department; FT analysis; Colliers International

Fall out

What Brexit means for the capital's financial heart

Banks

Foreign investment banks are among the biggest employers in London's financial services industry. A group of 12 of the largest together employed more than 70,000 UK staff around the time of the Brexit vote. They use the UK capital as their European hub.

As a result, those jobs were seen as acutely at risk from Brexit, which will require some activities and clients to be served from within the EU. Almost five years in, Brexit-related job cuts have been minimal — so far.

But jobs have gone for other reasons, such as restructurings at Credit Suisse and Deutsche Bank. And the coronavirus pandemic is prompting banks to rethink how much office space they need. International banks have continued to invest in London.

Goldman Sachs moved its European headquarters from Fleet Street to 1 Plumtree Court in mid-2019, UBS decamped to 5 Broadgate in 2016, and Société Générale moved to its new Canary Wharf site late last year.

Hedge funds and asset managers

Mayfair remains the longstanding centre of the European hedge fund industry. And many prominent London-based managers, such as Crispin Odey, Paul Marshall and Michael Farmer, were vocal proponents of Brexit — despite its potential challenges for the sector.

The European Securities and Markets Authority, the EU regulator, has called for toughening of the rules around so-called delegation — a model that allows an asset manager to run an EU-based fund from outside the bloc.

Should that occur, UK hedge funds and asset managers would have to base more of their staff and operations inside the EU, potentially weakening London's footprint.

Larger asset managers tend to prefer the City to Mayfair for their London operations.

Despite setting up new entities in places such as Luxembourg and Dublin in response to Brexit, many of them have increased their London headcount since the 2016 referendum.

Among those that have increased UK staff are Amundi, Europe's largest fund manager by assets; Legal and General Investment Management, the UK's top investment house by assets; and Pimco, the world's biggest bond fund manager.

Insurance and professional services

Foreign and British insurers are firmly ensconced in the Square Mile, clustered close to the world's leading insurance and reinsurance marketplace: Lloyd's of London on Lime Street. There has not yet been a significant movement of staff from London's insurance industry, but many have set up new EU subsidiaries.

Most significantly, Lloyd's of London has established a new office in Brussels. Others including AIG and Travelers have set up bases in cities including Luxembourg, Dublin and Madrid.

Professional services firms, which tend to cluster around the City, have been busy for the past few years advising their clients on how to deal with the regulatory fallout from Brexit. Still, their own industry is far from immune.

Several law firms, including Pinsent Masons, Simmons & Simmons and DAC Beachcroft have opened offices in Dublin. Big Four accounting firms PwC, EY, Deloitte and KPMG had big operations in EU countries going into Brexit. In cases where their services are contracted directly to EU clients from the UK, the firms are working to secure market access as soon as the UK leaves the union.

> Funds have flocked in due to its ecosystem of brokers, analysts and lawyers, and ready access to liquid markets

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Airlines

Tata circles Air India after Delhi sweetens sale terms

STEPHANIE FINDLAY — NEW DELHI

Indian conglomerate Tata Group is expected to swoop for Air India, the lossmaking state carrier that successive governments have tried to sell.

The owner of steel plants and Jaguar Land Rover is set to make an initial bid after New Delhi sweetened the terms of the sale to attract buyers, said two people with knowledge of the situation.

The 152-year-old conglomerate, a $113bn-revenue group, planned to file an expression of interest (EOI) for the airline before a deadline for bids closed yesterday.

It comes after New Delhi revised the terms of a sale with plans to divest 100 per cent of its equity share capital in Air India and reduce the amount of debt a buyer would have to take on.

"This is the first step of a long process," said one of the people about Tata's EOI. Tata declined to comment.

The move takes the former chairman of Tata's holding company Ratan Tata one step closer to reclaiming Air India.

Mr Tata's ancestor J.R.D. Tata had founded the country's first private carrier Tata Airlines in 1932 as a courier service before it became Air India and was nationalised in 1953.

Tata Group has often been touted as a potential suitor for Air India, but onerous sale conditions in the past have deterred it and other investors from bidding. Air India has been lossmaking for years and has debts of more than $7bn.

Prime Minister Narendra Modi's attempt to sell the state carrier in 2018 flopped after no company signalled interest. This prompted the government to revise the terms two years later to attract bids.

"Multiple expressions of interest have been received for strategic disinvestment of Air India. The transaction will now move to the second stage," said India's Department of Investment and Public Asset Management, without revealing the identity of the bidders.

Analysts said it was unclear how Tata would be able to integrate Air India with its two other airlines if it won the bid.

Tata Group runs Vistara, a full service carrier, in a joint venture with Singapore Airlines, and AirAsia India, a budget airline, run with Malaysia's AirAsia.

Technology

Reddit scoops up TikTok video rival Dubsmash

HANNAH MURPHY — SAN FRANCISCO

Reddit has bought TikTok rival Dubsmash, becoming the latest social media platform to expand into the increasingly competitive viral video segment.

The Silicon Valley-based online discussion forum did not disclose the financial terms of the cash and stock deal, its highest-profile acquisition to date.

Reddit said it planned to integrate Dubsmash's video creation tools into its platform, while allowing the app to "maintain its own platform and brand".

Launched in 2014, Dubsmash is known for hosting short user-generated video and lip-syncing clips. The acquisition comes as social media groups increasingly shift from focusing on social and private messaging features to hosting viral entertainment platforms to try to emulate the success of Chinese-owned TikTok, which popularised the short, scrollable video format.

In August, Facebook launched a TikTok imitator, Reels, within the Instagram camera app.

Last month, Snap rolled out its own video-app clone, dubbed Spotlight, that showcases hand-selected creator content to users. As an incentive, Snapchat has promised that $1m a day will be divvied up among the influencers who are featured, depending on how many views they get.

Facebook and Snap had approached Dubsmash about a potential acquisition, according to US media reports. The company was valued at $47.5m in November 2016, according to PitchBook. It has raised a total of $20m from venture capital investors to date, according to Crunchbase data.

Reddit, which already has its own native video and live streaming features, said that Dubsmash hosted 1bn video views a month. "Dubsmash elevates under-represented creators, while Reddit fosters a sense of community and belonging across thousands of different topics and passions," said Steve Huffman, Reddit's chief executive.

The forum has come under fire for hosting hate speech from fringe and far-right groups, and has tried to better police itself to attract advertisers.

See Lex

Industrials

PPE supplier Top Glove hit after worker dies from Covid

STEFANIA PALMA — SINGAPORE

Shares in the world's largest rubber glove maker fell sharply yesterday after it reported that an employee had died from Covid-19, raising concerns over the severity of an outbreak ripping through its worker dormitories.

Top Glove's Kuala Lumpur-traded stock fell as much as 8.3 per cent after the Malaysian company said a 29-year-old Nepalese labourer working at its plant in Meru, Selangor state, had passed away at the weekend.

The company this year emerged as a beneficiary from the pandemic, as governments scrambled to buy personal protective equipment. Between January and September, its shares soared more than 500 per cent.

But the company is now linked to Malaysia's largest Covid-19 cluster, with more than 5,000 cases, as the country tackles a new wave of infections. Top Glove last month said it had tested more than 6,000 workers, about half of whom had coronavirus.

Shares in Top Glove and other PPE makers have also been hit by positive news on coronavirus vaccines. Top Glove yesterday offered its "deepest sympathies and heartfelt condolences to the family and loved ones of the deceased". A "compassionate payment" will be made to his family, it added.

Over the weekend it was reported that it had fired a worker who had taken photos of staff crowding into its factories ahead of the outbreak, which began at the Meru facilities. The company did not immediately respond to requests for comment on the matter.

The Malaysian government this month recommended charges against Top Glove after 19 investigations into its worker dormitories. The Ministry of Human Resources said it had not applied for the correct certification and living spaces were crammed, uncomfortable and lacking proper ventilation.

In July, the US imposed an import ban that is typically applied to goods allegedly linked to forced labour on products made by Top Glove subsidiaries.

Top Glove posted record quarterly revenue of RM4.76bn ($1.18bn), a 294 per cent year-on-year jump, in the three-months ending in November.

Cross asset. Post-Covid recovery

China becomes unlikely winner for investor bets in 2020

This year dealt a harsh lesson to those avoiding trades in Rmb1tn of stocks and bonds

HUDSON LOCKETT AND THOMAS HALE
HONG KONG

Despite a global coronavirus pandemic that began in China, 2020 has transformed into the year it all came together for the country's capital markets as foreign investors snapped up more than Rmb1tn worth of stocks and bonds.

China's benchmark CSI 300 index is up about 28 per cent this year, in dollar terms, beating the S&P 500 by more than 14 percentage points.

Shenzhen's tech-focused ChiNext has risen some 59 per cent, on the same basis, exceeding even the runaway US tech benchmark, the Nasdaq Composite. Chinese government bonds have also drawn new fans with their rare source of yield.

The $150bn-worth of inflows, which came through Hong Kong programmes that connect investors to the mainland, mark a contrast with January when Chinese stocks were the first to feel the heat from the pandemic. Investors say the surge is likely to keep coming.

"I've been in Asia for 20 years and for most of that period it's been challenging to get investors to look at the onshore market," said Kenneth Akintewe, head of Asian sovereign debt at Aberdeen Standard Investments.

This year dealt a harsh lesson to those who hesitated to match global benchmarks' weightings for Chinese securities, he said. "For any emerging markets investor that's been underweight [on China], it's been quite a painful trade."

China's bond market has been a massive draw for investors during the pandemic thanks to reforms to open up the country's financial system and Beijing's initially sluggish but ultimately decisive response to the Covid-19 outbreak.

Harsh lockdowns across the country proved sufficient to get the economy back up and running at near full capacity in the second half of 2020 — even as the rest of the world struggled to bring the virus's spread under control.

"China is much further along its post-Covid recovery path," said Paul Colwell, head of Asia advisory portfolio group at Willis Towers Watson. "The way policymakers act in response to changes in the economy, monetary policy, fiscal policy . . . China operates at a fundamentally different frequency to the rest of the world," he added.

With China's growth returning to pre-Covid levels and domestic consumption picking up, the central bank left its benchmark interest rates almost untouched while others cut theirs hard or launched bond-buying programmes that crammed yields close to zero.

That meant China was the only game in town for debt investors seeking returns. In the first 11 months of 2020, foreign holdings of Chinese government debt through the market link in Hong Kong grew by more than Rmb900bn.

Sameer Goel, a macro strategist at Deutsche Bank said foreign bond-buying this year was "even larger than what one would've expected" from passive flows after global benchmarks began including Chinese government debt in 2019.

He said buying of onshore bonds, which will get a boost next year from incorporation into FTSE Russell's World Government Bond index, had helped drive a six-month rally for the renminbi.

"Pent-up demand among global investors who wish to diversify away from the US dollar" is helping to support the Chinese currency, said Julia Ho, head of Asian macro at Schroders.

That growing confidence in the renminbi has helped ease apprehension over Chinese equities, which are among 2020's best performers.

Equity inflows, although much smaller than those in the bond market, are now positive after outflows earlier this year. Since Donald Trump lost November's US presidential election, setting up almost certainly calmer US-China relations, buying appetite has strengthened with net foreign purchases of Chinese equities through a stock connect programme in Hong Kong swinging back up to about Rmb170bn ($26bn) this year.

Joe Biden's victory helped push the benchmark CSI 300 index of Shanghai and Shenzhen-listed stocks up 6 per cent in November.

Even in spite of rising tension, flows into China have run at a rapid pace throughout the Trump presidency with total inflows of over $620bn over his four years in office.

Similarly, the number of Chinese IPOs in the US grew faster under Trump than it had under Obama. But the country faces growing bipartisan hostility in Washington and Mr Biden has said he will not immediately lift Mr Trump's trade tariffs. "The stance will remain adverse," said Thomas Gatley, an analyst at Gavekal Dragonomics in Beijing.

A global vaccine rollout could also undermine China's competitive edge as one of the few major functioning global export economies, Mr Gatley added.

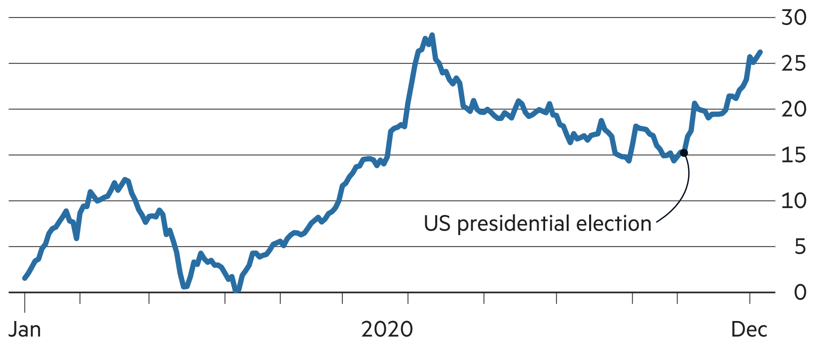
Recent bond defaults by cash-strapped state-owned enterprises have alarmed some local investors, who fear policymakers' desire for fiscal discipline is returning. This could lead to more caution from investors, said Michelle Lam, senior China economist at Société Générale, "and this tightening of credit conditions will be negative for growth".

But Hayden Briscoe of UBS Asset Management suggested that China was positioned for positive and negative scenarios for the coronavirus — and that global flows into the country are "just going to accelerate".

"The number of conversations we're having with clients is just ever-increasing," he said. "People are making their first standalone allocations in China."

Biden win spurs return to Chinese stocks

Net purchases of Chinese equities via stock connect programme ($bn)



Source: FT calculation based on Bloomberg data

A factory in Wuhan, the epicentre of the Covid-19 outbreak — but China's economy is back up and running at near full capacity
STR/AFP/Getty

'For any EM investor that's been underweight on China, it's been quite a painful trade'

Fixed income

Clothing group Shandong Ruyi defaults on $153m bond

HUDSON LOCKETT — HONG KONG

A leading Chinese clothing maker revealed yesterday that it had failed to pay back investors on a $153m bond, the latest in a string of defaults that has sent tremors through the country's $4tn corporate bond market.

Shandong Ruyi Technology Group, which has struggled to cope with a heavy debt load following a series of high-profile international acquisitions, said in an exchange filing that it had failed to repay the principal and interest on a Rmb1bn bond that came due yesterday.

The privately held company, based in the coastal province of Shandong and sometimes referred to as the "LVMH of China", built up total debt of more than $4bn in the course of scooping up controlling stakes in famous brands including athletic apparel maker The Lycra Company and Savile Row tailor Gieves & Hawkes.

It has joined a growing list of defaults in China's onshore debt market, which began in early November with a missed payment by state-run Yongcheng Coal and raised questions about the state backing of local government debt, long viewed by investors as implicitly guaranteed.

Shandong Ruyi is not state-owned but has still felt the squeeze of Beijing's ebbing support for debt issued by regional and local governments, which were previously given substantial discretion to borrow heavily in support of maintaining rapid economic growth.

After the clothing company negotiated with bondholders to delay an annual interest payment it had missed in March, the company had hoped for a rescue from Jining City Urban Construction Investment, a Shandong-based local government financing vehicle.

But in June that financing vehicle announced it was pulling out of an arrangement made in October 2019 to buy a 26 per cent stake in the company.

Local government financing vehicles have come under scrutiny and thus were under pressure to cut back on risky investments, said Michelle Lam, greater China economist at Société Générale.

Ms Lam said the Shandong Ruyi default highlighted the risk of cross-guarantees between government related companies and private enterprises in China, "which can increase the risk of financial contagion".

Financing pressures could come into sharper focus next year as China's economic recovery continues, likely prompting policymakers to tighten liquidity conditions, she said.

Erik Lueth, of Legal & General Investment Management, said allowing these kind of defaults once in a while was part of China's strategy "to introduce more moral hazard into the system".

Additional reporting by Jonathan Wheatley

Defaults once in a while was part of China's strategy 'to introduce more moral hazard into the system'

Currencies

Pound rallies after renewed hopes of going 'extra mile' for Brexit trade deal

HUDSON LOCKETT, EVA SZALAY, KATIE MARTIN AND ADAM SAMSON

Sterling rallied yesterday after the EU and UK decided to "go the extra mile" and continue Brexit trade negotiations.

The pound climbed as much as 1.7 per cent against the dollar to $1.3445, before trimming its gain to about 0.9 per cent in afternoon dealings in London. It advanced 0.6 per cent against the euro to €1.0986.

Yesterday's gains largely reversed last week's 1.6 per cent fall, which was triggered by warnings from EU and UK leaders that Britain could leave the bloc without a trade deal when the Brexit transition period concludes at the end of this year. The pound had reached a high of $1.3539 in early December.

UK government bonds, considered a haven asset, came under pressure as debt investors joined currency traders in their more optimistic outlook.

Yields on 10-year gilts, which move in the opposite direction to prices, were up 0.06 percentage points to 0.24 per cent.

Boris Johnson, UK prime minister, and Ursula von der Leyen, European Commission president, agreed in a "constructive" call on Sunday to "go the extra mile" in an attempt to break the deadlock as both sides reported progress. Still, no deadline was set for negotiations and British officials admitted they could drag on until Christmas.

Lee Hardman, currency analyst at MUFG, said the "latest developments have supported the assumption . . . that a last-minute trade deal would be reached but the risks remain high that efforts to reach a deal could still fail, posing significant downside risks for the pound."

Barclays analysts echoed that view, saying negative risks to the pound would persist until negotiators reach an agreement. If the EU and UK make a deal, the currency could trade above $1.35, the bank said. In the case of a no-deal outcome, Barclays expected the pound to drop to about $1.25.

"A deal narrowly remains our base case and . . . we expect the pound to bounce ultimately," strategists at the UK bank said.

Gregory Perdon, co-chief investment officer at Arbuthnot Latham, said he had "second thoughts" late last week about his bet that sterling would rise.

However, he decided to stick to his "conviction" since "both parties are probably better off economically with a deal. Let's hope rationality wins in this instance."

Sterling's gains yesterday came ahead of this Thursday's Bank of England meeting. Economists broadly expect the central bank to hold steady on policy after it boosted its bond-buying programme by £150bn at its November meeting.

Negative risks to the pound will persist until a deal, say analysts

Equities

Burger King India doubles on debut as Nifty 50 rally scales record peaks

BENJAMIN PARKIN — MUMBAI

Burger King India shares more than doubled on their debut as investors piled into a record equities rally despite reservations about the country's economic and corporate health.

Shares in the fast-food franchise jumped to Rs138.4 a share yesterday from their offer price of Rs60.

The surge followed a run of several weeks that has lifted the National Stock Exchange's benchmark Nifty 50 to a series of records, including a 0.6 per cent gain for the index yesterday to a new high of 13,597.5.

The rally has echoed global trends as investors bet that progress in developing and deploying Covid-19 vaccines will see off the worst of the coronavirus pandemic.

The optimism has renewed appetite for riskier emerging market assets including Indian stocks, fuelling record foreign investor inflows of about $9bn last month, according to brokerage IIFL.

Recent Indian economic data have also pointed to signs of improvement including a faster than expected rebound in manufacturing.

A recent string of initial public offerings has drummed up enthusiasm among investors looking for a way into the stock market rally.

Demand for the Rs8.1bn ($110m) of Burger King shares on offer this month outstripped supply by 157 times.

However, the extent of the stock market surge — the Nifty 50 is up almost 78 per cent since India went into lockdown in March — has fuelled concerns that the rebound is getting ahead of what remains an uncertain recovery.

India is one the countries hardest hit by the pandemic with nearly 9.9m cases. Its economy is expected to contract 10.3 per cent this year, according to the IMF, compared with 3.3 per cent across emerging markets and developing economies.

Even as foreign investors have bought Indian shares in record quantities, domestic institutional investors have been net sellers since October.

This month they have sold $2.5bn compared with foreign buying of $3.3bn, according to IIFL.

"We're seeing a situation where the investor on the ground is [voting] with his feet and saying that the recovery on the ground does not justify the euphoria in the market," said Vasudev Jagannath, head of sales at IIFL.

Siddhartha Khemka, head of retail research at brokerage Motilal Oswal, said investors seeking value for money were gravitating towards midsized and smaller companies, shifting focus from corporate heavyweights considered best equipped to withstand the pandemic.

The large companies "are now reaching a stage where they're fully valued or overvalued", he said.

Still, Mr Jagannath said the frenzy around recent listings pointed to the excess cash investors were sitting on.

"They want to deploy to the market but it's not correcting," he said. "So any IPO that comes in you see crazy oversubscription numbers because the markets are awash with liquidity."

'Any IPO that comes in you see crazy oversubscription numbers because markets are awash with liquidity'

The day in the markets

What you need to know

- FTSE 100 a laggard among Europe's rising stocks amid stronger pound
- Brent crude edges back below $50 a barrel after tanker explosion
- Haven sell-off sends dollar and gilts lower

Global equities rose yesterday after the UK and EU extended trade deal talks and the US began distributing its first coronavirus vaccine shots.

On Wall Street, the S&P 500 was up 0.2 per cent by lunchtime in New York and the tech-focused Nasdaq Composite climbed 1 per cent — with both indices still near record highs reached last week.

In Europe, the region-wide Stoxx Europe 600 index gained 0.4 per cent while Frankfurt's Xetra Dax was 0.8 per cent higher.

"With just weeks to go before the end of the year, Brexit is the only story moving markets at the moment," said Peter Dixon, chief economist at Commerzbank.

He added that equity markets remained driven by "general optimism" about a return to economic normality next year, as well as central banks' bond-buying schemes that have pushed unprecedented amounts of new money into the financial system.

The UK's exporter-heavy FTSE 100 index lagged behind European peers, closing down 0.2 per cent.

This followed a rise in sterling against the dollar by as much as 1.7 per cent yesterday morning before it pared back some gains in the afternoon.

Brent crude slipped 0.2 per cent to $49.88 a barrel. The dip in the global oil benchmark followed an explosion on a tanker at the port of Jeddah in Saudi Arabia. Most of Saudi Arabia's oil production and export terminals are on the opposite side of the country.

The uplift in market sentiment led to a sell-off in haven assets, such as the dollar and government debt. The US Dollar index, which measures the currency against trading peers, fell 0.3 per cent.

The yield on the 10-year UK debt, which rallied last week amid concerns that a no-deal Brexit would inflict more damage on Britain's economy, rose 5 basis points to 0.22 per cent.

Investor optimism about 2021 was veering dangerously towards "groupthink", Absolute Strategy Research said in comments accompanying its latest survey of investor sentiment.

A record proportion of respondents — 71 per cent — thought global equities would be higher in a year's time, representing the most bullish findings in the survey's six-year history.

"This crowding of views points to volatility if the consensus stance gets challenged by events," said ASR.

Naomi Rovnick, Camilla Hodgson and David Sheppard

Pound rises on renewed hopes for Brexit deal

Against the dollar ($ per £)

Source: Refinitiv

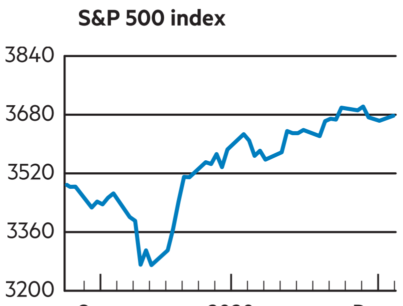
Markets update

	US	Eurozone	Japan	UK	China	Brazil
Stocks	**S&P 500**	**Eurofirst 300**	**Nikkei 225**	**FTSE100**	**Shanghai Comp**	**Bovespa**
Level	3677.27	1513.23	26732.44	6531.83	3369.12	115172.20
% change on day	0.38	0.30	0.30	-0.23	0.66	0.04
Currency	**$ index (DXY)**	**$ per €**	**Yen per $**	**$ per £**	**Rmb per $**	**Real per $**
Level	90.510	1.213	104.080	1.332	6.537	5.115
% change on day	-0.512	0.165	0.130	0.833	-0.055	1.055
Govt. bonds	**10-year Treasury**	**10-year Bund**	**10-year JGB**	**10-year Gilt**	**10-year bond**	**10-year bond**
Yield	0.902	-0.621	0.009	0.221	3.302	6.819
Basis point change on day	2.390	1.500	0.040	5.100	0.400	7.400
World index, Commods	**FTSE All-World**	**Oil - Brent**	**Oil - WTI**	**Gold**	**Silver**	**Metals (LMEX)**
Level	416.49	49.85	46.45	1842.00	23.82	3442.80
% change on day	0.33	-0.26	-0.26	-0.13	-0.29	-1.46

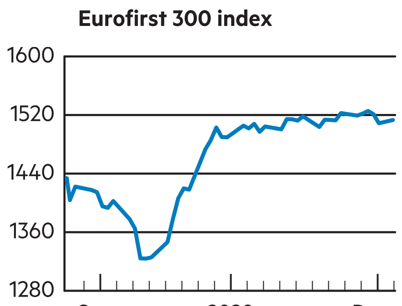
Yesterday's close apart from: Currencies = 16:00 GMT; S&P, Bovespa, All World, Oil = 17:00 GMT; Gold, Silver = London pm fix. Bond data supplied by Tullett Prebon.

Main equity markets

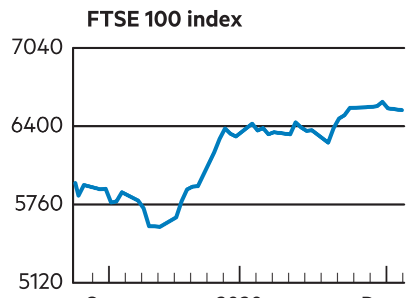
S&P 500 index



Eurofirst 300 index



FTSE 100 index



Biggest movers

%	US		Eurozone		UK	
Ups	Alexion Pharmaceuticals	31.00	Inditex	3.98	Next	5.64
	yte	6.46	B. Sabadell	3.90	Melrose Industries	5.26
	Mosaic (the)	5.76	A.p. Moller - Maersk B	3.45	Jd Sports Fashion	5.16
	Take-two Interactive Software	4.18	Ageas	2.68	Natwest	4.99
	Paypal Holdings	4.14	Muench Rueckvers	2.41	Persimmon	4.91
Downs	Occidental Petroleum	-5.62	Atlantia	-6.24	Astrazeneca	-5.74
	Huntington Bancshares	-5.61	Klepierre	-2.55	Polymetal Int	-5.22
	Marathon Petroleum	-3.94	Vopak	-2.04	Royal Dutch Shell	-2.48
	Diamondback Energy	-3.75	Royal Dutch Shell	-2.04	Bhp	-2.44
	Marathon Oil	-3.61	Repsol	-1.82	Royal Dutch Shell	-2.09

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

All data provided by Morningstar unless otherwise noted.

Wall Street

Alexion rallied after Anglo-Swedish drugmaker AstraZeneca agreed to buy the biotechnology group in a $39bn deal.

The transaction valued Alexion at $175 per share, a 45 per cent premium to Friday's closing price. Alexion shareholders would own about 15 per cent of the combined company.

"We like the Alexion deal, a lot," said analysts at Citi, who speculated that AstraZeneca would not be the only suitor for Alexion. "We suspect [the] AstraZeneca announcement will have triggered numerous conversations in competitor zoom boardrooms over the weekend. The attractions of the deal are not unique to AstraZeneca."

Electronic Arts rose after attempting to beat its rival, Take-Two Interactive, with a $1.2bn offer for UK-based games maker Codemasters.

The California-based group's cash offer of £6.04 per share was 13 per cent above Friday's closing price of £5.34 for Codemasters' stock.

McDonald's climbed after UBS upgraded the fast-food chain to "buy" from "neutral" and raised its target price to $240 a share from $230.

"We expect an acceleration in US same-store sales," said UBS. "McDonald's is positioned to gain share in coming years given investments, scale and increased brand relevance." *Ray Douglas*

Eurozone

Polish games producer **CD Projekt** tumbled following reports that it was willing to refund players unhappy with its new blockbuster release *Cyberpunk 2077*.

On the game's Twitter feed, the company promised to "fix bugs and crashes, and improve the overall experience", adding that "if you are not pleased with the game . . . you can opt to refund your copy."

CD Projekt has plummeted more than 20 per cent since *Cyberpunk 2077's* release on December 10.

Aluflexpack rallied after increasing its earnings outlook.

The Swiss packaging group expected consolidated net sales for the financial year 2020 to be between €235m and €240m, up from €220m to €230m.

During the same period, earnings before interest, tax and amortisation and before one-off items was now forecast to be between €36m and €38m, up from €32m and €35m, "reflecting additional business generated", said Aluflexpack in a trading update.

An offer for **Recipharm** sent the Stockholm pharmaceutical group soaring.

Private equity firm EQT made a $2.1bn cash offer for the company that provides manufacturing and development services.

EQT valued Recipharm at SKr220 per share, a 23 per cent premium on Friday's closing price. *Ray Douglas*

London

An upgrade in its profit guidance lifted **Polypipe** with group revenue for November coming in 8 per cent higher than the previous year.

The piping manufacturer noted that residential markets were performing particularly well.

Shore Capital upgraded Polypipe to "buy" from "hold". The group "is an innovative manufacturer of building materials including a significant number of products aimed squarely at the growing environmental market", said the broker. "We continue to like its diversified end markets, sizeable entry barriers and exposure to secular growth."

SThree rose after a trading update revealed a resilient performance for the science and tech sector recruiter despite the Covid-19 pandemic.

Net fees dropped 7 per cent in the fourth quarter, recovering from 14 per cent and 12 per cent slides in the third and second quarters, respectively.

"The ongoing uplift is being led by the better than expected performances in Germany and the USA," said Panmure Gordon analyst Adrian Kearsey.

Premier Foods, home to brands such as Angel Delight and Bisto, climbed after proposing a capital reduction that would "provide greater flexibility" in how Premier managed its resources, "such as the ability to pay dividends". *Ray Douglas*

Dawn of the zombies is not so scary as it seems

Robin Wigglesworth

Markets Insight

Many investors fret that a corporate "zombiepocalypse" may be one of the thorniest problems the global economy faces in the coming years. But a bombshell paper by the New York Federal Reserve argues that this fear may be overdone.

Even before the eruption of coronavirus, concerns about a growing horde of walking-dead companies — usually defined as those unable to cover debt-servicing costs from long-run profits — were pervasive.

Two years ago, the Bank for International Settlements calculated that the share of zombie companies across the 14 big economies it studied had climbed from 2 per cent in the late 1980s to 12 per cent by 2016. The driver was that they stayed undead for longer than in the past, neither recovering nor dying out. The most likely reasons for this were the falls in interest rates that reduced debt repayments and banks being reluctant to pull the plug.

The trend was no accident. In fact, after the 2008 financial crisis, policymakers considered low rates and forbearance absolutely necessary to prevent a mass corporate extinction event that would have caused many more millions of jobs to disappear. In this, the authorities had learnt from the mistakes of history.

In 1929, Treasury secretary Andrew Mellon advocated the mass liquidation of struggling companies to "purge the rottenness out of the system". Foreshadowing Joseph Schumpeter's theory of "creative destruction", he argued this would be the best way to ensure a recovery. Instead, the Mellon Doctrine helped turn the 1929 crash into the Depression.

Nonetheless, many economists worry that allowing feeble companies to shamble on indefinitely does entail real, longer-term economic costs. The 2018 BIS paper said that "zombie companies" are unproductive, invest less and suck up resources that could otherwise be redeployed in more dynamic areas. Even beyond the zombie company phenomenon, economists fretted that rising corporate indebtedness in general stunts the ability of companies to invest.

These fears have been supercharged by the coronavirus crisis. Of the many legacies it will leave, a monstrous corporate debt burden is one of the biggest.

The rise in corporate bankruptcies has so far been surprisingly modest, thanks to the extraordinarily aggressive response from governments and central banks, with the latter alone pumping more than $7tn of stimulus into bond markets, according to the IMF.

> 'There is no evidence that corporate debt booms result in deeper declines in investment or output'

But the result has been that the developed world's corporate debt burden has climbed from an already record 91 per cent of gross domestic product in 2019 to 102 per cent at the end of September 2020, according to the Institute of International Finance. Though rock-bottom interest rates make this more bearable, economists fret that this debt "overhang" will be a millstone around the neck of the global economy for years.

Perhaps not, according to the paper published by the New York Fed this month. Using a database across 17 economies going back to the 19th century, Oscar Jordà, Martin Kornejew, Moritz Schularick and Alan Taylor investigated whether big corporate debt build-ups led to deeper and longer recessions, as is historically the case after booms and busts in household or finance industry debts.

Their conclusion is counterintuitive. "There is no evidence that corporate debt booms result in deeper declines in investment or output, nor that the economy takes longer to recover than at other times," the paper says. Nor did the economists find any evidence that big corporate debt overhangs made economies more fragile, and prone to less frequent but bigger downturns.

Why is this? The NY Fed paper argues that corporate bankruptcy and restructuring regimes are generally much more efficient than those for individuals. Both company owners and creditors are best served with a swift resolution.

However, when creditors are dispersed and combative, contract enforcement is weak or the legal process cumbersome, it can discourage or delay a speedy restructuring or liquidation. This can nurture more undead companies. "More frictions lead to more under-investment and survival of zombie firms, which can impair aggregate productivity growth and slow down the recovery after recessions," the economists note.

In other words, policymakers should worry less about low interest rates allowing more companies to linger in the twilight zone of survival. Instead, they should focus on ensuring bankruptcies and restructurings are handled as quickly and efficiently as possible.

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MARKET DATA

WORLD MARKETS AT A GLANCE

FT.COM/MARKETSDATA

Change during previous day's trading (%)

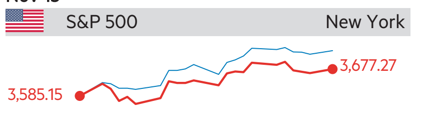
S&P 500	Nasdaq Composite	Dow Jones Ind	FTSE 100	FTSE Eurofirst 300	Nikkei	Hang Seng	FTSE All World $	$ per €	$ per £	¥ per $	£ per €	Oil Brent $ Sep	Gold $
0.38%	1.19%	0.22%	-0.23%	0.30%	0.30%	-0.44%	0.33%	0.165%	0.833%	0.130%	-0.654%	1.31%	-0.13%

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

AMERICAS

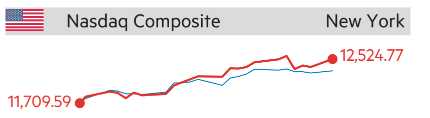
Nov 15 - - Index / All World

S&P 500 New York



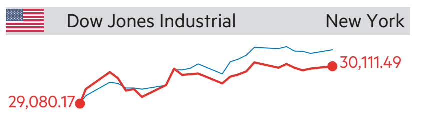
Day ↗0.38% Month ↗2.56% Year ↗16.04%

Nasdaq Composite New York



Day ↗1.19% Month ↗5.86% Year ↗43.36%

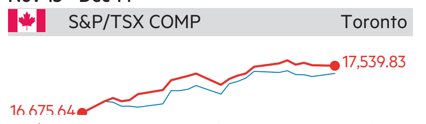
Dow Jones Industrial New York



Day ↗0.22% Month ↗2.16% Year ↗7.04%

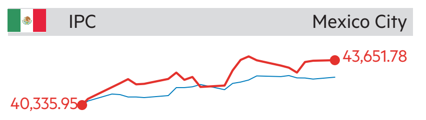
Nov 15 - Dec 14 Index / All World

S&P/TSX COMP Toronto



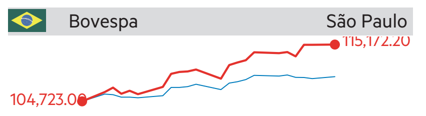
Day ↘-0.05% Month ↗5.18% Year ↗3.15%

IPC Mexico City



Day ↗0.09% Month ↗6.94% Year ↘-1.43%

Bovespa São Paulo

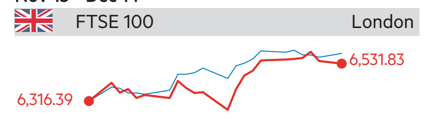


Day ↗0.04% Month ↗9.93% Year ↗2.27%

EUROPE

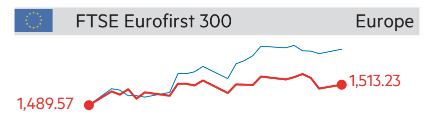
Nov 15 - Dec 14 Index / All World

FTSE 100 London



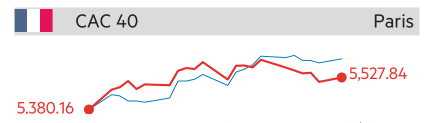
Day ↘-0.23% Month ↗3.54% Year ↘-11.06%

FTSE Eurofirst 300 Europe



Day ↗0.30% Month ↗1.74% Year ↘-5.73%

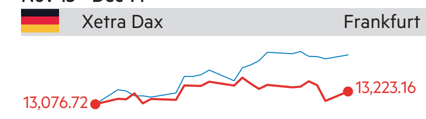
CAC 40 Paris



Day ↗0.37% Month ↗2.74% Year ↘-6.61%

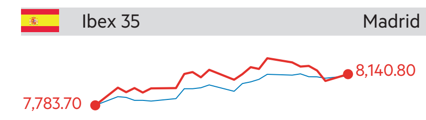
Nov 15 - Dec 14 Index / All World

Xetra Dax Frankfurt



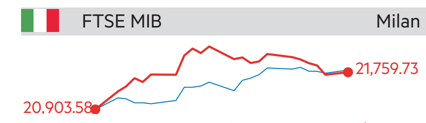
Day ↗0.83% Month ↗1.12% Year ↘-0.45%

Ibex 35 Madrid



Day ↗0.96% Month ↗4.59% Year ↘-14.88%

FTSE MIB Milan

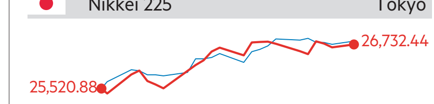


Day ↗0.27% Month ↗4.32% Year ↘-6.52%

ASIA

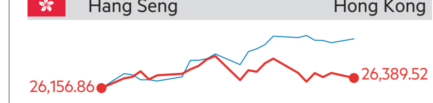
Nov 15 - Dec 14 Index / All World

Nikkei 225 Tokyo



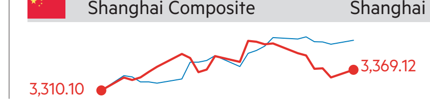
Day ↗0.30% Month ↗5.30% Year ↗11.28%

Hang Seng Hong Kong



Day ↘-0.44% Month ↗1.06% Year ↘-4.53%

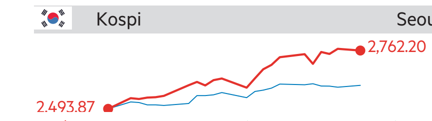
Shanghai Composite Shanghai



Day ↗0.66% Month ↗1.78% Year ↗13.53%

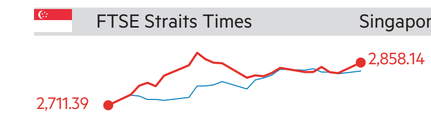
Nov 15 - Dec 14 Index / All World

Kospi Seoul



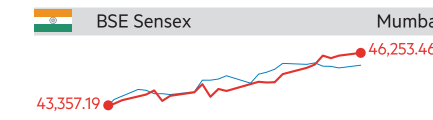
Day ↘-0.28% Month ↗10.76% Year ↗29.23%

FTSE Straits Times Singapore



Day ↗1.29% Month ↗5.53% Year ↘-10.97%

BSE Sensex Mumbai



Day ↗0.34% Month ↗6.47% Year ↗12.79%

Country	Index	Latest	Previous
Argentina	Merval	53404.26	53822.44
Australia	All Ordinaries	6900.30	6886.40
	S&P/ASX 200	6660.20	6642.60
	S&P/ASX 200 Res	5116.30	5168.30
Austria	ATX	2657.92	2632.17
Belgium	BEL 20	3673.30	3649.74
	BEL Mid	8215.88	8248.52
Brazil	IBovespa	115172.20	115128.00
Canada	S&P/TSX 60	1045.65	1046.51
	S&P/TSX Comp	17539.83	17548.92
	S&P/TSX Div Met & Min	680.08	688.95
Chile	S&P/CLX IGPA Gen	20413.05	20473.05
China	FTSE A200	13115.00	12979.16
	FTSE B35	9000.71	8988.96
	Shanghai A	3531.51	3508.47
	Shanghai B	235.81	236.73
	Shanghai Comp	3369.12	3347.19
	Shenzhen A	2352.12	2327.25
	Shenzhen B	1043.09	1036.39
Colombia	COLCAP	1368.49	1383.59
Croatia	CROBEX	2013.05	2011.29
Cyprus	CSE M&P Gen	68.46	68.68
Czech Republic	PX	981.78	968.51
Denmark	OMXC Copenhagen 20	1410.58	1398.38
Egypt	EGX 30	11047.97	11003.77
Estonia	OMX Tallinn	1305.83	1305.50
Finland	OMX Helsinki General	10712.69	10706.21
France	CAC 40	5527.84	5507.55
	SBF 120	4371.71	4355.92
Germany	M-DAX	29727.59	29608.50
	TecDAX	3111.00	3101.63
	XETRA Dax	13223.16	13114.30
Greece	Athens Gen	788.02	779.04
	FTSE/ASE 20	1885.61	1864.89
Hong Kong	Hang Seng	26389.52	26505.87
	HS China Enterprise	10443.12	10452.50
	HSCC Red Chip	3703.79	3667.94
Hungary	Bux	41967.89	41263.67
India	BSE Sensex	46253.46	46099.01
	Nifty 500	11215.25	11171.40
Indonesia	Jakarta Comp	6012.52	5938.33
Ireland	ISEQ Overall	7396.38	7314.79
Israel	Tel Aviv 125	1536.42	1521.14
Italy	FTSE Italia All-Share	23701.87	23622.81
	FTSE Italia Mid Cap	37415.14	37181.66
	FTSE MIB	21759.73	21702.16
Japan	2nd Section	6717.67	6630.49
	Nikkei 225	26732.44	26652.52
	S&P Topix 150	1507.97	1500.59
	Topix	1790.52	1782.01
Jordan	Amman SE	1608.98	1598.84
Kenya	NSE 20	1782.06	1782.06
Kuwait	KSX Market Index	6633.44	6603.51
Latvia	OMX Riga	1120.91	1115.70
Lithuania	OMX Vilnius	790.45	791.32
Luxembourg	LuxX	1307.12	1286.06
Malaysia	FTSE Bursa KLCI	1662.74	1684.58
Mexico	IPC	43651.78	43612.31
Morocco	MASI	11366.94	11094.93
Netherlands	AEX	612.88	614.46
	AEX All Share	887.14	891.21
New Zealand	NZX 50	12835.12	12919.25
Nigeria	SE All Share	34250.74	34577.26
Norway	Oslo All Share	1017.37	1006.88
Pakistan	KSE 100	43266.22	42470.40
Philippines	Manila Comp	7281.35	7246.16
Poland	Wig	55150.21	55501.03
Portugal	PSI 20	4780.03	4742.67
	PSI General	3587.14	3551.35
Romania	BET Index	9573.01	9521.16
Russia	Micex Index	3254.83	3276.58
	RTX	1398.12	1412.88
Saudi-Arabia	TADAWUL All Share Index	8660.31	8644.47
Singapore	FTSE Straits Times	2858.14	2821.70
Slovakia	SAX	347.95	349.90
Slovenia	SBI TOP	-	-
South Africa	FTSE/JSE All Share	59508.80	59412.61
	FTSE/JSE Res 20	56701.94	56663.95
	FTSE/JSE Top 40	54520.69	54458.61
South Korea	Kospi	2762.20	2770.06
	Kospi 200	371.56	372.24
Spain	IBEX 35	8140.80	8063.10
Sri Lanka	CSE All Share	6656.64	6614.56
Sweden	OMX Stockholm 30	1890.65	1891.22
	OMX Stockholm AS	759.73	756.67
Switzerland	SMI Index	10373.03	10391.76
Taiwan	Weighted Pr	14211.05	14261.69
Thailand	Bangkok SET	1476.13	1476.13
Turkey	BIST 100	1388.55	1374.02
UAE	Abu Dhabi General Index	5154.08	5140.57
UK	FT 30	2490.10	2532.10
	FTSE 100	6531.83	6546.75
	FTSE 4Good UK	6093.96	6105.77
	FTSE All Share	3678.41	3680.43
	FTSE techMARK 100	6147.41	6119.47
USA	DJ Composite	10017.61	10017.75
	DJ Industrial	30111.49	30046.37
	DJ Transport	12574.16	12672.38
	DJ Utilities	859.80	855.10
	Nasdaq 100	12534.18	12375.41
	Nasdaq Cmp	12524.77	12377.87
	NYSE Comp	14330.10	14355.29
	S&P 500	3677.27	3663.46
	Wilshire 5000	38661.16	38481.00
Venezuela	IBC	1288431.25	1279129.75
Vietnam	VNI	1064.09	1045.96
Cross-Border	DJ Global Titans ($)	429.78	427.16
	Euro Stoxx 50 (Eur)	3503.96	3485.84
	Euronext 100 ID	1096.26	1094.31
	FTSE 4Good Global ($)	9055.94	9028.39
	FTSE All World ($)	416.49	415.12
	FTSE E300	1513.23	1508.73
	FTSE Eurotop 100	2850.77	2847.34
	FTSE Global 100 ($)	2418.45	2404.62
	FTSE Gold Min ($)	2314.94	2333.99
	FTSE Latibex Top (Eur)	4440.00	4432.20
	FTSE Multinationals ($)	2634.75	2632.36
	FTSE World ($)	740.22	737.28
	FTSEurofirst 100 (Eur)	3885.75	3876.47
	FTSEurofirst 80 (Eur)	4795.07	4770.61
	MSCI ACWI Fr ($)	629.83	631.05
	MSCI All World ($)	2621.89	2628.59
	MSCI Europe (Eur)	1591.57	1602.46
	MSCI Pacific ($)	3035.67	3024.19
	S&P Euro (Eur)	1626.42	1617.87
	S&P Europe 350 (Eur)	1560.88	1554.65
	S&P Global 1200 ($)	2909.78	2900.23
	Stoxx 50 (Eur)	3074.64	3078.02

(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
Amazon.com	64.6	3186.88	70.46
Apple	35.1	122.96	0.55
Walt Disney (the)	29.7	171.29	-4.43
Microsoft	24.4	216.15	2.89
Boeing	23.6	233.39	3.06
Alexion Pharmaceuticals	22.8	158.48	37.50
Pfizer	17.7	39.80	-1.32
Facebook	17.0	276.34	2.79
Advanced Micro Devices	15.8	93.34	1.69
Nvidia	14.9	532.21	11.68

BIGGEST MOVERS	Close price	Day's change	Day's chng%
Ups			
Alexion Pharmaceuticals	158.48	37.50	31.00
yte	96.56	5.26	6.46
Mosaic (the)	23.51	1.28	5.76
Take-two Interactive Software	198.16	7.95	4.18
Paypal Holdings	222.92	8.86	4.14
Downs			
Occidental Petroleum	19.72	-1.18	-5.62
Huntington Bancshares	12.21	-0.73	-5.61
Marathon Petroleum	41.22	-1.69	-3.94
Diamondback Energy	48.23	-1.88	-3.75
Marathon Oil	6.81	-0.26	-3.61

Based on the constituents of the S&P500

LONDON

ACTIVE STOCKS	stock traded m's	close price	Day's change
Astrazeneca	493.8	7692.00	-468.00
Unilever	160.5	4363.00	-57.00
Glaxosmithkline	124.1	1392.80	-20.40
Bp	121.0	269.75	-5.50
Rio Tinto	119.6	5542.00	-4.00
Hsbc Holdings	106.1	403.40	2.80
Lloyds Banking	95.5	35.73	1.66
Barclays	83.5	142.36	6.30
British American Tobacco	80.5	2885.50	-31.50
Bhp	79.9	1940.40	-48.60

BIGGEST MOVERS	Close price	Day's change	Day's chng%
Ups			
Aston Martin Lagonda Global Holdings	1529.20	1458.35	2058.36
Polypipe	509.00	52.00	11.38
Dixons Carphone	107.80	6.10	6.00
Next	6746.00	360.00	5.64
Melrose Industries	163.00	8.15	5.26
Downs			
Astrazeneca	7692.00	-468.00	-5.74
Polymetal Int	1615.00	-89.00	-5.22
Micro Focus Int	434.60	-22.20	-4.86
Centrica	41.45	-2.01	-4.62
Plus500 Ltd	1403.50	-60.00	-4.10

Based on the constituents of the FTSE 350 index

EURO MARKETS

ACTIVE STOCKS	stock traded m's	close price	Day's change
Unilever	358.9	27.45	1.05
Sap Se O.n.	324.3	99.93	0.18
Royal Dutch Shella	271.9	15.10	-0.31
Total	271.0	36.60	-0.42
Sanofi	234.3	77.85	-0.67
Asml Holding	233.7	376.00	2.15
Iberdrola	223.6	11.64	0.00
Intesa Sanpaolo	221.3	1.94	0.00
Lvmh	220.7	509.20	8.80
Siemens Ag Na O.n.	218.7	112.70	0.02

BIGGEST MOVERS	Close price	Day's change	Day's chng%
Ups			
[illegible]	27.45	1.05	3.98
B. Sabadell	0.36	0.01	3.90
A.p. Møller - Mærsk B A/s	1812.03	60.47	3.45
A.p. Møller - Mærsk A A/s	1702.52	56.44	3.43
Neste	42.15	1.10	2.68
Downs			
Atlantia	14.50	-0.97	-6.24
Klepierre	18.57	-0.49	-2.55
Vopak	42.67	-0.89	-2.04
Royal Dutch Shella	15.10	-0.31	-2.00
Repsol	8.62	-0.16	-1.82

Based on the constituents of the FTSEurofirst 300 Eurozone index

TOKYO

ACTIVE STOCKS	stock traded m's	close price	Day's change
Softbank	2047.0	8088.00	175.00
Toyota Motor	721.4	7952.00	132.00
Ana Holdings	563.4	2469.50	-50.50
Fast Retailing Co.	358.3	84300.00	270.00
Sony	342.2	9783.00	-75.00
Nippon Telegraph And Telephone	264.1	2667.00	65.00
Mitsubishi Ufj Fin.	235.1	450.10	2.30
M3	230.8	8980.00	-61.00
Sumitomo Mitsui Fin.	223.6	3151.00	50.00
Tokyo Electron	196.7	36700.00	350.00

BIGGEST MOVERS	Close price	Day's change	Day's chng%
Ups			
Kawasaki Heavy Industries	1991.00	198.00	11.04
Mitsubishi Heavy Industries	2949.00	207.00	7.55
Ihi	1947.00	130.00	7.15
Konica Minolta Holdings	394.00	23.00	6.20
Jgc	957.00	48.00	5.28
Downs			
Yamaha	6120.00	-310.00	-4.82
Nippon Electric Glass Co.	2301.00	-83.00	-3.48
Dena Co.	1886.00	-64.00	-3.28
Cyberagent	6960.00	-210.00	-2.93
Olympus	2151.00	-50.00	-2.27

Based on the constituents of the Nikkei 225 index

UK MARKET WINNERS AND LOSERS

FTSE 100	Dec 14 price(p)	%Chg week	%Chg ytd
Winners			
B&m Eur Value Retail S.a.	511.00	8.8	26.0
Evraz	455.30	7.1	12.1
Smith (ds)	372.20	6.8	-3.7
Sainsbury (j)	226.00	6.8	-2.6
Sse	1444.50	5.9	-0.8
Bunzl	2479.00	5.6	18.5
Avast	504.00	5.5	6.2
Croda Int	6404.00	5.2	25.6
Rightmove	653.00	5.1	1.9
Spirax-sarco Eng	11500.00	4.8	27.2
Mondi	1785.00	4.7	0.9
Morrison (wm) Supermarkets	180.65	4.1	-10.7
Losers			
Rolls-royce Holdings	118.75	-9.2	-49.2
Int Consolidated Airlines S.a.	156.95	-6.2	-38.8
Anglo American	2405.00	-6.1	9.2
Intercontinental Hotels	4679.00	-5.5	-10.4
Natwest	157.85	-5.3	-35.4
Intermediate Capital	1593.00	-5.2	-2.9
Persimmon	2584.00	-4.9	-5.3
Lloyds Banking	35.73	-4.3	-43.9
Barratt Developments	605.60	-4.2	-19.5
Aviva	320.30	-3.8	-24.4
Royal Dutch Shell	1309.40	-3.6	-42.0

FTSE 250	Dec 14 price(p)	%Chg week	%Chg ytd
Winners			
Aston Martin Lagonda Global Holdings	1529.20	1772.9	769.9
Calisen	257.70	24.2	-
Just	62.00	12.5	-25.3
Premier Foods	96.00	9.1	152.3
Chemring	271.00	8.8	9.5
Ferrexpo	284.00	8.2	78.5
Ao World	372.50	6.7	334.1
Oxford Biomedica	875.00	6.7	30.0
Puretech Health	325.00	6.6	2.5
Frasers	451.20	6.5	-1.8
Weir	1855.00	5.9	22.3
Losers			
Rank	133.80	-15.8	-52.2
Energean	678.50	-13.6	-27.0
Tui Ag	407.80	-12.5	-58.9
Micro Focus Int	434.60	-11.4	-60.9
Wetherspoon (J.d.)	1041.00	-10.1	-37.0
Plus500 Ltd	1403.50	-9.9	61.5
Capita	44.91	-9.6	-73.3
Bmo Commercial Property Trust	74.60	-9.5	-35.7
Babcock Int	305.00	-9.4	-51.0
C&c	223.00	-8.9	-44.0
Easyjet	825.00	-8.0	-42.3

FTSE SmallCap	Dec 14 price(p)	%Chg week	%Chg ytd
Winners			
Volution	288.00	19.0	13.4
Petra Diamonds	2.06	14.4	-76.7
Just	62.00	12.5	-25.3
Car's	133.50	10.3	-13.9
S & U	2000.00	9.3	-5.2
Premier Foods	96.00	9.1	152.3
Chemring	271.00	8.8	9.5
Ncc	247.00	8.8	6.5
Foxtons	48.00	8.1	-43.4
Senior	80.00	7.4	-57.3
Oxford Biomedica	875.00	6.7	30.0
Biotech Growth Trust (the)	1638.00	6.6	75.0
Losers			
Rps	65.60	-19.0	-62.3
Mccoll's Retail	26.25	-18.4	-30.9
Restaurant	61.30	-17.9	-63.2
Senior	80.00	-15.0	-57.0
Superdry	233.60	-13.1	-54.0
Rm	206.00	-12.3	-25.9
Palace Capital	196.00	-10.9	-39.9
Metro Bank	106.50	-10.7	-49.1
On The Beach	358.50	-10.4	-26.7
Allied Minds	33.25	-9.8	-34.3
Aberforth Split Level Inc Trust	60.60	-9.7	-35.2

Industry Sectors	Dec 14 price(p)	%Chg week	%Chg ytd
Winners			
Industrial Metals	4765.44	7.6	26.4
Electricity	8469.87	5.8	1.0
Forestry & Paper	20094.63	4.6	0.6
Chemicals	13270.72	4.1	-0.3
General Industrials	6607.16	3.3	3.0
Industrial Engineering	14623.82	3.2	8.8
General Retailers	2457.38	2.4	-2.0
Index - Technology Hardware & Equipment	2078.28	2.3	4.6
Electronic & Electrical Equip.	9718.63	2.3	12.3
Food & Drug Retailers	4245.30	2.2	1.3
Support Services	9804.10	2.1	3.8
Tobacco	30411.72	1.8	-
Losers			
Automobiles & Parts	3759.97	-5.6	-
Oil Equipment & Services	5786.94	-4.7	-
Aerospace & Defense	3717.87	-4.0	-
Oil & Gas Producers	4734.48	-2.8	-
Pharmaceuticals & Biotech.	16378.79	-2.6	-8.1
Construction & Materials	6654.18	-2.4	-5.8
Banks	2554.98	-2.4	-
Travel & Leisure	8166.92	-2.3	-
Mobile Telecommunications	2994.84	-1.0	-
Real Estate Investment Trusts	2683.27	-0.9	-
Mining	21786.31	-0.7	14.6
General Financial	11661.78	-0.7	-9.3

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

CURRENCIES

Dec 14	Currency	DOLLAR Closing Mid	Day's Change	EURO Closing Mid	Day's Change	POUND Closing Mid	Day's Change
Argentina	Argentine Peso	82.4537	0.2389	99.9754	0.4333	109.7992	1.1845
Australia	Australian Dollar	1.3269	-0.0003	1.6088	0.0020	1.7669	0.0136
Bahrain	Bahraini Dinar	0.3771	-	0.4572	0.0007	0.5022	0.0040
Bolivia	Bolivian Boliviano	6.9100	-	8.3784	0.0121	9.2017	0.0728
Brazil	Brazilian Real	5.1151	0.0534	6.2021	0.0736	6.8115	0.1244
Canada	Canadian Dollar	1.2773	0.0001	1.5487	0.0023	1.7009	0.0135
Chile	Chilean Peso	733.1850	0.1550	888.9893	1.4686	976.3433	7.9310
China	Chinese Yuan	6.5374	-0.0036	7.9266	0.0071	8.7055	0.0641
Colombia	Colombian Peso	3431.4550	-5.4050	4160.6511	-0.5506	4569.4859	29.0197
Costa Rica	Costa Rican Colon	606.3650	0.2250	735.2196	1.3317	807.4639	6.6871
Czech Republic	Czech Koruna	21.7213	-0.0611	26.3371	-0.0360	28.9250	0.1482
Denmark	Danish Krone	6.1377	-0.0089	7.4419	-0.0001	8.1732	0.0529
Egypt	Egyptian Pound	15.7402	0.0770	19.0850	0.1207	20.9604	0.2676
Hong Kong	Hong Kong Dollar	7.7523	0.0014	9.3998	0.0153	10.3234	0.0836
Hungary	Hungarian Forint	291.8227	-0.8223	353.8360	-0.4859	388.6047	1.9888
India	Indian Rupee	73.5625	-0.0862	89.1948	0.0241	97.9593	0.6612
Indonesia	Indonesian Rupiah	14095.0000	15.0000	17090.2485	42.7966	18769.5790	168.3539
Israel	Israeli Shekel	3.2608	0.0062	3.9537	0.0131	4.3422	0.0425
Japan	Japanese Yen	104.0800	0.1350	126.1973	0.3453	138.5977	1.2751
..One Month		104.0799	0.1348	126.1974	0.3454	138.5977	1.2751
..Three Month		104.0799	0.1347	126.1975	0.3455	138.5977	1.2750
..One Year		104.0795	0.1339	126.1978	0.3462	138.5977	1.2747
Kenya	Kenyan Shilling	111.6000	0.1000	135.3154	0.3160	148.6118	1.3081
Kuwait	Kuwaiti Dinar	0.3054	0.0004	0.3703	0.0010	0.4067	0.0037
Malaysia	Malaysian Ringgit	4.0560	0.0045	4.9179	0.0125	5.4012	0.0487
Mexico	Mexican Peso	20.1618	0.0448	24.4462	0.0894	26.8483	0.2716
New Zealand	New Zealand Dollar	1.4117	-0.0003	1.7117	0.0021	1.8799	0.0145
Nigeria	Nigerian Naira	388.5000	-	471.0576	0.6787	517.3447	4.0940
Norway	Norwegian Krone	8.7425	-0.0818	10.6003	-0.0837	11.6419	-0.0159
Pakistan	Pakistani Rupee	160.1250	-	194.1521	0.2797	213.2299	1.6874
Peru	Peruvian Nuevo Sol	3.5889	-0.0108	4.3516	-0.0068	4.7791	0.0236
Philippines	Philippine Peso	48.0475	-0.0275	58.2578	0.0506	63.9823	0.4700
Poland	Polish Zloty	3.6622	-0.0051	4.4404	0.0002	4.8767	0.0319
Romania	Romanian Leu	4.0150	-0.0074	4.8681	-0.0019	5.3465	0.0326
Russia	Russian Ruble	73.4050	0.3512	89.0038	0.5535	97.7495	1.2376
Saudi Arabia	Saudi Riyal	3.7514	0.0005	4.5486	0.0072	4.9955	0.0402
Singapore	Singapore Dollar	1.3355	-0.0017	1.6192	0.0003	1.7783	0.0118
South Africa	South African Rand	15.0313	-0.1012	18.2254	-0.0963	20.0163	0.0246
South Korea	South Korean Won	1091.7500	1.3500	1323.7506	3.5417	1453.8252	13.2883
Sweden	Swedish Krona	8.4158	-0.0578	10.2042	-0.0553	11.2069	0.0123
Switzerland	Swiss Franc	0.8886	-0.0022	1.0775	-0.0011	1.1834	0.0065
Taiwan	New Taiwan Dollar	28.1500	-0.0195	34.1320	0.0256	37.4859	0.2709
Thailand	Thai Baht	30.0700	0.0400	36.4600	0.1010	40.0426	0.3697
Tunisia	Tunisian Dinar	2.7097	-0.0044	3.2855	-0.0005	3.6083	0.0228
Turkey	Turkish Lira	7.8873	0.0298	9.5633	0.0498	10.5030	0.1224
United Arab Emirates	UAE Dirham	3.6732	-	4.4537	0.0064	4.8913	0.0387
United Kingdom	Pound Sterling	0.7510	-0.0060	0.9105	-0.0059	-	-
..One Month		0.7510	-0.0060	0.9105	-0.0059	-	-
..Three Month		0.7511	-0.0060	0.9104	-0.0059	-	-
..One Year		0.7512	-0.0060	0.9099	-0.0059	-	-
United States	United States Dollar	-	-	1.2125	-0.1086	1.3316	0.0105
..One Month		-	-	1.2124	-0.1086	1.3317	0.0105
..Three Month		-	-	1.2122	-0.1086	1.3318	0.0105
..One Year		-	-	1.2115	-0.1086	1.3319	0.0105
Venezuela	Venezuelan Bolivar Fuerte	-	-	-	-	-	-
Vietnam	Vietnamese Dong	23127.0000	-2.0000	28041.6025	38.0069	30796.9954	240.9985
European Union	Euro	0.8247	-0.0012	-	-	1.0983	0.0071
..One Month		0.8246	-0.0012	-	-	1.0982	0.0071
..Three Month		0.8245	-0.0012	-	-	1.0981	0.0071
..One Year		0.8237	-0.0012	-	-	1.0977	0.0071

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 Dec 11	Day's chge%	Euro Index	£ Strlg Dec 10	£ Strlg Dec 09	Year ago	Div yield%	Cover	P/E ratio	X/D adj	Total Return
FTSE 100 (100)	6546.75	-0.80	5569.92	6599.76	6564.29	7273.47	3.65	1.52	18.06	199.48	6248.57
FTSE 250 (250)	19622.15	-0.68	16694.34	19756.10	19883.89	20793.03	2.40	1.67	24.95	336.93	15567.70
FTSE 250 ex Inv Co (181)	20006.01	-0.79	17020.92	20165.55	20349.52	22060.57	2.42	1.53	27.08	300.87	16189.27
FTSE 350 (350)	3710.00	-0.78	3156.43	3739.22	3726.72	4087.47	3.44	1.54	18.96	104.27	7057.93
FTSE 350 ex Investment Trusts (280)	3617.32	-0.82	3077.58	3647.28	3634.44	4035.65	3.51	1.42	20.07	103.22	3551.13
FTSE 350 Higher Yield (145)	2926.29	-1.39	2489.66	2967.59	2953.10	3521.31	4.95	1.44	14.07	115.37	6115.43
FTSE 350 Lower Yield (205)	4272.74	-0.18	3635.21	4280.56	4272.71	4331.02	1.96	1.78	28.60	74.58	5055.27
FTSE SmallCap (256)	5966.05	-0.41	5075.85	5990.62	6024.31	5603.25	3.08	-1.32	-24.68	129.35	9480.72
FTSE SmallCap ex Inv Co (142)	4663.34	-0.64	3967.52	4693.33	4755.53	4528.61	3.05	-1.35	-24.28	75.53	7750.03
FTSE All-Share (606)	3680.43	-0.77	3131.28	3708.98	3697.66	4033.41	3.42	1.45	20.12	102.55	7073.13
FTSE All-Share ex Inv Co (422)	3552.89	-0.82	3022.76	3582.20	3570.68	3953.70	3.51	1.37	20.76	100.50	3542.50
FTSE All-Share ex Multinationals (537)	1144.87	-1.20	807.30	1158.83	1171.71	1218.81	2.86	1.42	24.57	23.34	2290.48
FTSE Fledgling (91)	10093.10	-0.63	8587.11	10157.47	10190.91	9471.76	2.60	0.19	206.14	210.25	20753.66
FTSE Fledgling ex Inv Co (43)	12147.06	-0.87	10334.60	12254.11	12350.97	11179.18	2.65	4.32	8.75	177.70	24405.13
FTSE All-Small (347)	4138.53	-0.42	3521.02	4156.09	4178.93	3886.93	3.05	-1.25	-26.29	89.59	8437.16
FTSE All-Small ex Inv Co (185)	3488.21	-0.65	2967.73	3510.97	3556.76	3378.62	3.04	-1.16	-28.51	56.25	7343.09
FTSE AIM All-Share (711)	1061.18	-0.80	902.84	1069.78	1077.85	899.33	0.88	0.37	302.76	7.27	1218.36
FTSE Sector Indices											
Oil & Gas (12)	**5026.37**	**-3.12**	**4276.39**	**5188.51**	**4995.85**	**8177.04**	**6.15**	**1.19**	**13.61**	**308.86**	**5654.51**
Oil & Gas Producers (9)	4862.62	-3.17	4137.07	5021.74	4832.13	7930.11	6.25	1.19	13.49	303.82	5672.27
Oil Equipment Services & Distribution (3)	5818.79	-0.52	4950.57	5849.08	5850.27	8116.47	0.19	17.16	30.09	11.22	5016.15
Basic Materials (22)	**7238.73**	**-0.35**	**6158.64**	**7264.17**	**7140.03**	**6160.18**	**3.46**	**2.71**	**10.66**	**251.27**	**8696.01**
Chemicals (7)	14509.97	-0.47	12344.94	14578.26	14509.35	13478.69	1.60	2.12	29.41	222.25	13949.27
Forestry & Paper (1)	21374.16	-0.17	18184.93	21411.01	21435.58	20465.14	2.53	3.27	12.12	540.55	26037.69
Industrial Metals & Mining (2)	5041.82	-0.42	4289.54	5063.33	4920.70	3732.06	8.88	1.60	7.03	453.68	6782.80
Mining (12)	21098.59	-0.35	17950.48	21171.71	20769.49	17732.61	3.59	2.77	10.06	759.99	13384.00
Industrials (101)	**5836.18**	**-0.28**	**4965.36**	**5852.75**	**5872.18**	**5812.13**	**1.73**	**0.75**	**76.87**	**81.97**	**6492.21**
Construction & Materials (14)	6922.05	-0.48	5889.21	6955.54	6980.14	7143.41	1.97	0.12	408.23	131.95	7997.08
Aerospace & Defense (9)	3882.10	-3.00	3302.85	4002.14	4045.25	5204.18	2.98	-2.01	-16.69	99.51	4530.23
General Industrials (8)	5197.47	-0.64	4421.96	5230.99	5223.33	4940.14	1.91	0.72	72.50	79.14	6510.65
Electronic & Electrical Equipment (10)	11379.31	0.38	9681.40	11335.69	11397.59	9989.70	1.03	2.13	45.83	81.47	10914.58
Industrial Engineering (12)	15662.82	0.94	13325.78	15516.97	15569.84	14271.78	1.30	2.48	31.00	178.00	20478.27
Industrial Transportation (6)	3660.15	0.77	3114.02	3632.36	3689.34	3927.68	4.05	0.67	37.01	12.73	3718.03
Support Services (42)	9287.35	0.30	7901.59	9259.88	9273.64	8753.34	1.31	2.35	32.43	103.19	10323.24
Consumer Goods (42)	**18544.22**	**0.04**	**15777.24**	**18537.06**	**18451.44**	**19248.67**	**3.90**	**1.48**	**17.36**	**630.46**	**15705.27**
Automobiles & Parts (2)	3661.23	-5.15	3114.94	3860.02	3917.82	5464.04	0.61	1.78	92.31	0.00	3746.23
Beverages (6)	23635.81	0.08	20109.11	23616.39	23288.19	24323.51	2.34	1.65	25.83	528.83	18147.23
Food Producers (10)	6974.37	-0.75	5933.73	7027.31	7016.76	7639.23	2.61	1.80	21.27	97.72	6482.94
Household Goods & Home Construction (14)	14074.69	-0.60	11974.61	14159.14	14350.45	14263.60	2.89	1.99	17.35	324.68	11342.02
Leisure Goods (2)	25832.32	2.59	21977.89	25180.61	25146.76	15004.91	1.51	1.39	47.94	303.75	26999.36
Personal Goods (6)	32432.16	0.64	27592.97	32226.20	31940.00	33844.87	3.21	1.38	22.65	917.13	24292.92
Tobacco (2)	30731.06	-0.18	26145.69	30786.02	30551.96	31831.51	7.72	1.29	10.04	1936.14	24854.11
Health Care (15)	**12091.42**	**0.12**	**10287.26**	**12076.33**	**11930.83**	**12440.93**	**3.48**	**1.12**	**25.61**	**419.30**	**10523.81**
Health Care Equipment & Services (6)	6677.16	-1.32	5680.86	6766.68	6698.65	8160.35	2.02	0.96	51.31	120.44	6152.64
Pharmaceuticals & Biotechnology (9)	16960.66	0.28	14429.97	16913.24	16705.84	17105.01	3.64	1.13	24.33	617.91	13263.49
Consumer Services (82)	**4955.42**	**-0.98**	**4216.02**	**5004.36**	**5043.97**	**5373.04**	**2.15**	**1.28**	**36.37**	**69.53**	**5070.22**
Food & Drug Retailers (5)	4313.03	-1.90	3669.49	4396.79	4428.12	4131.25	3.05	1.33	24.55	133.29	5489.41
General Retailers (27)	2259.72	-1.77	1922.55	2300.43	2353.36	2298.06	1.81	1.47	37.66	11.48	2827.44
Media (15)	8057.70	-0.39	6855.42	8089.62	8094.11	8745.39	1.59	3.05	20.67	125.77	5430.66
Travel & Leisure (35)	7980.96	-0.63	6790.13	8031.39	8080.64	9560.16	2.37	0.28	150.87	82.90	8190.85
Telecommunications (6)	**1896.19**	**-2.29**	**1613.26**	**1940.72**	**1939.64**	**2226.85**	**7.11**	**0.58**	**24.09**	**44.59**	**2565.77**
Fixed Line Telecommunications (3)	1655.84	-2.85	1408.77	1704.44	1737.03	2303.38	10.74	1.04	8.93	5.68	1816.93
Mobile Telecommunications (3)	2985.72	-2.10	2540.22	3049.66	3026.62	3274.71	5.82	0.29	60.16	91.62	3641.63
Utilities (8)	**7015.24**	**-1.60**	**5968.50**	**7129.06**	**7214.40**	**7098.64**	**5.15**	**1.15**	**16.90**	**350.90**	**9790.41**
Electricity (3)	8216.90	-1.39	6990.86	8332.46	8395.00	7664.46	5.66	1.04	17.01	464.92	15073.15
Gas Water & Multiutilities (5)	6327.92	-1.67	5383.74	6435.14	6521.70	6569.33	4.98	1.19	16.86	302.68	8733.91
Financials (304)	**4327.76**	**-1.00**	**3682.01**	**4371.66**	**4401.21**	**4930.15**	**3.21**	**1.72**	**18.06**	**88.07**	**4516.03**
Banks (11)	2468.99	-2.10	2100.60	2521.86	2557.04	3641.11	3.80	2.22	11.87	1.57	2035.02
Nonlife Insurance (7)	3669.27	-0.16	3121.78	3675.09	3659.07	3535.66	3.00	1.86	17.90	107.44	7277.43
Life Insurance/Assurance (7)	6999.03	-0.88	5954.71	7060.93	7114.57	7821.48	3.82	1.93	13.58	257.34	7956.68
Real Estate Investment & Services (17)	2464.07	0.07	2096.41	2462.37	2469.04	2724.99	1.81	2.17	25.53	29.09	7073.15
Real Estate Investment Trusts (39)	2385.92	-1.06	2029.92	2411.37	2437.29	2849.51	3.23	-2.05	-15.10	65.40	3395.79
General Financial (39)	9816.34	-0.98	8351.65	9913.18	9979.91	10194.48	3.37	1.08	27.36	321.23	12708.77
Equity Investment Instruments (184)	12427.27	-0.09	10573.00	12437.98	12428.82	10782.84	2.29	3.10	14.06	275.27	7436.47
Non Financials (302)	**4435.12**	**-0.69**	**3773.35**	**4465.98**	**4437.69**	**4794.92**	**3.50**	**1.37**	**20.91**	**135.32**	**7490.45**
Technology (14)	**1970.92**	**-0.04**	**1676.84**	**1971.71**	**1967.73**	**2147.19**	**1.98**	**0.07**	**742.57**	**33.33**	**2750.42**
Software & Computer Services (12)	2110.45	-0.05	1795.55	2111.47	2108.85	2362.53	2.03	-0.14	-341.78	36.15	3116.01
Technology Hardware & Equipment (2)	4950.46	0.05	4211.80	4947.89	4896.45	3817.38	1.41	3.38	21.00	69.78	6145.19

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	6593.22	6543.14	6547.84	6539.14	6538.15	6550.81	6559.44	6560.10	6559.15	6593.22	6521.17
FTSE 250	19708.46	19502.99	19613.57	19633.66	19587.07	19617.36	19624.33	19676.09	19643.82	19708.46	19488.26
FTSE SmallCap	6004.53	5954.59	5960.48	5964.11	5960.15	5965.26	5961.31	5968.08	5969.61	6006.11	5953.91
FTSE All-Share	3704.83	3674.86	3680.55	3677.32	3675.34	3682.10	3686.12	3688.17	3686.76	3704.83	3667.18

Time of FTSE 100 Day's high:08:03:00 Day's Low11:37:45 FTSE 100 2010/11 High: 7674.56(17/01/2020) Low: 4993.89(23/03/2020)
Time of FTSE All-Share Day's high:08:03:00 Day's Low11:38:00 FTSE 100 2010/11 High: 4257.93(17/01/2020) Low: 2727.86(23/03/2020)

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FT 30 INDEX

	Dec 11	Dec 10	Dec 09	Dec 08	Dec 07	Yr Ago	High	Low
FT 30	2490.10	2532.10	2548.50	2526.80	2527.70	0.00	3314.70	1337.80
FT 30 Div Yield	-	-	-	-	-	0.00	3.93	2.74
P/E Ratio net	-	-	-	-	-	0.00	19.44	14.26

FT 30 since compilation: 4198.4 high: 19/07/1999; low49.4 18/02/1900Base Date: 1/7/35

FT 30 hourly changes

8	9	10	11	12	13	14	15	16	High	Low
2532.1	2489.2	2492.5	2164.9	2399.1	2395.8	2394.3	2414	2426.7	2439.2	2366.1

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

FX: EFFECTIVE INDICES

	Dec 11	Dec 10	Mnth Ago		Dec 14	Dec 11	Mnth Ago
Australia	-	-	-	Sweden	-	-	-
Canada	-	-	-	Switzerland	-	-	-
Denmark	-	-	-	UK	77.35	78.23	78.02
Japan	-	-	-	USA	-	-	-
New Zealand	-	-	-	Euro	-	-	-
Norway	-	-	-				

Source: Bank of England. New Sterling ERI base Jan 2005 = 100. Other indices base average 1990 = 100. Index rebased 1/2/95. for further information about ERIs see www.bankofengland.co.uk

FTSE SECTORS: LEADERS & LAGGARDS

Year to date percentage changes

Leisure Goods	55.33	Pharmace & Biotech	-4.16	FTSE 100 Index	-13.20
Industrial Metals &	23.87	Health Care	-6.07	Media	-13.23
Mining	16.06	General Retailers	-6.17	Food Producers	-13.63
Basic Materials	14.03	Construct & Material	-6.29	Life Insurance	-14.78
Tech Hardware & Eq	13.78	Household Goods & Ho	-6.52	Software & Comp Serv	-14.83
Electronic & Elec Eq	11.22	Beverages	-6.91	Financials	-15.89
Equity Invest Instr	10.53	Industrial Transport	-6.95	Real Est Invest & Se	-16.10
Industrial Eng	6.23	Consumer Goods	-7.91	Telecommunications	-16.58
Chemicals	2.25	Utilities	-9.15	Real Est Invest & Tr	-20.87
Support Services	1.85	Financial Services	-9.93	Health Care Eq & Srv	-20.99
FTSE SmallCap Index	0.26	FTSE 250 Index	-10.33	Travel & Leisure	-21.12
Nonlife Insurance	-1.03	Mobile Telecomms	-10.46	Aerospace & Defense	-25.55
Food & Drug Retailer	-1.11	Tobacco	-10.89	Fixed Line Telecomms	-29.95
Forestry & Paper	-1.83	NON FINANCIALS Index	-10.99	Oil Equipment & Serv	-32.89
Electricity	-2.04	Gas Water & Multi	-11.28	Automobiles & Parts	-33.40
Personal Goods	-2.10	FTSE All{HY-}Share Index	-12.30	Banks	-33.91
Industrials	-2.63	Consumer Services	-12.78	Oil & Gas	-39.82
		Technology	-12.92	Oil & Gas Producers	-39.93

FTSE GLOBAL EQUITY INDEX SERIES

Dec 11 Regions & countries	No of stocks	US $ indices	Day %	Mth %	YTD %	Total retn	YTD %	Gr Div Yield
FTSE Global All Cap	9017	710.15	0.0	5.5	11.6	1093.58	13.8	1.9
FTSE Global All Cap	9014	702.09	1.1	13.8	10.3	1080.78	12.5	1.9
FTSE Global Large Cap	1739	635.57	0.0	4.8	12.0	1008.03	14.4	1.9
FTSE Global Mid Cap	2234	898.53	0.0	6.2	8.4	1301.86	10.3	1.9
FTSE Global Small Cap	5044	974.95	0.5	8.8	12.7	1357.89	14.5	1.6
FTSE All-World	3973	415.91	0.0	5.1	11.4	677.83	13.7	1.9
FTSE World	2563	738.87	0.0	5.3	11.2	1616.24	13.5	1.9
FTSE Global All Cap ex UNITED KINGDOM In	8727	750.80	0.1	5.5	12.9	1135.39	15.1	1.8
FTSE Global All Cap ex USA	7269	550.42	-0.1	6.1	6.1	924.90	8.8	2.4
FTSE Global All Cap ex JAPAN	7622	733.25	0.1	5.5	11.9	1139.75	14.1	1.9
FTSE Global All Cap ex Eurozone	8377	747.43	0.0	5.4	12.3	1127.26	14.5	1.9
FTSE Developed	2135	675.96	0.0	5.1	11.6	1049.56	13.9	1.9
FTSE Developed All Cap	5620	708.45	0.0	5.5	11.8	1084.50	14.0	1.9
FTSE Developed Large Cap	832	632.59	0.0	4.8	12.2	999.60	14.5	1.9
FTSE Developed Europe Large Cap	225	386.00	0.1	5.0	0.5	721.29	3.3	2.6
FTSE Developed Europe Mid Cap	344	671.78	-0.4	6.0	6.2	1098.49	8.4	2.1
FTSE Dev Europe Small Cap	691	913.31	-0.7	7.7	1.7	1438.29	3.6	1.9
FTSE North America Large Cap	224	810.04	0.0	4.1	16.2	1181.68	18.3	1.6
FTSE North America Mid Cap	411	1045.52	0.3	6.2	10.5	1406.57	12.3	1.7
FTSE North America Small Cap	1293	1112.76	1.0	9.7	16.6	1444.03	18.1	1.4
FTSE North America	635	529.17	0.0	4.5	15.3	788.80	17.4	1.6
FTSE Developed ex North America	1500	285.73	-0.1	6.2	5.0	517.17	7.7	2.4
FTSE Japan Large Cap	179	439.09	-0.3	6.1	10.7	616.01	13.3	2.1
FTSE Japan Mid Cap	335	635.26	-0.6	3.7	1.1	844.70	3.1	2.0
FTSE Global wi JAPAN Small Cap	881	696.24	-0.6	2.9	0.1	959.11	2.2	2.1
FTSE Japan	514	181.78	-0.4	5.6	8.8	285.43	11.2	2.1
FTSE Asia Pacific Large Cap ex Japan	936	849.54	-0.3	5.9	16.9	1468.94	19.6	2.2
FTSE Asia Pacific Mid Cap ex Japan	900	998.93	-0.3	8.2	15.3	1656.95	17.9	2.6
FTSE Asia Pacific Small Cap ex Japan	1886	630.56	-0.2	7.4	16.1	1023.10	18.7	2.4
FTSE Asia Pacific Ex Japan	1836	663.64	-0.3	6.2	16.8	1218.93	19.5	2.2
FTSE Emerging All Cap	3397	867.66	0.0	5.3	9.8	1426.29	12.5	2.3
FTSE Emerging Large Cap	907	837.38	0.0	4.6	10.5	1385.18	13.2	2.2
FTSE Emerging Mid Cap	931	1017.63	0.0	8.5	4.5	1672.60	7.5	2.9
FTSE Emerging Small Cap	1559	826.65	-0.3	8.1	9.3	1303.69	12.2	2.5
FTSE Emerging Europe	76	363.59	2.2	14.4	-17.4	687.46	-13.1	5.5
FTSE Latin America All Cap	239	811.76	2.4	13.8	-17.6	1387.11	-15.6	2.6
FTSE Middle East and Africa All Cap	322	641.34	-0.6	3.8	-7.0	1108.29	-4.2	3.2
FTSE Global wi UNITED KINGDOM All Cap In	290	312.09	-0.6	4.9	-12.7	595.60	-10.1	3.5
FTSE Global wi USA All Cap	1748	916.21	0.1	5.0	16.1	1289.96	18.0	1.5
FTSE Europe All Cap	1411	459.70	0.0	5.6	1.1	825.89	3.7	2.5
FTSE Eurozone All Cap	640	453.36	0.1	6.3	4.2	811.37	6.6	2.1
FTSE EDHEC-Risk Efficient All-World	3973	461.36	-0.1	5.1	6.6	694.47	8.8	2.1
FTSE EDHEC-Risk Efficient Developed Europe	569	360.74	-0.2	5.8	6.7	601.65	8.9	2.2
Oil & Gas	128	268.58	2.2	15.6	-26.2	501.67	-22.4	4.9
Oil & Gas Producers	93	252.92	2.5	16.0	-28.4	482.87	-24.7	5.0

Dec 11 Sectors	No of stocks	US $ indices	Day %	Mth %	YTD %	Total retn	YTD %	Gr Div Yield
Oil Equipment & Services	24	203.79	1.2	1.2	-23.9	344.51	-19.7	5.5
Basic Materials	356	595.41	0.0	0.0	15.8	1010.48	19.3	2.7
Chemicals	163	849.01	-0.5	-0.5	13.2	1426.53	16.2	2.4
Forestry & Paper	21	300.22	-0.7	-0.7	8.0	571.00	11.4	2.6
Industrial Metals & Mining	93	457.06	1.4	1.4	20.9	782.57	24.8	3.1
Mining	79	863.79	0.1	0.1	18.5	1499.09	22.7	3.0
Industrials	746	511.44	-0.5	-0.5	13.9	787.63	16.0	1.6
Construction & Materials	147	604.66	-0.7	-0.7	9.1	977.50	11.2	1.8
Aerospace & Defense	36	747.04	-0.5	-0.5	-16.5	1133.39	-15.2	2.0
General Industrials	70	248.66	-0.6	-0.6	9.1	419.99	11.8	2.2
Electronic & Electrical Equipment	140	640.13	-0.6	-0.6	25.7	894.24	27.8	1.4
Industrial Engineering	148	996.14	-0.8	-0.8	20.1	1526.21	22.5	1.5
Industrial Transportation	122	906.45	-1.1	-1.1	19.7	1404.83	21.8	1.7
Support Services	83	618.38	0.3	0.3	22.5	898.33	24.1	1.1
Consumer Goods	531	589.29	0.0	0.0	15.5	950.60	18.0	2.1
Automobiles & Parts	128	574.46	0.6	0.6	50.8	902.82	53.8	1.5
Beverages	67	722.53	-0.1	-0.1	2.0	1176.79	4.4	2.3
Food Producers	132	698.66	0.0	0.0	2.5	1150.16	4.9	2.4
Household Goods & Home Construction	62	558.25	-0.7	-0.7	10.2	895.64	12.7	2.1
Leisure Goods	43	310.23	-0.3	-0.3	28.1	427.89	29.7	1.1
Personal Goods	86	1020.67	0.1	0.1	13.3	1521.89	15.0	1.4
Tobacco	13	936.95	0.1	0.1	-6.0	2342.84	-0.6	6.6
Health Care	306	674.98	0.0	0.0	10.5	1039.34	12.6	1.7
Health Care Equipment & Services	111	1352.23	0.1	0.1	15.3	1629.02	16.2	0.7
Pharmaceuticals & Biotechnology	195	440.74	-0.1	-0.1	7.4	721.32	10.0	2.4
Consumer Services	440	675.48	0.1	0.1	21.1	946.20	22.3	1.0
Food & Drug Retailers	68	299.42	-0.2	-0.2	1.5	454.15	4.2	2.5
General Retailers	145	1247.16	0.0	0.0	37.8	1679.19	38.7	0.6
Media	87	444.66	0.2	0.2	15.7	626.78	16.8	1.0
Travel & Leisure	140	490.55	0.5	0.5	-5.3	702.66	-4.0	1.7
Telecommunication	96	157.07	0.1	0.1	-2.1	341.88	2.1	4.5
Fixed Line Telecommuniations	42	120.24	-1.3	-1.3	-11.2	294.07	-6.7	5.6
Mobile Telecommunications	54	184.92	1.8	1.8	10.9	351.73	14.5	3.2
Utilities	191	312.90	-0.2	-0.2	-1.6	686.08	1.7	3.3
Electricity	131	351.64	-0.1	-0.1	-1.2	760.15	2.1	3.3
Gas Water & Multiutilities	60	313.95	-0.4	-0.4	-2.2	710.44	0.9	3.2
Financials	867	246.66	-0.2	-0.2	-6.8	447.50	-4.1	2.8
Banks	272	182.23	0.0	0.0	-14.7	362.88	-11.8	3.5
Nonlife Insurance	74	294.01	0.2	0.2	-4.8	461.55	-2.5	2.2
Life Insurance	54	226.99	-0.3	-0.3	-5.9	407.24	-2.3	3.4
Financial Services	209	403.04	-0.5	-0.5	8.9	593.03	10.9	1.8
Technology	312	501.44	-0.1	-0.1	39.5	642.95	40.8	0.9
Software & Computer Services	164	817.08	-0.1	-0.1	34.4	978.22	35.2	0.5
Technology Hardware & Equipment	148	406.63	0.0	0.0	46.2	556.21	48.5	1.3
Alternative Energy	11	223.63	0.1	0.1	76.7	317.84	79.3	0.7
Real Estate Investment & Services	161	354.55	0.6	0.6	-4.0	653.42	-0.9	2.7
Real Estate Investment Trusts	97	444.52	-0.5	-0.5	-10.3	974.58	-7.6	3.7
FTSE Global Large Cap	1739	630.41	1.1	1.1	11.1	999.50	13.4	1.9

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 www.ftse.com/geis. The trade names Fundamental Index® and RAFI® are registered trademarks and the patented and patent-pending proprietary intellectual property of Research Affiliates, LLC (US Patent Nos. 7,620,577; 7,747,502; 7,778,905; 7,792,719; Patent Pending Publ. Nos. US-2006-0149645-A1, US-2007-0055598-A1, US-2008-0288416-A1, US-2010- 0063942-A1, WO 2005/076812, WO 2007/078399 A2, WO 2008/118372, EPN 1733352, and HK1099110). "EDHEC™" is a trade mark of EDHEC Business School As of January 2nd 2006, FTSE is basing its sector indices on the Industrial Classification Benchmark - please see www.ftse.com/icb. For constituent changes and other information about FTSE, please see www.ftse.com. © FTSE International Limited. 2013. All Rights reserved. "FTSE®" is a trade mark of the London Stock Exchange Group companies and is used by FTSE International Limited under licence.

FTSE 100 SUMMARY

FTSE 100	Closing Price	Day's Change	FTSE 100	Closing Price	Day's Change
3I Group PLC	1136.5	3.50	Kingfisher PLC	270.10	9.80
Admiral Group PLC	2865	-5.00	Land Securities Group PLC	698.00	8.00
Anglo American PLC	2405	-38.00	Legal & General Group PLC	248.90	4.60
Antofagasta PLC	1416	5.00	Lloyds Banking Group PLC	35.73	1.66
Ashtead Group PLC	3348	48.00	London Stock Exchange Group PLC	8710	184.00
Associated British Foods PLC	2284	41.00	M&G PLC	189.40	2.85
Astrazeneca PLC	7692	-468.00	Melrose Industries PLC	163.00	8.15
Auto Trader Group PLC	574.00	15.00	Mondi PLC	1785	45.00
Avast PLC	504.00	10.80	Morrison (Wm) Supermarkets PLC	180.65	2.65
Aveva Group PLC	3170	-25.00	National Grid PLC	880.80	6.00
Aviva PLC	320.30	4.30	Natwest Group PLC	157.85	7.50
B&M European Value Retail S.A.	511.00	16.90	Next PLC	6746	360.00
Bae Systems PLC	504.00	1.40	Ocado Group PLC	2275	101.00
Barclays PLC	142.36	6.30	Pearson PLC	662.20	9.40
Barratt Developments PLC	605.60	22.20	Pennon Group PLC	947.20	10.20
Berkeley Group Holdings (The) PLC	4325	124.00	Persimmon PLC	2584	121.00
Bhp Group PLC	1940.4	-48.60	Phoenix Group Holdings PLC	707.40	4.00
BP PLC	269.75	-5.50	Polymetal International PLC	1615	-89.00
British American Tobacco PLC	2885.5	-31.50	Prudential PLC	1313	14.00
British Land Company PLC	482.20	6.60	Reckitt Benckiser Group PLC	6544	-90.00
Bt Group PLC	134.30	3.05	Relx PLC	1795	-25.50
Bunzl PLC	2479	17.00	Rentokil Initial PLC	500.80	5.10
Burberry Group PLC	1826.5	11.50	Rightmove PLC	653.00	9.00
Coca-Cola Hbc AG	2332	30.00	Rio Tinto PLC	5542	-4.00
Compass Group PLC	1449	-1.00	Rolls-Royce Holdings PLC	118.75	1.75
Crh PLC	2981	15.00	Royal Dutch Shell PLC	1309.4	-28.00
Croda International PLC	6404	20.00	Royal Dutch Shell PLC	1360.2	-34.60
Dcc PLC	5498	84.00	Rsa Insurance Group PLC	676.00	0.40
Diageo PLC	2994	-14.50	Sage Group PLC	586.00	9.20
Evraz PLC	455.30	5.90	Sainsbury (J) PLC	226.00	7.80
Experian PLC	2751	-12.00	Schroders PLC	3210	40.00
Ferguson PLC	8756	118.00	Scottish Mortgage Investment Trust PLC	1166	21.00
Flutter Entertainment PLC	15065	165.00	Segro PLC	908.80	4.20
Fresnillo PLC	1117.5	-8.50	Severn Trent PLC	2310	26.00
Glaxosmithkline PLC	1392.8	-20.40	Smith & Nephew PLC	1528	12.00
Glencore PLC	235.95	-1.30	Smith (Ds) PLC	372.20	10.90
Gvc Holdings PLC	1039.5	6.50	Smiths Group PLC	1588	26.50
Halma PLC	2363	24.00	Smurfit Kappa Group PLC	3446	36.00
Hargreaves Lansdown PLC	1444.5	-18.00	Spirax-Sarco Engineering PLC	11500	15.00
Hikma Pharmaceuticals PLC	2516	-4.00	Sse PLC	1444.5	44.00
Homeserve PLC	1090	13.00	St. James's Place PLC	1081	-4.00
HSBC Holdings PLC	403.40	2.80	Standard Chartered PLC	474.70	-0.60
Imperial Brands PLC	1564	-13.50	Standard Life Aberdeen PLC	278.50	3.60
Informa PLC	554.40	-1.40	Taylor Wimpey PLC	156.75	6.20
Intercontinental Hotels Group PLC	4679	-99.00	Tesco PLC	226.30	2.50
Intermediate Capital Group PLC	1593	-1.00	Unilever PLC	4363	-57.00
International Consolidated Airlines Group S.A.	156.95	0.70	United Utilities Group PLC	931.80	14.40
Intertek Group PLC	5790	-34.00	Vodafone Group PLC	131.16	0.18
Jd Sports Fashion PLC	790.60	38.80	Whitbread PLC	3105	24.00
Johnson Matthey PLC	2410	20.00	Wpp PLC	783.80	4.80
Just Eat Takeaway.Com N.V.	7948	22.00			

UK STOCK MARKET TRADING DATA

	Dec 14	Dec 11	Dec 10	Dec 09	Dec 08	Yr Ago
	-	-	-	-	-	-
Order Book Turnover (m)	239.02	45.33	45.33	64.27	76.34	85.19
Order Book Bargains	946523.00	1040275.00	1040275.00	1059366.00	892356.00	943328.00
Order Book Shares Traded (m)	1509.00	1861.00	1861.00	2034.00	1465.00	1491.00
Total Equity Turnover (£m)	6463.49	4911.81	4911.81	5344.52	5778.96	4177.17
Total Mkt Bargains	1180588.00	1262569.00	1262569.00	1324089.00	1223456.00	1162369.00
Total Shares Traded (m)	8083.00	7749.00	7749.00	10244.00	7668.00	7932.00

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

All data provided by Morningstar unless otherwise noted. All elements listed are indicative and believed accurate at the time of publication. No offer is made by Morningstar or the FT. The FT does not warrant nor guarantee that the information is reliable or complete. The FT does not accept responsibility and will not be liable for any loss arising from the reliance on or use of the listed information.
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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	
Blue Planet Investment Trust	Int			0.312	0.139	0.600	0.320	0.00000	0.00000	-	0.000	0.000
Botswana Diamonds	Pre	0.000	0.000	0.391L	0.772L	0.060L	0.140L	0.00000	0.00000	-	0.000	0.000
Equatorial Palm Oil	Pre	0.011	0.167	6.211L	15.131L	0.017L	0.042L	0.00000	0.00000	-	0.000	0.000
Hollywood Bowl Group	Pre	79.473	129.894	1.196	27.588	0.900	14.860	0.00000	5.16000	-	0.000	7.430
Miton UK MicroCap Trust	Int			13.979	9.994L	11.620	6.820L	0.00000	0.00000	-	0.099	0.200
Nakama Group	Int	3.139	4.767	0.099L	0.020	0.080L	0.010	0.00000	0.00000	-	0.000	0.000
RUA Life Sciences	Int	0.631	0.299	0.622L	0.239L	3.760L	1.080L	0.00000	0.00000	-	0.000	0.000
Schroder AsiaPacific Fund	Pre			144.361	15.263	85.670	8.030	8.00000	9.70000	Feb 8	8.000	9.700
Scottish Investment Trust (The)	Pre			64.507L	9.951	89.820L	10.570	6.10000	6.90000	Feb 12	11.800	12.200
Tertiary Minerals	Pre	0.176	0.190	2.498L	0.832L	0.380L	0.190L	0.00000	0.00000	-	0.000	0.000
Tungsten Corp	Int	18.013	18.161	30.487L	2.448L	24.180L	1.970L	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)
12/04	2.84	AIM	HE1	Helium One Global Ltd	6.70	-0.43	8.90	3.75	3329.2
11/03	20.00	AIM	VRCI	Verici Dx PLC	45.50	1.88	56.00	29.97	6449.5

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

MARKET DATA

FT500: THE WORLD'S LARGEST COMPANIES

Stock	Price	Day Chg	52 Week High	52 Week Low	Yld	P/E	MCap m
Australia (A$)							
ANZ♦	23.18	0.24	27.29	14.10	4.44	19.52	49619.99
BHPBilltn	42.74	-0.08	43.30	24.05	4.72	19.04	94888.52
CmwBkAu	83.92	1.53	91.05	53.44	5.06	21.05	112204.7
CSL	286.50	-5.03	342.75	242.67	1.01	43.27	98238.09
NatAusBk	23.55	0.22	27.49	13.20	6.15	24.16	58397.16
Telstra	3.03	-	3.94	2.66	3.25	20.12	27158.94
Wesfarmers	50.94	1.35	51.29	29.75	2.96	36.11	43529.05
Westpac♦	20.03	0.08	25.96	13.47	3.91	32.10	54520.41
Woolworths	39.17	0.26	43.96	32.12	2.59	43.15	37353.95
Belgium (€)							
AnBshInBv	57.60	0.39	75.26	29.03	2.23	117.82	118256.35
KBC Grp	60.34	0.34	73.56	33.44	1.65	17.12	30464.45
Brazil (R$)							
Ambev	15.35	-0.15	19.58	10.36	3.21	27.22	47219.83
Bradesco♦	23.78	0.09	32.45	14.05	0.98	8.22	20618.72
Cielo	3.81	-0.07	9.07	3.23	0.73	24.83	2023.62
ItauHldFin♦	27.51	-0.17	32.79	19.46	2.95	14.12	26666.63
Petrobras♦	28.14	0.13	33.23	10.50	1.75	-8.35	40943.62
Vale	84.03	-0.83	85.28	32.45	4.88	31.90	86812.45
Canada (C$)							
BCE♦	57.42	-1.13	65.28	46.03	5.64	23.13	40655.43
BkMontrl	96.96	-0.18	104.75	55.76	4.20	14.40	49078.42
BkNvaS	68.64	-0.07	75.26	46.38	5.07	12.62	65101.86
Brookfield	52.63	-0.52	60.48	31.35	1.19	387.10	64896.63
CanadPcR	433.21	0.79	444.49	252.00	0.78	26.09	45553.22
CanImp	111.33	-0.20	112.37	67.52	5.04	13.38	38955.29
CanNatRs	31.60	-0.36	42.57	9.80	5.14	-65.47	29219.02
CanNatRy♦	140.76	-0.06	149.11	92.01	1.58	29.96	78415.04
Enbridge	43.10	-0.45	57.32	33.06	7.24	45.58	68337.07
GtWestLif♦	29.30	-0.02	35.60	18.88	5.81	10.84	21281.13
ImpOil♦	24.83	-0.44	35.80	10.27	3.49	-42.01	14270.04
Manulife	22.67	-0.15	27.78	12.58	4.73	11.44	34421.22
Nutrien	63.21	0.51	64.98	34.80	3.75	282.60	28165.44
RylBkC	105.61	-0.76	109.42	72.00	3.90	14.03	117728.01
Suncor En	23.43	-0.32	45.12	14.02	5.49	-5.68	27978.42
ThmRtrs	102.93	-0.39	115.66	75.91	1.92	20.86	40047.67
TntoDom	71.99	0.11	76.10	49.01	4.11	14.42	102361.67
TrnCan	57.46	-0.48	76.58	47.05	5.45	12.33	42289.27
ValeantPh	30.80	-1.06	36.02	14.01	-	-4.20	8158.48
China (HK$)							
AgricBkCh	2.85	-0.01	3.50	2.38	7.49	4.59	11300.51
Bk China	2.63	-0.03	3.39	2.33	8.54	4.08	28368.86
BkofComm	4.15	-0.04	5.68	3.66	8.92	4.02	18742.55
BOE Tech	0.60	0.01	0.80	0.47	-	-4.03	15.40
Ch Coms Cons	3.68	-0.01	6.63	3.68	7.43	3.30	2097.41
Ch Evrbrght	2.97	0.02	3.97	2.40	8.43	4.37	48517.35
Ch Rail Cons	4.66	0.02	9.99	4.61	5.23	3.03	1248.08
Ch Rail Gp	3.44	-0.01	5.05	3.43	5.71	2.86	1866.99
ChConstBk	5.76	-0.05	6.85	4.93	6.51	5.06	178630.07
China Vanke	26.40	0.40	34.75	21.65	4.49	6.29	6448.29
ChinaCitic	3.28	-0.02	4.78	2.93	8.60	3.45	6296.64
ChinaLife	17.12	0.02	23.90	11.64	5.05	8.55	10432.79
ChinaMBank	48.55	0.55	53.25	29.80	2.90	11.53	28751.07
ChinaMob	44.20	-0.10	70.00	44.20	7.96	7.25	116740.97
ChinaPcIns	29.95	0.85	32.50	17.90	4.74	9.64	10721.93
ChinaShenhua	4.36	-	6.06	3.85	9.96	3.83	4679.42
ChMrchSecs	21.72	-0.22	26.04	13.10	-	19.89	24659.02
Chna Utd Coms	4.66	-0.01	6.24	4.64	1.28	26.78	21767.57
ChShpbldng	4.08	-0.03	5.60	3.98	-	-108.49	[illegible]
ChStConEng	5.09	-0.01	6.20	4.76	3.59	5.10	[illegible]
ChUncHK	4.34	-0.07	5.84	4.04	3.06	5.52	[illegible]
CNNC Intl	4.65	-0.02	5.19	4.02	2.59	14.00	11071.56
CSR	2.89	0.02	6.10	2.86	6.09	7.25	1629.49
Daqin	6.60	-0.17	8.26	6.32	7.19	9.40	15009.22
Gree Elec Apl	0.11	0.00	0.21	0.07	-	-0.04	4.62
GuosenSec	13.11	0.02	16.14	10.38	1.51	17.92	16444.12
HaitongSecs	6.63	0.04	9.58	5.79	-	6.15	2915.93
HngzhHikVDT	45.85	1.38	50.07	27.00	1.51	33.31	56776.95
Hunng Pwr	2.72	0.02	4.15	2.24	5.99	20.94	1649.18
IM Baotou Stl	1.17	-	1.39	1.04	-	-113.90	5669.27
Ind&CmBkCh	4.72	-0.06	6.11	3.96	6.53	5.10	52844.55
IndstrlBk	20.53	0.41	22.07	14.93	3.67	7.16	61599.54
Kweichow	1829	9.00	1875	960.10	0.92	52.12	351452.58
Midea	0.80	-	1.17	0.58	-	-2.07	22.19
New Ch Life Ins	30.80	-0.40	37.30	20.45	5.32	6.47	4108.5
PetroChina	2.41	0.03	4.23	2.16	6.26	20.35	6559.02
PingAnIns	93.55	0.85	101.00	69.00	2.63	11.55	89872.22
PngAnBnk	18.88	0.36	20.88	11.91	-	15.40	56043.81
Pwr Cons Corp	3.90	-0.01	4.88	3.40	1.01	8.55	6648.42
SaicMtr	24.37	0.57	28.80	16.90	3.57	13.42	43553.37
ShenwanHong	0.07	0.00	0.10	0.03	-	-0.23	74.54
ShgPdgBk	9.75	0.05	12.69	9.22	6.08	6.05	43776.36
Sinopec Corp	3.44	-0.03	4.85	2.95	6.53	9.26	11321.33
Sinopec Oil	2.15	-0.05	2.59	1.67	-	98.79	3960.59
Denmark (kr)							
DanskeBk	101.05	2.21	123.60	68.04	-	10.68	14194.97
MollerMrsk	13485	450.00	13610	4976	1.09	39.20	20724.2
NovoB	426.70	0.50	467.90	331.70	2.01	24.21	126012.57

Stock	Price	Day Chg	52 Week High	52 Week Low	Yld	P/E	MCap m
Finland (€)							
Nokia	3.27	-0.02	4.35	2.08	-	24.79	22430.72
SampoA	34.50	-0.21	42.46	21.34	4.33	15.96	23180.93
France (€)							
Airbus Grpe	92.05	-0.14	139.40	48.12	-	-11.56	87519.63
AirLiquide	136.20	0.70	144.45	94.86	1.98	28.60	78213.18
AXA	19.68	0.02	25.62	11.84	3.70	17.02	57844.69
BNP Parib	44.15	1.04	54.22	24.51	-	7.97	66904.24
ChristianDior	446.00	5.60	479.80	252.40	1.07	44.23	97614.22
Cred Agr	10.49	0.19	13.80	5.70	-	7.71	36673.34
Danone	52.46	0.04	75.16	46.03	-	18.06	43675.08
EDF	12.37	0.06	13.61	5.98	1.21	23.38	46494.73
Engie SA	12.53	0.19	16.80	8.63	-	-27.88	36983.7
EssilorLuxottica	129.55	1.35	145.00	86.76	-	-4325.60	68896.99
Hermes Intl	844.60	9.60	865.00	516.00	0.54	80.12	108111.56
LOreal	302.70	0.20	321.40	196.00	1.27	52.46	205483.06
LVMH	509.20	8.80	512.20	278.70	0.94	58.03	311640.56
Orange	10.00	0.09	13.55	8.63	4.99	10.22	32253.27
PernodRic	160.65	2.15	171.10	112.25	1.94	127.72	51010.58
Renault	35.74	0.65	43.99	12.77	-	-1.15	12813.29
Safran	119.30	-0.90	152.30	51.10	-	76.60	61800.38
Sanofi	77.85	-0.67	95.82	67.65	4.04	8.81	118837.93
Sant Gbn	38.54	-0.25	40.80	16.41	3.21	16.05	24892.25
Schneider	116.15	1.50	121.80	61.72	2.19	29.45	79861.55
SFR Group	34.50	-	34.56	21.87	-	-23.02	17905.81
SocGen	16.99	0.31	32.23	10.77	-	-20.80	17581.89
Total	36.60	-0.42	50.93	21.12	7.03	-19.15	117739.33
UnibailR	190.00	0.35	236.45	177.35	2.94	-7.05	22215.04
Vinci	84.96	0.38	107.35	54.76	2.40	29.76	63201.24
Vivendi	25.73	0.11	26.65	16.60	2.33	16.98	36998.56
Germany (€)							
Allianz	191.98	0.82	232.60	117.10	4.99	12.00	95972.11
BASF	63.90	0.79	69.80	37.36	5.14	-29.83	71162.77
Bayer	47.16	0.72	78.34	39.91	5.91	-2.91	56176.64
BMW	71.91	1.40	77.31	36.60	3.46	13.62	52488.63
Continental	110.00	-0.15	122.90	51.45	2.72	-15.04	26675.87
Daimler	56.37	0.86	58.44	21.02	1.59	1886.31	73122.12
Deut Bank	8.80	-0.02	10.37	4.45	-	-11.93	22040.01
Deut Tlkm	14.79	0.11	16.75	10.41	4.05	18.99	85386.86
DeutsPost	39.25	0.17	43.50	19.11	-	21.96	58846.3
E.ON	8.86	-	11.56	7.60	5.18	28.62	28368.69
Fresenius Med	67.78	0.16	81.10	53.50	1.76	15.15	25019.68
Fresenius SE	38.02	0.61	51.54	24.25	2.20	11.74	20841.12
HenkelKgaA	78.20	-0.05	87.75	54.65	2.34	19.25	24633.26
Linde	205.80	0.50	226.40	130.45	1.55	57.96	130969.16
MuenchRkv	238.40	5.60	284.20	141.10	4.10	27.44	40497.11
SAP	99.93	0.18	143.32	82.13	1.58	24.53	148852.28
Siemens	112.70	0.02	119.30	53.02	3.45	19.95	116151.76
Volkswgn	154.50	0.50	185.00	99.16	3.09	19.19	55279.7
Hong Kong (HK$)							
AIA	90.00	0.75	90.90	60.05	1.51	23.90	140409.04
BOC Hold	24.65	0.65	28.90	20.05	6.72	8.02	33618.06
Ch OSLnd&Inv	17.90	0.34	31.00	17.14	6.14	4.07	25295.07
ChngKng	42.95	-0.30	57.20	33.40	5.27	7.23	20462.4
Citic Ltd	5.56	-0.05	10.54	5.51	9.02	3.16	20863.54
Citic Secs	16.96	-	21.45	12.60	3.46	12.80	4984.34
CK Hutchison	55.05	-0.65	76.00	45.05	6.21	5.71	27383.44
CNOOC	7.19	0.24	14.04	6.24	11.74	6.62	41408.73
HangSeng	136.90	-0.70	173.80	110.00	6.22	12.18	33761.54
HK Exc&Clr	387.80	1.80	398.40	206.00	1.87	48.22	63421.69
MTR	42.55	-0.80	47.80	36.20	3.12	39.87	33922.95
SandsCh	34.45	0.05	45.45	25.15	3.09	133.43	35949.93
SHK Props	105.30	-	124.00	87.60	5.07	12.03	39360.49
Tencent	571.00	-17.00	633.00	325.20	0.23	45.10	706122.95
India (Rs)							
Bhartiartl	503.05	-1.35	612.00	361.75	0.41	-11.95	37307.28
HDFC Bk	1372.15	-10.65	1464.4	738.75	-	26.01	102713.87
Hind Unilevr	2370.75	-4.00	2614.3	1757.3	1.11	72.81	75720.79
HsngDevFin	2302.65	6.75	2499.9	1473.45	0.94	24.27	56327.72
ICICI Bk	525.80	10.35	552.20	268.30	-	24.37	49322.4
Infosys	1164.55	1.35	1186	509.25	1.55	26.50	67431.11
ITC	215.90	-0.40	247.90	134.60	4.83	18.84	36114.3
L&T	1249.65	55.35	1383.7	661.00	1.48	59.09	23853.21
OilNatGas	101.50	4.70	133.40	50.00	5.95	28.51	17358.02
RelianceIn	1991.3	-14.50	2369.35	867.40	0.34	30.84	183045.79
SBI NewA	274.20	1.75	339.85	149.45	-	10.16	33265.95
SunPhrmInds	576.25	8.15	591.50	312.00	0.71	91.39	18795.12
Tata Cons	2797.7	14.10	2885	1506.05	1.21	33.35	142709.23
Indonesia (Rp)							
Bk Cent Asia	22300	200.00	24700	16800	-	-	38879.26
Israel (ILS)							
TevaPha	33.93	-0.76	46.45	24.30	-	-2.78	11425.59
Italy (€)							
Enel	8.12	0.07	8.61	5.15	3.69	45.20	100120.96
ENI	8.68	-0.13	14.42	5.73	6.31	-3.20	37938.43
Generali	14.26	0.18	19.00	10.20	3.50	12.31	27250.41
IntSPaolo	1.94	0.00	2.63	1.31	-	10.25	45686.65
Unicred	7.69	-0.13	14.44	6.01	-	-6.83	20835.17

Stock	Price	Day Chg	52 Week High	52 Week Low	Yld	P/E	MCap m
Japan (¥)							
AstellasPh	1533	7.50	1987	0.00	2.72	20.07	27422.35
Bridgestne	3661	-5.00	4303	2861.5	3.69	14.72	25104.24
Canon	2075.5	32.50	3117	0.00	6.01	29.31	26597.1
CntJpRwy	14320	60.00	22570	0.00	0.99	103.12	28342.81
Denso	5746	-31.00	5919	0.00	2.48	-40.87	43500.49
EastJpRwy	6932	-57.00	10040	0.00	1.94	-10.13	25171.28
Fanuc	25855	-90.00	26420	0.00	0.75	79.65	50160.41
FastRetail	84300	270.00	88630	0.00	0.59	87.62	85914.77
Fuji Hvy Ind	2186	92.50	2945	1671.5	4.76	20.56	16155.05
Hitachi	4174	28.00	4693	0.00	2.37	20.19	38815.85
HondaMtr	3038	-26.00	3259	0.00	2.88	20.88	52873.95
JapanTob	2184	12.00	2555	0.00	7.16	13.15	41967.72
KDDI	2951	4.00	3451	2604	4.13	10.06	65330.84
Keyence	52060	20.00	54160	28905	0.39	67.60	121650.58
MitsbCp	2549	4.50	2952	0.00	5.38	9.05	36386.52
MitsubEst	1744	-0.50	2283	0.00	1.97	15.05	23313.57
MitsubishiEle	1531.5	37.50	1658	0.00	2.39	18.09	31595.3
MitsuiFud	2268	15.50	3035	1538	2.02	12.94	21034.39
MitUFJFin	450.10	2.30	603.00	380.00	5.75	18.52	58736.15
Mizuho Fin	1337	6.00	1716	1084	5.83	29.63	32618.92
Murata Mfg	8797	77.00	9293	0.00	1.21	28.83	57118.86
NipponTT	2667	65.00	2908	2127	3.71	11.34	99955.84
Nissan Mt	559.30	5.20	680.80	311.20	1.86	-2.19	22681.07
Nomura	544.40	-6.50	586.40	367.40	4.67	7.08	16913.44
Nppn Stl	1337.5	-12.00	1781.5	0.00	5.93	4.40	12212.29
NTTDCMo	3880	-	3928	2678	3.21	20.23	120360.14
Panasonic	1168.5	7.50	1264	691.70	2.67	15.79	27546.01
Seven & I	3623	23.00	4419	2937.5	2.65	18.20	30856.83
ShnEtsuCh	17030	-25.00	18025	8751	1.34	22.76	68176.09
Softbank	8088	175.00	8900	2609.5	0.57	-9.98	162398.32
Sony	9783	-75.00	9925	0.00	0.52	12.87	118533.22
SumitomoF	3151	50.00	4145	2507.5	6.24	19.71	41598.77
Takeda Ph	3885	15.00	4526	2894.5	4.71	107.69	58841.93
TokioMarine	5331	53.00	6317	4167	3.71	14.56	35956.59
Toyota	7952	132.00	8026	0.00	2.88	13.41	249302.05
Mexico (Mex$)							
AmerMvl	14.21	-0.03	16.82	12.33	2.38	14.14	32301.4
FEMSA UBD	157.78	5.80	185.00	112.72	1.79	326.12	16912.75
WalMrtMex♦■	56.37	-0.63	62.71	47.76	0.92	32.74	48820.16
Netherlands (€)							
Altice	4.40	-0.01	6.86	2.26	-	-3.99	5721.6
ASML Hld	376.00	2.15	389.45	177.52	0.64	47.48	194058.79
Heineken	91.98	1.04	105.00	68.82	1.82	57.23	64239.3
ING	7.91	-0.01	11.26	4.23	-	17.64	37392
Unilever	47.84	-0.38	55.39	38.42	-	-	167498.52
Norway (Kr)							
DNB	163.55	1.05	178.10	94.26	-	13.60	28732.42
Equinor	146.85	3.10	187.20	95.20	5.47	-15.96	54024.17
Telenor	153.40	1.55	171.90	130.75	5.33	20.23	24326.12
Qatar (QR)							
QatarNtBk	18.32	0.09	21.25	15.71	3.37	14.00	46473.83
Russia (RUB)							
Gzprm neft	185.71	-3.02	272.68	158.17	9.34	10.45	58976.64
Lukoil	4745.5	-157.00	6810	3663	7.64	12.47	44107.51
MmcNrlskNckl	20150	-66.00	23656	13352	11.57	14.96	42774.79
Novatek	973.20	-3.20	1382.2	682.80	3.05	46.54	39639.58
Rosneft	324.00	-11.00	489.90	229.80	10.77	12.36	46063.6
Sberbank	188.91	-2.03	270.80	172.15	9.07	5.92	54705
Surgutneftegas	35.13	-0.76	54.89	24.06	1.93	2.10	16833.73
Saudi Arabia (SR)							
AlRajhiBnk	73.60	0.30	74.80	51.00	2.10	18.27	49048.35
NatnlcombnK	42.55	0.15	50.70	30.50	2.91	11.22	34027.29
SaudiBasic	97.90	0.80	100.00	61.90	3.89	-104.43	78290.76
SaudiTelec	106.00	-	109.40	72.30	3.89	19.20	56512.24
Singapore (S$)							
DBS♦	25.45	0.39	26.47	16.65	4.51	13.73	48430.67
JardnMt US$	55.95	0.45	58.95	37.37	3.31	-99.84	40555
JardnStr US$	25.83	0.09	33.50	17.81	1.48	-30.34	28630.19
OCBC	10.13	0.18	11.23	7.80	4.37	14.36	33931.58
SingTel♦	2.35	0.04	3.42	2.00	5.25	22.89	28734.58
UOB	22.92	0.15	27.00	17.28	4.95	10.37	28710.1
South Africa (R)							
Firstrand	50.29	0.50	66.19	31.13	5.52	17.77	18767.66
MTN Grp	66.04	5.41	89.78	26.25	7.76	7.77	8278.56
Naspers N	3091.39	-85.43	3499.45	1843.8	0.25	27.40	89569.03
South Korea (KRW)							
HyundMobis	258000	15000	268500	126000	1.14	14.19	22463.12
KoreaElePwr	23900	100.00	28700	15550	-	-17.03	14053.53
SK Hynix	117000	1500	121000	65800	0.84	35.80	78018.11
SmsungEl	73800	400.00	74500	42300	1.88	23.60	403544.7
Spain (€)							
BBVA	4.03	0.06	5.34	2.13	6.43	-44.92	32565.69
BcoSantdr	2.62	0.05	3.96	1.50	3.81	-5.37	52852.25
CaixaBnk	2.23	0.03	2.94	1.50	3.13	13.19	16173.09
Iberdrola	11.29	0.04	11.57	7.76	3.53	20.50	86888.52
Inditex	27.45	1.05	32.28	18.51	0.79	47.45	103732.21
Repsol	8.62	-0.16	14.54	5.04	10.59	-1.71	15964.01
Telefonica	3.53	-0.02	6.86	2.71	11.10	70.79	22780.62

Stock	Price	Day Chg	52 Week High	52 Week Low	Yld	P/E	MCap m
Sweden (SKr)							
AtlasCpcoB	372.80	-0.10	393.30	223.20	1.73	31.42	17285.78
Ericsson	99.38	-0.67	110.15	59.54	1.46	23.64	36281.12
H & M	183.00	1.05	214.35	98.13	2.57	105.35	31762.04
Investor	587.20	1.60	604.60	370.10	2.14	5.89	31780.73
Nordea Bk	73.17	0.27	86.73	48.00	-	12.85	35211.74
SEB	88.50	-	104.90	59.80	-	12.09	22819.77
SvnskaHn	82.98	-0.50	113.80	71.70	-	10.87	19175.56
Swedbank	155.96	0.98	162.70	99.14	-	14.08	20978.11
Telia Co	34.58	-0.03	42.41	30.29	5.83	47.60	16804.05
Volvo	192.30	0.50	207.90	95.00	-	24.07	36156.47
Switzerland (SFr)							
ABB	23.88	0.01	25.50	14.11	3.19	113.43	58262.96
CredSuisse	11.12	0.01	13.80	6.18	1.24	7.30	30629.55
Nestle	99.70	-0.92	112.62	83.37	2.74	21.12	323227.02
Novartis	81.26	-0.30	96.38	65.09	3.43	28.73	225593.18
Richemont	77.34	0.84	81.66	44.64	1.29	182.87	45430.12
Roche	304.25	-1.40	357.85	265.75	2.99	20.13	240538.68
Swiss Re	80.58	0.62	117.05	52.68	7.20	-18.09	28789.66
Swisscom	475.90	0.60	577.80	446.70	4.61	14.92	27741.57
Syngent	453.40	0.90	471.20	402.50	-	28.99	43035.76
UBS	12.44	0.03	13.50	7.00	2.66	8.94	54000.3
Zurich Fin	357.00	-0.70	439.90	248.70	5.59	17.01	60444.81
Taiwan (NT$)							
Chunghwa Telecom	108.50	-	120.00	103.00	3.90	25.44	29899.92
Formosa PetChem	94.50	0.10	104.50	66.10	3.07	210.25	31978.84
HonHaiPrc	87.70	-0.60	101.50	65.70	4.69	11.54	43189.46
MediaTek	702.00	-3.00	763.00	273.00	2.86	41.33	39653.64
TaiwanSem	508.00	-4.00	525.00	235.50	1.92	27.63	467944.32
Thailand (THB)							
PTT Explor	42.25	-	47.75	23.60	5.04	29.81	40132.44
United Arab Emirates (Dhs)							
Emirtestele	17.26	0.04	17.32	11.04	4.77	16.27	40865.7
United Kingdom (p)							
AscBrFd	2284	41.00	2730	1554	1.50	39.65	24078.62
AstraZen	7692	-468.00	10120	5871	2.82	52.34	129722.68
Aviva	320.30	4.30	430.20	205.70	2.97	5.83	17117.51
Barclays	142.36	6.30	192.99	73.04	-	12.39	32348.29
BP	269.75	-5.50	508.43	188.52	10.42	-3.26	71593.31
BrAmTob	2885.5	-31.50	3507	2362.5	5.34	10.42	71640.87
BSkyB	1727.5	1.50	1740	893.50	0.76	36.60	38843.72
BT	134.30	3.05	209.20	94.68	3.44	8.84	17744.33
Compass	1449	-1.00	1995.5	865.80	2.76	22.33	31733.28
Diageo	2994	-14.50	3297	2050.6	2.33	49.98	100369.29
GlaxoSmh♦	1392.8	-20.40	1857	1284	5.74	11.02	91212.31
Glencore	235.95	-1.30	258.30	109.76	3.39	-11.66	45322.82
HSBC	403.40	2.80	602.90	281.50	1.93	-47.41	107706.5
Imperial Brands	1564	-13.50	2072	1142	13.21	17.32	19863.43
LlydsBkg	35.73	1.66	73.66	23.59	-	21.02	34291
Natl Grid	880.80	6.00	1073.8	789.13	5.43	24.07	39369.66
Natwest Group	157.85	7.50	265.00	90.54	-	24.66	25152.51
Prudential	1313	14.00	1509	682.80	2.82	32.32	45237.42
ReckittB	6544	-90.00	8191.3	5130	2.67	-16.92	61366.49
RELX	1795	-25.50	2109	1382.86	2.55	27.36	46183.26
RioTinto	5542	-4.00	5635	2954	5.52	15.54	98981.63
RollsRoyce	118.75	1.75	245.64	34.59	1.33	-1.15	2941.02
RylDShlA	1360.2	-34.60	2338.59	878.10	7.08	-8.18	83268.2
Shire#	4690	111.00	4780	2944	0.58	11.63	56567.13
StandCh	474.70	-0.60	739.40	334.25	-	23.69	20840.05
Tesco	226.30	2.50	260.40	202.00	4.04	21.39	24673.85
Vodafone	131.16	0.18	158.50	92.76	5.84	-47.35	46588.2
WPP	783.80	4.80	1085.5	450.00	2.90	-4.21	13214.97
United States of America ($)							
21stC Fox A	29.26	-0.06	39.74	19.81	1.62	10.72	9912.85
3M	174.70	0.68	182.55	114.04	3.45	19.88	100770.78
AbbottLb	108.04	1.02	115.14	61.61	1.33	55.79	191477.08
Abbvie	106.27	-0.07	109.15	62.55	4.47	22.24	187616.91
Accenture	246.92	1.09	253.93	137.15	1.29	31.47	163247.49
Adobe	486.93	11.02	536.88	255.13	-	61.66	233588.65
AEP	83.03	0.27	104.97	65.14	3.47	20.88	41215.04
Aetna	-	-	-	-	-	-	-
Aflac	44.68	-0.16	54.04	23.07	2.56	6.81	31385.25
AirProd	266.91	-0.45	327.89	167.43	2.02	28.73	59000.21
Alexion	158.48	37.50	160.03	72.67	-	35.95	34682.62
Allergan	193.02	0.03	202.22	114.27	1.54	-25.19	63659.11
Allstate	104.99	0.56	125.92	64.13	2.08	7.18	31924.1
Alphabet	1772.83	-1.98	1843.83	1008.87	-	33.28	532988.9
Altria	43.12	0.12	51.78	30.95	8.08	107.33	80125.74
Amazon	3186.88	70.46	3552.25	1626.03	-	90.47	1599020.81
AmerAir	17.01	-0.04	30.78	8.25	1.21	-1.20	10289.58
AmerExpr	116.87	-3.36	138.13	67.00	1.14	28.08	94103.95
AmerIntGrp♦	38.11	-0.68	56.42	16.07	3.46	-6.36	32832.75
AmerTower	219.57	-0.25	272.20	174.32	2.03	50.39	97535.93
Amgen	230.48	3.08	264.97	177.05	2.79	18.03	134178.22
Anadarko	72.77	0.56	76.23	40.40	1.50	-63.37	36563.54
Anthem♦	311.81	0.41	338.20	171.03	1.21	15.61	77548.49
Aon Cp	205.21	1.10	238.19	143.93	0.88	25.67	46914.36
Apple	122.96	0.55	137.98	53.15	0.67	36.39	2090541.57
ArcherDan	49.38	-0.43	52.05	28.92	2.98	17.00	27474.49

Stock	Price	Day Chg	52 Week High	52 Week Low	Yld	P/E	MCap m
AT&T	30.73	-0.28	39.55	26.08	6.97	19.76	218981.98
AutomData♦	174.42	0.89	182.32	103.11	2.15	29.40	74791.59
Avago Tech	409.14	3.32	426.70	155.67	3.07	75.66	165497.67
BakerHu	22.08	0.09	31.26	20.09	3.24	-1.40	11412.93
BankAm♦	28.41	-0.17	35.72	17.95	2.61	13.65	245725.68
Baxter	79.73	0.39	95.19	69.10	1.20	43.73	40727.55
BectonDick	244.58	1.89	286.72	197.75	1.38	80.19	70935.87
BerkshHat	337333.75	-2730.25	352500	239440	-	14.86	218991.67
Biogen	248.11	6.68	374.99	223.25	-	7.94	38179.56
BkNYMeln	40.12	-0.12	51.60	26.40	3.18	8.58	35551.77
BlackRock	690.40	-4.80	721.82	323.98	2.12	22.27	105293.39
Boeing	233.39	3.06	351.07	89.00	1.81	-28.75	131752.76
Booking Holdings	2072.62	-16.59	2170.03	1107.29	-	60.61	84883.97
BrisMySq	60.39	-0.33	68.34	45.76	3.07	-195.42	136635.01
CapOne	90.55	-1.62	107.59	38.00	1.48	42.67	41417.31
CardinalHlth	54.20	-0.08	60.69	39.05	3.68	16.55	15903.39
Carnival	21.46	0.14	51.94	7.80	4.64	-2.07	15459.8
Caterpillar	180.46	1.17	183.81	87.50	2.35	29.01	98036.39
Celgene	108.24	0.11	110.70	58.59	-	12.71	77035.98
CharlesSch	50.64	1.21	51.81	28.00	1.44	22.76	91010.83
Charter Comms	650.54	-1.22	681.71	345.67	-	50.24	130026.77
Chevron Corp	90.06	-2.40	122.72	51.60	5.79	-14.24	168161.81
Chubb	152.85	-0.89	167.74	87.35	2.06	29.44	68991.98
Cigna	206.52	-2.84	224.96	118.50	0.02	14.05	74607.11
Cisco	44.51	0.19	50.28	32.40	3.24	16.62	188077.65
Citigroup	59.21	0.28	83.11	32.00	3.55	11.23	123262.42
CME Grp♦	178.88	-1.39	225.36	131.80	1.90	28.94	64215.68
Coca-Cola♦	53.42	0.07	60.13	36.27	3.14	26.87	229547.47
Cognizant	79.07	0.56	81.11	40.01	1.12	28.43	42274.07
ColgtPlm	84.53	-0.15	86.41	58.49	2.12	26.22	72456.48
Comcast	50.91	-0.02	52.49	31.71	1.82	22.16	232448.89
ConocPhil	42.76	-0.72	67.13	20.84	4.05	-37.40	45870.43
Corning♦	37.07	1.43	38.44	17.44	2.39	138.41	28319.71
Costco	374.77	-0.33	393.15	271.28	0.72	41.78	166006.33
CrownCstl♦	157.00	0.65	180.00	114.18	3.15	95.26	67713.72
CSX♦	90.04	-0.39	93.71	46.81	1.17	24.28	68860.34
CVS	70.77	-0.82	76.44	52.04	2.91	11.36	92625.26
Danaher	222.55	-1.20	248.32	119.60	0.33	50.48	158094.51
Deere	256.40	0.63	265.87	106.14	1.20	29.45	80349.29
Delphi	17.02	0.31	18.51	5.39	-	-7.42	1469.67
Delta	41.42	-0.32	62.48	17.51	2.00	-2.42	26414.95
Devon Energy♦	15.62	-0.55	26.98	4.70	2.64	-2.31	5973.17
DiscFinServ	82.12	-1.34	87.43	23.25	2.21	24.46	25169.51
Disney	171.29	-4.43	179.45	79.07	0.55	-182.68	310114.36
DominRes♦	74.72	-0.19	90.89	57.79	5.15	27.17	60958
DowDupont♦	30.52	-0.65	48.38	30.06	3.83	-7.69	68559.76
DukeEner♦	92.26	0.72	103.79	62.13	4.24	32.69	67895.86
Eaton	114.87	-0.73	123.67	56.42	2.60	32.80	45787.18
eBay♦	50.43	1.30	61.06	26.02	1.27	14.70	34763.34
Ecolab	219.23	-1.54	231.36	124.60	0.88	51.92	62578.15
Emerson	81.52	-0.90	83.14	37.75	2.63	23.64	48715.69
EOG Res	52.57	-1.03	89.54	27.00	2.60	-96.30	30668.2
EquityResTP	58.14	-0.80	87.53	45.43	4.21	22.14	21642.8
Exelon	41.54	0.35	50.54	29.28	3.74	16.59	40520.4
ExpScripts	92.33	-3.47	101.73	66.93	-	11.10	52061.19
ExxonMb	42.55	-1.26	71.37	30.11	8.43	52.95	179890.22
Facebook	276.34	2.79	304.67	137.10	-	30.56	664301.48
Fedex	291.03	1.56	305.66	88.69	0.96	55.14	76422.94
FordMtr	8.92	-0.11	9.58	3.96	3.47	-216.38	34836.03
Franklin	24.04	-0.29	27.60	14.91	3.59	10.88	12130.38
GenDyn	153.07	1.74	190.08	100.55	2.85	13.47	43926.83
GenElectric	10.95	-0.21	13.26	5.48	0.38	27.26	95920.61
GenMills	59.87	0.55	66.14	46.59	3.26	16.10	36600.56
GenMotors	41.71	-0.22	46.71	14.33	2.95	36.85	59692.68
GileadSci♦	59.92	-0.84	85.97	57.04	4.59	59.36	75111.41
GoldmSchs	238.29	-1.70	250.46	130.85	2.16	13.33	81987.91
Halliburton♦	19.27	-0.57	25.47	4.25	2.41	-3.76	17030.4
HCA Hold	160.87	3.30	165.24	58.38	0.53	15.81	54434.34
Hew-Pack	23.45	0.34	23.93	12.54	2.98	12.98	30235.52
HiltonWwde	104.51	-0.24	116.73	44.30	0.30	-88.22	28994.53
HomeDep	266.37	1.82	292.95	140.63	2.18	24.02	286774.15
Honywell	215.11	0.48	216.70	101.08	1.72	29.96	150939.63
HumanaInc	390.23	-0.91	474.70	208.25	0.64	12.13	51642.94
IBM	125.25	0.98	158.75	90.56	5.35	13.77	111607.67
IllinoisTool	202.74	-0.82	224.69	115.94	2.21	29.87	64171.32
Illumina	348.47	6.46	404.20	196.78	-	78.49	50876.62
Intcntl Exch	108.91	0.09	110.71	63.51	1.11	29.13	61126.61
Intel	50.75	1.02	69.29	43.61	2.65	9.68	207973.5
Intuit	367.11	2.79	380.50	187.68	0.59	52.29	96455.31
John&John	151.14	-1.81	157.00	109.16	2.67	23.07	397882.5
JohnsonCn	45.48	-0.07	47.58	22.78	2.46	43.51	32923.33
JPMrgnCh	119.40	-0.16	141.10	76.91	3.11	15.13	363955.45
Kimb-Clark	137.02	1.02	160.16	110.66	3.19	19.31	46605.53
KinderM	14.27	-0.48	22.58	9.42	7.40	277.04	32304.34
Kraft Heinz♦	34.35	0.28	36.37	19.99	4.80	-83.37	41997.06
Kroger	31.54	0.20	37.22	26.72	2.06	9.48	24422.2
L Brands	39.12	-0.42	42.17	8.00	2.33	-13.48	10879.61
LasVegasSd	56.84	0.09	74.29	33.30	2.83	-55.74	43415.99
LibertyGbl	24.51	0.59	25.17	15.24	-	-8.04	4443.98
Lilly (E)	160.45	0.41	170.75	117.06	1.84	25.54	153483.52
Lockheed♦	360.88	-0.83	442.53	266.11	2.74	14.97	100968.36

Stock	Price	Day Chg	52 Week High	52 Week Low	Yld	P/E	MCap m
Lowes	161.61	3.79	180.67	60.00	1.38	21.10	118415.34
Lyondell	88.15	-0.36	95.82	33.71	4.91	24.11	29433.3
Marathon Ptl	41.22	-1.69	62.14	15.26	5.67	-2.61	26819.82
Marsh&M	116.00	0.56	120.97	74.34	1.62	28.30	58834.11
MasterCard	334.29	6.87	367.25	199.99	0.47	48.73	330430.84
McDonald's♦	212.86	5.10	231.91	124.23	2.42	31.55	158604.32
McKesson♦	174.13	-0.53	187.67	112.60	0.98	13.14	27959.08
Medtronic	112.58	0.20	122.15	72.13	1.98	34.04	151528.2
Merck	81.49	-0.82	92.64	65.25	3.08	17.46	206172.51
Metlife	46.42	-0.77	53.28	22.85	3.99	7.34	41775.61
Microsoft	216.15	2.89	232.86	132.52	0.97	33.85	1634201.2
Mnstr Bvrg	88.67	0.65	89.49	50.06	-	38.78	46810.38
MondelezInt	57.51	0.11	59.96	41.19	2.10	26.33	82241.51
Monsanto	-	-	-	-	-	-	-
MorganStly	62.62	-0.70	65.43	27.20	2.30	10.27	113291.99
MylanNV	15.86	0.31	23.11	12.75	-	29.73	8586.21
Netflix	521.34	18.12	575.37	290.25	-	81.77	230325.41
NextEraE♦	74.30	0.50	83.34	43.70	1.89	36.43	36389.8
Nike	137.88	0.47	140.57	60.00	0.71	82.03	173013.1
NorfolkS	231.58	-3.68	247.98	112.62	1.67	28.97	63522.44
Northrop	300.08	-0.49	385.01	263.31	1.90	19.86	50028.13
NXP	156.03	-1.08	167.27	58.41	0.99	-291.29	43647.93
Occid Pet♦	19.72	-1.18	47.58	8.52	8.36	-1.20	18358.8
Oracle	61.17	0.56	62.60	39.71	1.56	19.40	184176.02
Pepsico	145.21	0.24	147.20	101.42	2.81	27.92	200673.9
Perrigo♦	47.27	-0.54	63.86	40.01	1.93	-917.72	6451.94
Pfizer	39.80	-1.32	43.08	26.41	3.88	24.93	221224.18
Phillips66	67.57	-1.95	114.95	40.04	5.49	-10.60	29512.4
PhilMorris	85.20	0.20	90.17	56.01	5.69	16.74	132683.32
PNCFin	141.86	-1.80	161.79	79.41	3.34	18.69	60106.23
PPG Inds	142.53	-0.40	149.88	69.77	1.50	30.48	33666.22
Praxair♦	164.50	-0.99	169.75	140.00	2.29	39.25	47306.22
ProctGmbl	136.54	0.03	146.92	94.34	2.32	25.35	338565.39
Prudntl♦	77.43	-1.15	97.24	38.62	5.72	-250.58	30662.28
PublStor♦	223.47	5.41	240.75	155.37	3.69	33.43	39067.5
Qualcomm♦	144.48	0.20	161.07	58.00	1.81	31.03	163406.88
Raytheon	116.96	-5.47	233.48	103.00	2.98	10.60	32566.46
Regen Pharm	498.11	18.34	664.64	328.13	-	17.73	52230.47
S&P Global	326.42	1.60	379.87	186.06	0.81	31.75	78536.65
Salesforce	221.68	-0.74	284.50	115.29	-	87.40	202837.2
Schlmbrg♦	22.35	-0.59	41.14	11.87	5.76	-2.86	31111.87
Sempra Energy	128.52	0.52	161.87	88.00	3.29	19.23	37074.2
Shrwin-Will	724.39	5.78	758.00	325.43	0.73	34.19	65792.36
SimonProp	86.99	-0.91	149.89	42.25	6.51	19.19	28543.84
SouthCpr	59.26	-0.50	61.34	23.43	2.43	34.66	45812.32
Starbucks	103.80	0.80	106.09	50.02	1.65	85.99	121342.2
StateSt	71.20	-1.60	85.89	42.10	3.02	11.01	25119.2
Stryker	232.99	0.79	242.51	124.54	1.02	49.07	87555.47
Sychrony Fin	31.74	-0.53	38.18	12.15	2.86	14.01	18529.56
T-MobileUS	130.49	-0.74	134.24	63.50	-	47.81	161962.46
Target	171.24	-0.47	181.17	90.17	1.56	24.43	85753.64
TE Connect	118.88	0.80	120.18	48.62	1.63	-147.96	39318.68
Tesla Mtrs	634.94	24.95	654.32	70.10	-	1171.90	601863.22
TexasInstr	161.83	1.22	167.24	93.09	2.29	29.70	148550.57
TheTrvelers♦	134.39	-0.56	141.87	76.99	2.56	14.93	34042.16
ThrmoFshr♦	469.08	-2.09	532.57	250.21	0.19	37.33	185912.91
TimeWrnr	98.77	0.82	103.89	85.88	1.54	15.09	77269.69
TJX Cos	66.00	-0.06	66.95	32.72	1.06	116.16	79241.66
Truist Financial Corp	46.17	-0.85	56.92	24.01	4.02	15.51	62235.88
UnionPac♦	201.25	-1.81	211.14	105.08	1.99	24.89	135614.56
UPS B	169.40	1.00	178.01	82.00	2.51	31.25	121157.68
USBancorp	45.14	-0.71	61.11	28.36	3.83	14.51	67993.09
UtdHlthcre♦	339.50	2.43	367.95	187.72	1.41	18.93	322124.63
UtdTech♦	86.01	-5.36	158.44	69.02	2.69	144.88	74498.84
ValeroEngy	57.12	-1.91	98.03	31.00	6.92	-924.25	23292.92
Verizon	60.43	0.08	62.22	48.84	4.21	13.27	250044.35
VertexPharm	232.82	8.65	306.08	197.47	-	22.14	60542.02
VF Cp♦	86.15	-0.52	100.25	45.07	2.30	-348.47	33596.91
ViacomCBS♦	34.97	-0.63	43.04	10.10	2.83	15.79	19757.34
Visa Inc	209.44	3.20	217.65	133.93	0.59	36.95	355142.54
Walgreen	41.77	0.24	59.78	33.36	4.38	80.77	36085.18
WalMartSto♦	146.17	-0.83	153.66	102.00	1.49	22.98	413556.72
WellsFargo	28.79	-0.30	54.56	20.76	5.83	71.65	119011.28
Williams Cos♦	21.38	-0.56	24.17	8.41	7.61	109.22	25940.39
Yum!Brnds	106.13	0.14	107.70	54.95	1.78	30.04	32016.04
Venezuela (VEF)							
Bco de Vnzla	57000	1000.00	59990	1000.00	410.37	-	191.95
Bco Provncl	1000000	-	1000000	94000	-	-9.40	99.56
Mrcntl Srvcs	1000000	-	2000000	99999.93	0.04	-1.71	56.22

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 %
Alexion	158.48	120.98	37.50	31.00	39.65	33.4	24.11
Disney	171.29	175.72	-4.43	-2.52	17.61	11.5	23.93
Softbank	8088.00	7913.00	175.00	2.21	828.00	11.4	21.40
OilNatGas	101.50	96.80	4.70	4.86	9.95	10.9	40.68
Toyota	7952.00	7820.00	132.00	1.69	771.00	10.7	8.84
Lilly (E)	160.45	160.04	0.41	0.26	13.03	8.8	12.66
Occid Pet	19.72	20.89	-1.18	-5.62	1.53	8.4	67.29
KoreaElePwr	23900.00	23800.00	100.00	0.42	1800.00	8.1	11.94
L&T	1249.65	1194.30	55.35	4.63	79.95	6.8	18.84
Lowes	161.61	157.82	3.79	2.40	9.62	6.3	1.58
ITC	215.90	216.30	-0.40	-0.18	12.75	6.3	15.39
MollerMrsk	13485.00	13035.00	450.00	3.45	780.00	6.1	18.71
HonHaiPrc	87.70	88.30	-0.60	-0.68	4.80	5.8	7.74
BASF	63.90	63.11	0.79	1.25	3.15	5.2	5.19
Hind Unilevr	2370.75	2374.75	-4.00	-0.17	114.60	5.1	8.48
FEMSA UBD	157.78	151.98	5.80	3.82	7.22	4.8	12.69
HyundMobis	258000.00	243000.00	15000.00	6.17	11500.00	4.7	7.50
CmwBkAu	83.92	82.39	1.53	1.86	3.74	4.7	14.74
NipponTT	2667.00	2602.00	65.00	2.50	111.50	4.4	7.57
PhilMorris	85.20	85.00	0.20	0.24	3.52	4.3	12.25

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 %
RollsRoyce	118.75	117.00	1.75	1.50	-12.10	-9.2	-98.71
Ch Coms Cons	3.68	3.69	-0.01	-0.27	-0.36	-8.9	-14.78
ChMrchSecs	21.72	21.94	-0.22	-1.00	-2.12	-8.9	2.21
Qualcomm	144.48	144.28	0.20	0.14	-13.54	-8.6	0.17
Ch Rail Cons	4.66	4.64	0.02	0.43	-0.43	-8.4	-16.49
Telefonica	3.53	3.55	-0.02	-0.62	-0.32	-8.3	4.69
MTN Grp	66.04	60.63	5.41	8.92	-5.96	-8.3	-5.87
Deut Bank	8.80	8.82	-0.02	-0.25	-0.78	-8.1	-8.13
Hunng Pwr	2.72	2.70	0.02	0.74	-0.23	-7.8	-12.58
Carnival	21.46	21.32	0.14	0.63	-1.75	-7.5	34.07
GuosenSec	13.11	13.09	0.02	0.15	-1.04	-7.3	-1.87
EquityResTP	58.14	58.94	-0.80	-1.36	-4.57	-7.3	-3.18
Ch Rail Gp	3.44	3.45	-0.01	-0.29	-0.26	-7.0	-12.24
New Ch Life Ins	30.80	31.20	-0.40	-1.28	-2.20	-6.7	-0.32
StateSt	71.20	72.80	-1.60	-2.20	-4.76	-6.3	4.17
Sanofi	77.85	78.52	-0.67	-0.85	-4.97	-6.0	-9.27
GenMotors	41.71	41.92	-0.22	-0.51	-2.61	-5.9	1.19
AmerExpr	116.87	120.23	-3.36	-2.79	-7.07	-5.7	1.65
Pwr Cons Corp	3.90	3.91	-0.01	-0.26	-0.23	-5.6	0.78
ChShpbldng	4.08	4.11	-0.03	-0.73	-0.24	-5.6	-3.32

Based on the FT Global 500 companies in local currency

BONDS: HIGH YIELD & EMERGING MARKET

Dec 14	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-	112.88	1.73	0.05	-0.24	1.43
Brazil	04/26	6.00	-	Ba2	BB-	119.20	2.15	-0.04	-0.11	1.85
Poland	04/26	3.25	-	A2	A-	112.78	0.79	-0.01	-0.02	0.49
Mexico	05/26	11.50	-	Baa1	BBB-	148.50	2.01	0.00	-0.12	1.71
Turkey	10/26	4.88	-	B2	BB-	98.00	5.28	0.01	-0.07	4.98
Turkey	03/27	6.00	-	Ba2	BB+	101.26	5.82	0.00	0.17	3.07
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	171.32	2.35	-0.02	-0.05	-
Brazil	02/47	5.63	-	Ba2	BB-	118.50	4.42	-0.05	-0.03	-
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+	105.98	0.20	0.00	-0.02	0.08
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

Dec 14	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	121.70	0.93	0.00	0.02	-
The Goldman Sachs Group, Inc.	02/31	3.00	BBB+	A3	A	124.42	0.68	0.00	-0.11	-
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-	96.86	1.69	0.00	-0.02	1.39
£ Sterling										
innogy Fin B.V.	06/30	6.25	BBB	Baa2	A-	137.45	2.19	-0.03	0.02	-
innogy Fin B.V.	06/30	6.25	BBB	Baa2	A-	128.68	3.20	0.00	-0.01	0.40

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

INTEREST RATES: OFFICIAL

Dec 14	Rate	Current	Since	Last	Mnth Ago	Year Ago
US	Fed Funds	0.00-0.25	15-03-2020	1.00-1.25	1.50-1.75	1.25-1.50
US	Prime	4.75	30-10-2019	5.25	5.25	4.25
US	Discount	2.65	30-09-2019	2.75	2.75	1.75
Euro	Repo	0.00	16-03-2016	0.00	0.00	0.00
UK	Repo	0.10	19-03-2020	0.25	0.75	0.25
Japan	O'night Call	0.00-0.10	01-02-2016	0.00	0.00--0.10	0.00--0.10
Switzerland	Libor Target	-1.25-0.25	15-01-2015	-0.75--0.25	-1.25--0.25	-1.25--0.25

INTEREST RATES: MARKET

Dec 14 (Libor: Dec 11)	Over night	Change Day	Change Week	Change Month	One month	Three month	Six month	One year
US$ Libor	0.08325	0.000	-0.842	0.005	0.15863	0.21650	0.24875	0.33588
Euro Libor	-0.58386	-0.002	-0.158	0.006	-0.58200	-0.57229	-0.53557	-0.49657
£ Libor	0.04488	0.000	-0.179	-0.004	0.02100	0.03488	0.02463	0.08175
Swiss Fr Libor				0.016	-0.82860	-0.79240	-0.74600	-0.62360
Yen Libor				0.003	-0.09633	-0.10017	-0.05833	0.05467
Euro Euribor				0.019	-0.55400	-0.54300	-0.52000	-0.49900
Sterling CDs					-	-	-	-
US$ CDs					-	-	-	-
Euro CDs					-	-	-	-

Dec 14	Short term		7 Days notice		One month		Three month		Six month		One year	
Euro	-0.74	-0.44	-0.71	-0.41	-0.81	-0.51	-0.70	-0.40	-0.67	-0.37	-0.67	-0.37
Sterling			0.45	0.55	0.70	0.80	0.78	0.88	0.82	0.97	0.89	1.04
Swiss Franc	-	-	-	-	-	-	-	-	-	-	-	-
Canadian Dollar	-	-	-	-	-	-	-	-	-	-	-	-
US Dollar	0.07	0.37	-0.02	0.28	0.03	0.33	0.09	0.39	0.12	0.42	0.19	0.49
Japanese Yen	-0.15	0.05	-0.15	0.05	-0.60	-0.10	-0.30	0.00	-0.25	0.05	-0.20	0.10

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	225.29	0.10	0.78	8.54	1.24	10.33
Corporates(£)	408.19	0.18	1.52	8.46	3.65	8.72
Corporates($)	339.27	0.33	-0.20	8.89	-0.20	8.89
Corporates(€)	244.82	0.14	0.43	3.01	0.95	2.78
Eurozone Sov(€)	264.57	0.31	0.54	5.43	1.21	4.55
Gilts(£)	381.14	0.53	2.06	9.38	3.97	8.68
Global Inflation-Lkd	311.07	0.16	0.98	11.27	3.89	11.57
Markit iBoxx £ Non-Gilts	394.70	0.21	1.45	7.74	3.30	7.88
Overall ($)	283.86	0.28	-0.25	8.34	-0.25	8.34
Overall(£)	380.89	0.44	1.89	8.66	3.79	8.23
Overall(€)	254.87	0.25	0.49	4.44	1.09	3.75
Treasuries ($)	262.32	0.28	-0.31	8.31	-0.31	8.31
FTSE						
Sterling Corporate (£)	-	-	-	-	-	-
Euro Corporate (€)	104.47	-0.05	-	-	0.54	-1.73
Euro Emerging Mkts (€)	632.26	1.21	-	-	1.32	21.68
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	259.23	-7.80	15.93	-39.32	377.90	234.36
Europe 5Y	49.91	-1.12	2.49	-2.37	66.97	45.31
Japan 5Y	53.54	-0.18	0.21	-5.61	70.43	53.06
Senior Financials 5Y	61.43	-2.22	2.81	-4.97	86.20	54.75
Markit CDX						
Emerging Markets 5Y	165.60	2.00	7.27	-9.60	245.71	158.33
Nth Amer High Yld 5Y	304.87	2.79	14.26	-36.83	421.26	290.61
Nth Amer Inv Grade 5Y	53.89	0.86	4.01	-0.42	65.62	49.63

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

VOLATILITY INDICES

	Dec 14	Day Chng	Prev	52 wk high	52 wk low
VIX	23.33	0.02	23.31	85.42	11.71
VXD	22.35	-0.23	22.58	71.05	2.47
VXN	28.30	-0.70	29.00	84.67	13.58
VDAX	24.59	-0.60	25.19	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.

GILTS: UK CASH MARKET

Dec 14	Price £	Red Yield	Change in Yield Day	Week	Month	Year	52 Week High	52 Week Low	Amnt £m
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
Tr 1.5pc '21	100.21	-0.04	-20.00	-20.00	33.33	-105.97	101.22	100.21	32.84
Tr 4pc '22	105.06	0.00	-100.00	-100.00	-100.00	-100.00	107.91	105.06	38.77
Tr 5pc '25	121.22	0.02	-300.00	-300.00	-128.57	-96.00	124.55	121.22	35.84
Tr 1.25pc '27	107.17	0.16	33.33	23.08	166.67	-70.37	109.23	103.96	39.34
Tr 4.25pc '32	142.32	0.47	11.90	6.82	27.03	-43.37	148.26	137.84	38.71
Tr 4.25pc '36	151.90	0.67	9.84	4.69	17.54	-33.66	160.46	145.12	30.41
Tr 4.5pc '42	173.01	0.85	6.25	2.41	11.84	-26.72	186.37	162.55	27.21
Tr 3.75pc '52	178.71	0.89	7.23	2.30	12.66	-22.61	198.36	164.59	24.10
Tr 4pc '60	204.17	0.86	8.86	3.61	14.67	-21.82	231.12	186.33	24.12

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

COMMODITIES

www.ft.com/commodities

Energy		Price*	Change	Agricultural & Cattle Futures		Price*	Change
Crude Oil†	Dec	47.19	0.61	Corn♦	Mar	425.75	2.00
Brent Crude Oil‡		49.85	-0.13	Wheat♦	Mar	608.25	-8.50
RBOB Gasoline†	Dec	1.32	0.01	Soybeans♦	Jan	1171.50	10.00
Heating Oil†		-	-	Soybeans Meal♦	Jan	382.00	1.40
Natural Gas†	Dec	2.68	0.09	Cocoa (ICE Liffe)✠	Mar	1752.00	-35.00
Ethanol♦		-	-	Cocoa (ICE US)♥	Mar	2594.00	-34.00
Uranium†		-	-	Coffee(Robusta)✠	Jan	1350.00	13.00
Carbon Emissions‡		-	-	Coffee (Arabica)♥	Mar	123.40	2.50
Diesel†		-	-	White Sugar✠		390.20	-5.10
Base Metals (♠ LME 3 Months)				Sugar 11♥		14.34	-0.07
Aluminium		2049.00	17.00	Cotton♥	Mar	75.13	1.13
Aluminium Alloy		1860.00	0.00	Orange Juice♥	Jan	115.55	0.05
Copper		7752.00	-16.50	Palm Oil♣		-	-
Lead		2035.50	-21.50	Live Cattle♣	Dec	108.73	0.00
Nickel		17650.00	315.00	Feeder Cattle♣	Jan	134.88	-
Tin		19650.00	120.00	Lean Hogs♣	Feb	63.23	0.00
Zinc		2830.00	45.50				
Precious Metals (PM London Fix)					Dec 11	% Chg Month	% Chg Year
Gold		1842.00	-2.35				
Silver (US cents)		2381.50	-7.00	S&P GSCI Spt	392.38	7.66	-8.33
Platinum		1009.00	-29.00	DJ UBS Spot	74.90	1.57	-5.71
Palladium		2332.00	-30.00	TR/CC CRB TR	171.16	6.09	-11.95
Bulk Commodities				M Lynch MLCX Ex. Rtn	231.14	-9.84	-33.05
Iron Ore		154.50	-6.20	UBS Bberg CMCI TR	13.20	4.85	-4.74
GlobalCOAL RB Index		99.50	12.50	LEBA EUA Carbon	31.25	15.96	26.31
Baltic Dry Index		1235.00	24.00	LEBA CER Carbon	0.29	0.00	52.63
				LEBA UK Power	765.00	-66.52	-66.81

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

BONDS: INDEX-LINKED

	Price Dec 11	Yield Dec 11	Yield Prev	Month return	Value stock	Market	No of stocks
Can 4.25%' 21	105.02	-0.894	-0.860	0.23	5.18	89931.29	8
Fr 0.10%' 21	105.39	-1.141	-1.146	0.53	11.35	250811.95	15
Swe 0.25%' 22	109.75	-0.645	-0.573	0.18	26.51	201292.65	7
UK 1.875%' 22	110.67	-3.385	-3.351	0.66	15.74	818571.73	28
UK 2.5%' 24	362.63	-3.264	-3.241	1.20	6.82	818571.73	28
UK 2%' 35	310.21	-2.885	-2.862	2.80	9.08	818571.73	28
US 0.625%' 21	-	-	-	-	-	-	-
US 3.625%' 28	136.69	-1.151	-1.156	0.47	16.78	1651173.21	43

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	1.11	-	0.28	Netherlands	-0.73	-	-
Austria	-	-	-	New Zealand	0.89	-	0.06
Canada	0.70	-	-0.13	Norway	0.88	-	0.05
Denmark	-1.43	-	-2.26	Portugal	-0.41	-	-
Finland	-0.44	-	-1.27	Spain	-0.95	-	-1.78
Germany	-	-	-	Sweden	-1.50	-	-2.33
Ireland	-0.37	-	-1.20	Switzerland	-0.59	-	-1.42
Italy	-0.19	-	-1.02	United Kingdom	-	-	-
Japan	-0.02	-	-0.85	United States	0.83	-	0.00

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

BONDS: BENCHMARK GOVERNMENT

	Red Date	Coupon	Bid Price	Bid Yield	Day chg yield	Wk chg yield	Month chg yld	Year chg yld
Australia	11/22	2.25	104.17	0.09	0.01	-0.01	0.00	-0.62
	05/32	1.25	101.50	1.11	0.00	0.00	0.10	-
Austria	-	-	-	-	-	-	-	-
	02/47	1.50	140.60	-0.04	-0.05	-0.11	-0.07	-0.53
Belgium	09/22	1.00	102.94	-0.69	-0.02	-0.04	-0.06	-0.14
Canada	11/22	2.00	103.46	0.19	-0.01	-0.02	-0.02	-1.52
	06/30	1.25	105.00	0.70	-0.07	-0.09	0.01	-0.90
Denmark	11/22	0.25	101.75	-0.66	-0.02	-0.04	-0.03	0.01
	11/30	0.10	116.43	-1.43	-0.02	-0.05	-0.06	0.02
Finland	04/23	1.50	105.30	-0.75	0.00	-0.02	-0.02	-0.19
	04/31	0.75	112.59	-0.44	-0.03	-0.09	-0.06	-0.48
France	05/23	1.75	106.19	-0.75	-0.02	-0.05	-0.04	-0.17
	11/26	0.25	105.43	-0.64	-0.03	-0.07	-0.06	-0.39
Germany	-	-	-	-	-	-	-	-
	05/23	1.50	105.70	-0.83	-0.02	-0.07	-0.06	-0.19
	02/26	0.50	106.99	-0.82	-0.03	-0.07	-0.06	-0.29
	08/50	0.00	107.36	-0.24	-0.05	-0.12	-0.07	-0.44
Greece	02/26	3.65	119.14	0.53	-0.02	-0.05	-0.02	-0.88
Ireland	10/22	0.00	101.34	-0.72	-0.02	-0.05	-0.07	-0.24
	05/30	2.40	126.60	-0.37	-0.02	-0.08	-0.06	-0.44
	05/30	2.40	126.60	-0.37	-0.02	-0.08	-0.06	-0.44
Italy	08/22	0.90	102.24	-0.47	0.00	-0.03	-0.03	-0.56
	02/25	0.35	102.25	-0.19	-0.01	-0.08	-0.06	-0.84
	05/30	0.40	105.56	-0.19	0.02	0.00	-0.07	-0.79
	03/48	3.45	147.25	1.37	-0.01	-0.07	-0.06	-0.94
Japan	04/23	0.05	99.99	0.05	-0.01	-0.01	-0.01	-
	04/25	0.05	100.07	0.03	-0.01	-0.01	-0.02	-
	12/29	0.10	101.11	-0.02	0.00	-0.01	-0.01	-
	12/49	0.40	94.83	0.59	0.00	-0.03	-0.03	-
Netherlands	07/22	2.25	104.79	-0.75	-0.02	-0.03	-0.04	-0.11
	07/26	0.50	107.05	-0.73	-0.03	-0.07	-0.06	-0.33
New Zealand	04/25	2.75	110.48	0.31	-0.01	-0.02	0.02	-0.95
	05/31	1.50	106.02	0.89	-0.01	-0.02	0.03	-0.78
	05/31	1.50	106.02	0.89	-0.01	-0.02	0.03	-0.78
Norway	08/30	1.38	104.58	0.88	-0.03	-0.01	0.04	-
	08/30	1.38	104.58	0.88	-0.03	-0.01	0.04	-
Portugal	10/22	2.20	105.44	-0.73	-0.03	-0.04	-0.06	-0.40
	02/26	3.30	119.52	-0.41	-0.03	-0.07	-0.04	-0.54
Spain	10/22	0.45	101.97	-0.59	-0.02	-0.04	0.00	-0.29
	11/30	1.00	120.44	-0.95	0.00	-0.02	-0.08	-0.38
Sweden	06/22	0.25	109.75	-0.66	-0.07	-0.14	-0.16	1.24
	06/26	0.13	117.26	-1.47	-0.05	-0.13	-0.15	0.37
	06/30	0.13	116.92	-1.50	-0.05	-0.11	-0.05	-
Switzerland	05/22	2.00	104.13	-0.83	0.00	-0.04	-0.05	-0.08
	05/30	0.50	110.67	-0.59	-0.02	-0.07	-0.07	-0.04
United Kingdom	-	-	-	-	-	-	-	-
	07/22	0.50	100.99	-0.11	-0.01	-0.08	-0.10	-0.66
	07/26	1.50	108.85	-0.08	-0.02	-0.13	-0.11	-0.66
	07/47	1.50	119.26	0.70	-0.04	-0.22	-0.14	-0.57
United States	03/22	0.38	100.33	0.12	0.00	-0.02	-0.01	-
	03/25	0.50	100.87	0.30	-0.02	-0.05	0.00	-
	02/30	1.50	105.92	0.83	-0.01	-0.08	0.05	-
	02/50	0.25	118.06	-	-	-	-	-

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

GILTS: UK FTSE ACTUARIES INDICES

Price Indices Fixed Coupon	Dec 11	Day's chg %	Total Return	Return 1 month	Return 1 year	Yield
1 Up to 5 Years	89.55	0.04	2492.63	0.35	1.59	-0.11
2 5 - 10 Years	187.91	0.24	3843.50	1.59	4.68	0.07
3 10 - 15 Years	227.34	0.43	4962.79	2.83	7.32	0.36
4 5 - 15 Years	196.64	0.29	4115.79	1.97	5.51	0.16
5 Over 15 Years	407.25	0.90	6695.80	7.12	13.60	0.63
7 All stocks	195.61	0.50	4193.14	3.82	8.13	0.51

Index Linked	Dec 11	Day's chg %	Month chg %	Year's chg %	Total Return	Return 1 month	Return 1 year
1 Up to 5 Years	306.75	0.08	0.72	0.05	2534.13	1.03	1.63
2 Over 5 years	856.43	0.31	7.74	11.71	6475.56	7.83	12.11
3 5-15 years	527.97	0.22	3.65	4.83	4205.54	3.79	5.55
4 Over 15 years	1132.00	0.34	9.37	14.18	8333.93	9.44	14.46
5 All stocks	759.94	0.29	7.10	10.38	5851.94	7.21	10.92

Yield Indices	Dec 11	Dec 10	Yr ago		Dec 11	Dec 10	Yr ago
5 Yrs	-0.12	-0.10	0.47	20 Yrs	0.68	0.72	1.25
10 Yrs	0.22	0.26	0.80	45 Yrs	0.57	0.62	1.15
15 Yrs	0.52	0.56	1.11				

Real yield	inflation 0% Dec 11	Dur yrs	Previous	Yr ago	inflation 5% Dec 11	Dur yrs	Previous	Yr ago
Up to 5 yrs	-3.11	2.85	-3.07	-2.19	-3.46	2.85	-3.44	-2.66
Over 5 yrs	-2.39	24.19	-2.38	-1.89	-2.41	24.23	-2.40	-1.91
5-15 yrs	-3.02	9.51	-2.99	-2.38	-3.10	9.51	-3.08	-2.44
Over 15 yrs	-2.32	29.26	-2.31	-1.84	-2.33	29.26	-2.31	-1.85
All stocks	-2.40	22.40	-2.39	-1.90	-2.42	22.46	-2.41	-1.92

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

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

Fund	Bid	Offer	D+/-	Yield
Bridge Fund	£ 2.1896	-	-0.0213	1.72
Global Equity Fund	£ 3.0950	-	-0.0437	1.06
Global Fixed Interest Fund	£ 0.9941	-	-0.0004	4.15
Income Fund	£ 0.6377	-	-0.0039	2.46
Sterling Fixed Interest Fund	£ 0.9271	-	-0.0059	2.88
UK Equity Fund	£ 1.9787	-	0.0175	2.76

Aegon Asset Management UK ICVC (UK)
3 Lochside Crescent, Edinburgh, EH12 9SA
0800 358 3009 www.aegonam.com
Authorised Funds

Fund	Bid	Offer	D+/-	Yield
Global Equity GBP B Acc	£ 3.08	-	-0.06	0.00

Aegon Asset Management Investment Company (Ireland) (IRL)
1 North Wall Quay Dublin 1, Ireland +35 3162 24493
FCA Recognised

Fund	Bid	Offer	D+/-	Yield
Absolute Return Bond B GBP Acc	1158.29	-	2.42	1.61
High Yield Global Bond A GBP Inc	511.82	-	-0.11	4.49
High Yield Global Bond B GBP Inc	1095.72	-	-0.18	5.23
Global Equity Income B GBP Acc	2068.15	-	-27.73	0.00
Global Equity Income B GBP Inc	1455.44	-	-8.32	3.19
lobal Equity Market Neutral Fund - B Acc GBP	£ 12.24	-	-0.05	0.00
Global Sustainable Equity B Acc GBP	£ 27.36	-	-0.51	0.00
Global Sustainable Equity C Acc GBP	£ 27.75	-	-0.51	-
Inv Grd Gbl Bond A Inc GBH	627.85	-	-2.10	1.81
Short Dated High Yld Bd B Acc GBP	£ 11.03	-	0.00	0.00
Short Dated High Yld Bd C Acc GBP (Hdg)	£ 11.13	-	0.00	0.00
Strategic Global Bond A GBP Inc	1319.95	-	-3.95	2.70
Strategic Global Bond B GBP Inc	749.28	-	-2.11	3.45

Algebris Investments (IRL)
Regulated

Fund	Bid	Offer	D+/-	Yield
Algebris Financial Credit I EUR	€ 186.41	-	-0.41	0.00
Algebris Financial Credit R EUR	€ 162.23	-	-0.36	0.00
Algebris Financial Credit Rd EUR	€ 109.20	-	-0.24	4.74
Algebris Financial Income I EUR	€ 152.30	-	-1.14	0.00
Algebris Financial Income R EUR	€ 141.08	-	-1.06	0.00
Algebris Financial Income Rd EUR	€ 93.20	-	-0.70	3.61
Algebris Financial Equity B EUR	€ 109.31	-	-1.46	0.00
Algebris IG Financial Credit B EUR	€ 110.74	-	-0.08	0.00
Algebris IG Financial Credit R EUR	€ 109.92	-	-0.09	0.00
Algebris Global Credit Opportunities I EUR	€ 129.19	-	-0.13	0.00
Algebris Global Credit Opportunities R EUR	€ 127.11	-	-0.12	0.00
Algebris Global Credit Opportunities Rd EUR	€ 127.11	-	-0.12	0.00
Algebris Core Italy I EUR	€ 117.39	-	-0.30	0.00
Algebris Core Italy R EUR	€ 109.85	-	-0.28	0.00
Algebris Allocation I EUR	€ 103.34	-	-0.30	0.00

The Antares European Fund Limited
Other International

Fund	Bid	Offer	D+/-	Yield
AEF Ltd Usd	$ 556.78	-	0.49	0.00
AEF Ltd Eur	€ 520.99	-	0.32	0.00

Arisaig Partners
Other International Funds

Fund	Bid	Offer	D+/-	Yield
Arisaig Asia Consumer Fund Class A (Ex-Alcohol) shares	$ 124.53	-	0.55	0.00
Arisaig Asia Consumer Fund Limited	$ 123.93	-	0.58	0.00
Arisaig Global Emerging Markets Consumer Fund	$ 16.66	-	0.27	0.00
Arisaig Global Emerging Markets Consumer UCITS	€ 12.85	-	-0.01	-
Arisaig Global Emerging Markets Consumer UCITS STG	£ 14.50	-	-0.10	-
Arisaig Latin America Consumer Fund	$ 25.94	-	0.58	0.00

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

Fund	Bid	Offer	D+/-	Yield
Artemis Corporate Bond I Acc	£ 1.15	-	0.01	1.68
Artemis Target Return Bond I Acc	£ 1.06	-	0.00	-

Ashmore Investment Management Limited (LUX)
2 rue Albert Borschette L-1246 Luxembourg
FCA Recognised

Fund	Bid	Offer	D+/-	Yield
Ashmore SICAV Emerging Market Debt Fund	$ 92.83	-	0.17	4.86
Ashmore SICAV Emerging Market Frontier Equity Fund	$ 162.49	-	0.76	1.49
Ashmore SICAV Emerging Market Total Return Fund	$ 82.30	-	0.06	4.15
Ashmore SICAV Global Small Cap Equity Fund	$ 203.54	-	0.53	0.02
EM Active Equity Fund Acc USD	$ 157.67	-	0.10	0.00
EM Equity Fund Acc USD	$ 142.33	-	0.03	0.00
EM Mkts Corp.Debt USD F	$ 91.54	-	0.10	5.64
EM Mkts Loc.Ccy Bd USD F	$ 79.82	-	-0.05	4.55
EM Short Duration Fund Acc USD	$ 119.27	-	0.17	0.00

Atlantas Sicav (LUX)
Regulated

Fund	Bid	Offer	D+/-	Yield
American Dynamic	$ 6530.53	6530.53	154.76	0.00
American One	$ 6346.25	6346.25	85.33	0.00
Bond Global	€ 1500.92	1500.92	-9.12	0.00
Eurocroissance	€ 1209.26	1209.26	-8.91	0.00
Far East	$ 1199.00	-	-7.13	0.00

Barclays Investment Funds (CI) Ltd (JER)
39/41 Broad Street, St Helier, Jersey, JE2 3RR Channel Islands 01534 812800
FCA Recognised
Bond Funds

Fund	Bid	Offer	D+/-	Yield
Sterling Bond F	£ 0.50	-	0.00	2.17

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	D+/-	Yield
Brooks Macdonald International Investment Funds Limited				
Euro High Income	€ 1.5686	-	-0.0004	2.50
High Income	£ 0.8878	-	-0.0040	3.77
Sterling Bond	£ 1.6468	-	-0.0094	2.06
Brooks Macdonald International Multi Strategy Fund Limited				
Cautious Balanced Strategy	£ 1.3505	-	-0.0020	0.00
Growth Strategy	£ 1.9555	-	-0.0029	0.00
High Growth Strategy	£ 2.6887	-	-0.0027	0.00
US$ Growth Strategy	$ 1.8804	-	-0.0034	0.00

Dealing Daily. Initial charge up to 2%

CCLA Investment Management Ltd (UK)
Senator House 85 Queen Victoria Street London EC4V 4ET
Authorised Inv Funds

Fund	Bid	Offer	D+/-	Yield
Diversified Income 1 Units GBP Inc	£ 1.56	1.56	0.00	0.03
Diversified Income 2 Units GBP Inc	£ 1.50	1.50	0.00	0.03
Diversified Income 3 Units GBP Inc	£ 1.51	1.51	0.00	0.03

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	D+/-	Yield
Absolute Return Cls M Inc	£ 131.95	131.95	0.17	1.35
Capital Gearing Portfolio GBP P	£ 36040.33	36040.33	44.70	-
Capital Gearing Portfolio GBP V	£ 175.28	175.28	0.22	-
Dollar Fund Cls D Inc	£ 172.33	172.33	0.75	1.43
Dollar Hedged GBP Inc	£ 106.64	106.64	-0.01	1.31
Real Return Cls A Inc	£ 210.75	210.75	0.90	1.61

Chartered Asset Management Pte Ltd
Other International Funds

Fund	Bid	Offer	D+/-	Yield
CAM-GTF Limited	$ 317343.01	317343.01	4402.86	0.00
CAM GTi Limited	$ 846.51	-	-8.59	0.00
Raffles-Asia Investment Company	$ 1.53	1.53	0.08	1.96

Dodge & Cox Worldwide Funds (IRL)
6 Duke Street,St.James,London SW1Y 6BN
www.dodgeandcox.worldwide.com 020 3713 7664
FCA Recognised

Fund	Bid	Offer	D+/-	Yield
Dodge & Cox Worldwide Funds plc - Global Bond Fund				
EUR Accumulating Class	€ 14.98	-	0.04	0.00
EUR Accumulating Class (H)	€ 11.65	-	0.01	0.00
EUR Distributing Class	€ 11.76	-	0.03	3.74
EUR Distributing Class (H)	€ 9.11	-	0.01	3.77
GBP Distributing Class	£ 13.15	-	0.08	3.85
GBP Distributing Class (H)	£ 9.60	-	0.01	4.09
USD Accumulating Class	$ 13.09	-	0.00	0.00
Dodge & Cox Worldwide Funds plc-Global Stock Fund				
USD Accumulating Share Class	$ 24.77	-	-0.20	0.00
GBP Accumulating Share Class	£ 30.81	-	-0.08	0.00
GBP Distributing Share class	£ 21.27	-	-0.05	1.23
EUR Accumulating Share Class	€ 30.70	-	-0.18	0.00
GBP Distributing Class (H)	£ 12.06	-	-0.10	0.98
Dodge & Cox Worldwide Funds plc-U.S. Stock Fund				
USD Accumulating Share Class	$ 30.70	-	-0.22	0.00
GBP Accumulating Share Class	£ 36.11	-	-0.06	0.00
GBP Distributing Share Class	£ 22.05	-	-0.04	0.95
EUR Accumulating Share Class	€ 32.86	-	-0.16	0.00
GBP Distributing Class (H)	£ 12.72	-	-0.09	0.97

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

Fund	Bid	Offer	D+/-	Yield
Vietnam Equity (UCITS) Fund A USD	$ 25.03	-	0.35	-

Ennismore Smaller Cos Plc (IRL)
5 Kensington Church St, London W8 4LD 020 7368 4220
FCA Recognised

Fund	Bid	Offer	D+/-	Yield
Ennismore European Smlr Cos NAV	£ 133.44	-	-1.15	0.00
Ennismore European Smlr Cos NAV	€ 145.60	-	-1.66	0.00

Ennismore European Smlr Cos Hedge Fd
Other International Funds

Fund	Bid	Offer	D+/-	Yield
NAV	€ 527.24	-	8.77	0.00

Equinox Fund Mgmt (Guernsey) Limited (GSY)
Regulated

Fund	Bid	Offer	D+/-	Yield
Equinox Russian Opportunities Fund Limited	$ 184.85	-	11.87	0.00

Euronova Asset Management UK LLP (CYM)
Regulated

Fund	Bid	Offer	D+/-	Yield
Smaller Cos Cls One Shares	€ 52.62	-	0.18	0.00
Smaller Cos Cls Two Shares	€ 34.52	-	0.11	0.00
Smaller Cos Cls Three Shares	€ 17.39	-	0.05	0.00
Smaller Cos Cls Four Shares	€ 22.36	-	0.07	0.00

FIL Investment Services (UK) Limited (1200)F (UK)
130, Tonbridge Rd, Tonbridge TN11 9DZ
Callfree: Private Clients 0800 414161
Broker Dealings: 0800 414 181

Fund	Bid	Offer	D+/-	Yield
OEIC Funds				
Fidelity American Fund W-ACC-GBP	£ 53.38	-	-0.25	0.31
Fidelity Cash Fund Y-ACC-GBP	£ 1.02	-	0.00	0.66
FID Emerg Europe, Middle East and Africa Fund W-ACC-GBP	£ 2.34	-	-0.01	4.21
Fidelity Global Enhanced Income Fund W-ACC-GBP	£ 2.06	-	-0.01	3.68
Fidelity Global Focus Fund W-ACC-GBP	£ 33.66	-	-0.18	0.20
Fidelity Global High Yield Fund Y-ACC-GBP	£ 15.52	-	0.06	3.65
Fidelity Japan Fund W-ACC-GBP	£ 5.06	-	-0.04	0.58
Fidelity Japan Smaller Companies Fund W-ACC-GBP	£ 4.30	-	-0.05	0.35
Fidelity Select 50 Balanced Fund PI-ACC-GBP	£ 1.15	-	0.00	0.83
Fidelity Special Situations Fund W-ACC-GBP	£ 33.70	-	0.62	3.43
Short Dated Corporate Bond Fund Y ACC GBP	£ 11.07	-	-0.01	3.86
Fidelity Sustainable Water & Waste W Acc	£ 1.10	-	0.00	-
Fidelity Sustainable Water & Waste W Inc	£ 1.10	-	0.00	-
Fidelity UK Growth Fund W-ACC-GBP	£ 3.34	-	-0.05	1.14
Fidelity UK Select Fund W-ACC-GBP	£ 3.18	-	0.04	2.36
Institutional OEIC Funds				
Europe (ex-UK) Fund ACC-GBP	£ 7.03	-	-0.03	0.55

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

Fund	Bid	Offer	D+/-	Yield
American EUR Unhedged Class	€ 128.45	-	0.30	-
American Fund USD Class	$ 155.51	-	0.09	0.00
American Fund GBP Hedged	£ 78.37	-	0.04	0.00
American Fund GBP Unhedged	£ 117.70	-	0.60	0.00

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

Fund	Bid	Offer	D+/-	Yield
FCA Recognised - Luxembourg UCITS				
Foord International Fund | R	$ 45.32	-	-0.17	-
Foord Global Equity Fund (Lux) | R	$ 16.96	-	-0.02	-
Regulated				
Foord Global Equity Fund (Sing) | B	$ 20.78	-	-0.02	-
Foord International Trust (Gsy)	$ 45.11	-	-0.17	0.00

Franklin Templeton International Services Sarl (IRL)
JPMorgan House - International Financial Services Centre,Dublin 1, Ireland
Other International Funds
Franklin Emerging Market Debt Opportunities Fund Plc

Fund	Bid	Offer	D+/-	Yield
Franklin Emg Mkts Debt Opp CHF	SFr 14.26	-	0.02	9.35
Franklin Emg Mkts Debt Opp GBP	£ 9.39	-	0.01	6.20
Franklin Emg Mkts Debt Opp SGD	S$ 20.53	-	0.01	4.49
Franklin Emg Mkts Debt Opp USD	$ 16.33	-	0.00	6.42

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

Fund	Bid	Offer	D+/-	Yield
LAPIS GBL TOP 50 DIV.YLD-Na-D	£ 101.99	-	0.14	3.25
LAPIS GBL F OWD 50 DIV.YLD-Na-D	£ 101.78	-	0.15	0.70

Genesis Investment Management LLP
Other International Funds

Fund	Bid	Offer	D+/-	Yield
Emerging Mkts NAV	£ 7.21	-	-0.16	0.00

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

Fund	Bid	Offer	D+/-	Yield
Holiday Property Bond Ser 1	£ 0.49	-	0.00	0.00
Holiday Property Bond Ser 2	£ 0.62	-	0.00	0.00

Intrinsic Value Investors (IVI) LLP (IRL)
1 Hat & Mitre Court, 88 St John Street, London EC1M 4EL +44 (0)20 7566 1210
FCA Recognised

Fund	Bid	Offer	D+/-	Yield
IVI European Fund EUR	€ 23.44	-	-0.13	0.00
IVI European Fund GBP	£ 28.60	-	-0.07	0.33

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

Fund	Bid	Offer	D+/-	Yield
Janus Henderson Instl UK Idx Opps A Acc	£ 0.95	-	-0.01	-

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	D+/-	Yield
M&G Charibond Charities Fixed Interest Fund (Charibond) Inc	£ 1.25	-	0.00	2.24
M&G Charibond Charities Fixed Interest Fund (Charibond) Acc	£ 42.88	-	-0.06	2.20
M&G Charity Multi Asset Fund Inc	£ 0.83	-	-0.01	4.28
M&G Charity Multi Asset Fund Acc	£ 92.26	-	-0.14	4.11

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

Fund	Bid	Offer	D+/-	Yield
UK Equity Fd Cl A Series 01	£ 2617.54	2659.42	495.99	0.00
Diversified Absolute Rtn Fd USD Cl AF2	$ 1560.95	-	-30.80	0.00
Diversified Absolute Return Stlg Cell AF2	£ 1471.35	-	-29.07	0.00
Global Equity Fund A Lead Series	£ 1620.07	1625.45	135.16	0.00

Marwyn Asset Management Limited (CYM)
Regulated

Fund	Bid	Offer	D+/-	Yield
Marwyn Value Investors	£ 340.40	-	-14.66	0.00

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

Fund	Bid	Offer	D+/-	Yield
British Innovation Fund	£ 121.92	-	2.89	0.00
MAI - Buy & Lease (Australia)	A$ 102.95	-	-0.80	0.00
MAI - Buy & Lease (New Zealand)	NZ$ 97.26	-	-0.02	0.00
Milltrust Global Emerging Markets Fund - Class A	$ 111.96	-	0.60	0.00
The Climate Impact Asia Fund (Class A)	$ 112.68	-	5.26	-

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

Fund	Bid	Offer	D+/-	Yield
Milltrust Alaska Brazil SP A	$ 76.09	-	-0.86	-
Milltrust Laurium Africa SP A	$ 94.43	-	-0.37	-
Milltrust Marcellus India Fund	$ 115.38	-	-0.10	-
Milltrust Singular ASEAN SP Founders	$ 148.72	-	-0.01	-
Milltrust SPARX Korea Equity SP A	$ 158.79	-	-0.50	-
Milltrust VTB Russia Fund SP	$ 123.76	-	1.00	-
Milltrust Xingtai China SP A	$ 135.77	-	-0.32	-

New Capital UCITS Fund PLC (IRL)
Leconfield House, Curzon Street, London, W1J 5JB
www.newcapitalfunds.com
FCA Recognised
New Capital UCITS Funds

Fund	Bid	Offer	D+/-	Yield
New Capital China Equity Fund	$ 268.67	-	-0.40	-
New Capital Dynamic European Equity Fund	€ 129.45	-	-0.61	0.00
New Capital Dynamic UK Equity Fund	£ 115.27	-	-0.17	-
New Capital Global Alpha Fund	£ 117.00	-	0.01	0.00
New Capital Global Equity Conviction Fund	$ 197.71	-	-0.33	-
New Capital Global Value Credit Fund	$ 160.96	-	-0.03	0.00
New Capital Japan Equity Fund	¥ 1619.07	-	13.41	0.00
New Capital US Growth Fund	$ 428.56	-	-1.68	0.00
New Capital US Small Cap Growth Fund	$ 218.21	-	-0.66	0.00
New Capital Wealthy Nations Bond Fund	$ 156.20	-	0.20	0.00

Oasis Crescent Management Company Ltd
Other International Funds

Fund	Bid	Offer	D+/-	Yield
Oasis Crescent Equity Fund	R 11.03	-	0.01	0.21

Oasis Global Mgmt Co (Ireland) Ltd (IRL)
Regulated
OGM Oasis Crescent Global Investment Funds (UK) plc

Fund	Bid	Offer	D+/-	Yield
Oasis Crescent Global Short Term Income Fund I - Class A Dist	$ 0.99	-	0.00	2.00
Oasis Crescent Global Equity Fund	$ 34.97	-	0.00	0.25
Oasis Crescent Variable Balanced Fund	£ 9.47	-	0.00	0.00
OasisCresGl Income Class A	$ 11.09	-	0.00	-
OasisCresGl LowBal D ($) Dist	$ 12.60	-	0.00	0.81
OasisCresGl Med Eq Bal A ($) Dist	$ 13.73	-	0.00	0.32
Oasis Crescent Gbl Property Eqty	$ 7.93	-	0.00	-

Omnia Fund Ltd
Other International Funds

Fund	Bid	Offer	D+/-	Yield
Estimated NAV	$ 621.90	-	60.56	0.00

Oryx International Growth Fund Ltd
Other International Funds

Fund	Bid	Offer	D+/-	Yield
NAV (Fully Diluted)	£ 9.10	-	-0.52	0.00

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

Fund	Bid	Offer	D+/-	Yield
Orbis OEIC Global Cautious Standard	£ 10.44	-	0.01	0.03
Orbis OEIC Global Balanced Standard	£ 15.61	-	0.02	0.00
Orbis OEIC Global Equity Standard	£ 19.85	-	0.09	0.00
Orbis OEIC UK Equity Standard	£ 8.01	-	-0.06	0.00

Platinum Capital Management Ltd
Other International Funds

Fund	Bid	Offer	D+/-	Yield
Platinum All Star Fund - A	$ 132.45	-	-	-
Platinum Global Growth UCITS Fund	$ 13.19	-	-0.01	0.00
Platinum Essential Resources UCITS Fund SICAV USD Class E	$ 7.96	-	-0.06	0.00
Platinum Global Dividend UCITS Fund	$ 55.30	-	0.08	0.00

Polar Capital Funds Plc (IRL)
Regulated

Fund	Bid	Offer	D+/-	Yield
Automation & Artificial Intelligence CL I USD Acc	$ 17.23	17.23	-0.02	0.00
Asian Financials I USD	$ 445.97	445.97	-0.36	0.00
Biotechnology I USD	$ 37.74	37.74	0.15	0.00
Emerging Market Stars I USD Acc	$ 14.88	-	0.04	0.00
European Ex UK Inc EUR Acc	€ 11.43	11.43	-0.12	0.00
Financial Opps I USD	$ 13.29	-	-0.09	2.05
GEM Income I USD	$ 12.84	-	0.04	0.00
Global Convertible I USD	$ 16.89	16.89	-0.05	0.00
Global Insurance I GBP	£ 7.19	-	-0.02	0.00
Global Technology I USD	$ 84.84	-	-0.15	0.00
Healthcare Blue Chip Fund I USD Acc	$ 15.62	15.62	-0.05	0.00
Healthcare Opps I USD	$ 63.10	-	0.00	0.00
Income Opportunities B2 I GBP Acc	£ 2.32	2.32	-0.01	-
Japan Value I JPY	¥ 111.45	111.45	1.48	0.00
North American I USD	$ 30.45	30.45	-0.28	0.00
UK Val Opp I GBP Acc	£ 11.60	11.60	0.10	0.00

Polar Capital LLP (CYM)
Regulated

Fund	Bid	Offer	D+/-	Yield
European Forager A EUR	€ 185.24	-	17.13	0.00

Private Fund Mgrs (Guernsey) Ltd (GSY)
Regulated

Fund	Bid	Offer	D+/-	Yield
Monument Growth 08/12/2020	£ 514.46	519.46	11.50	-

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

Fund	Bid	Offer	D+/-	Yield
Prusik Asian Equity Income B Dist	$ 181.80	-	0.35	-
Prusik Asia Emerging Opportunities Fund A Acc	$ 187.26	-	0.95	-
Prusik Asia Fund U Dist.	£ 229.08	-	-2.69	0.00

Purisima Investment Fds (CI) Ltd (JER)
Regulated

Fund	Bid	Offer	D+/-	Yield
PCG B ✠	291.74	-	5.31	0.00
PCG C ✠	285.04	-	5.19	0.00

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

Fund	Bid	Offer	D+/-	Yield
RAM Systematic Emerg Markets Eq	$ 208.21	208.21	0.20	-
RAM Systematic European Eq	€ 456.89	456.89	-1.17	-
RAM Systematic Funds Global Sustainable Income Eq	$ 128.75	128.75	-0.19	0.00
RAM Systematic Global Eq Sustainable Alpha	$ 100.96	100.96	-0.44	-
RAM Systematic Long/Short European Eq	€ 129.04	129.04	0.49	-
RAM Systematic US Sustainable Eq	$ 346.29	346.29	-0.44	-
RAM Tactical Global Bond Total Return	€ 156.17	156.17	0.01	-
RAM Tactical II Asia Bond Total Return	$ 156.42	156.42	0.10	-

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	D+/-	Yield
LF Ruffer European C Acc	787.54	-	7.63	0.05
LF Ruffer European C Inc	143.71	-	1.39	0.09
LF Ruffer European O Acc	768.06	-	7.40	0.00
LF Ruffer Equity & General C Acc	495.23	-	8.94	0.18
LF Ruffer Equity & General C Inc	452.91	-	8.17	0.18
LF Ruffer Equity & General O Acc	483.02	-	8.70	0.00
LF Ruffer Equity & General O Inc	447.19	-	8.04	0.00
LF Ruffer Gold C Acc	295.28	-	1.55	0.00
LF Ruffer Gold C Inc	178.71	-	0.94	0.00
LF Ruffer Gold O Acc	287.89	-	1.50	0.00
LF Ruffer Japanese C Inc	166.12	-	-2.30	0.08
LF Ruffer Japanese C Acc	356.98	-	-4.93	0.08
LF Ruffer Pacific & Emerging Markets C Acc	393.87	-	5.25	0.79
LF Ruffer Pacific & Emerging Markets C Inc	107.34	-	1.43	0.82
LF Ruffer Pacific & Emerging Markets O Acc	383.79	-	5.10	0.51
LF Ruffer Total Return C Acc	501.65	-	2.90	0.84
LF Ruffer Total Return C Inc	324.64	-	1.88	0.84
LF Ruffer Total Return O Acc	489.23	-	2.80	0.84
LF Ruffer Total Return O Inc	316.42	-	1.81	0.85

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

Fund	Bid	Offer	D+/-	Yield
Rubrics Emerging Markets Fixed Income UCITS Fund	$ 142.86	-	-0.19	0.00
Rubrics Global Credit UCITS Fund	$ 17.75	-	0.01	0.00
Rubrics Global Fixed Income UCITS Fund	$ 182.60	-	0.14	0.00

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

Fund	Bid	Offer	D+/-	Yield
Slater Growth	647.98	647.98	8.24	0.00
Slater Income A Inc	125.61	125.61	0.91	5.22
Slater Recovery	301.42	301.42	3.70	0.00
Slater Artorius	266.77	266.77	0.84	0.00

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

Fund	Bid	Offer	D+/-	Yield
SF Global Best Ideas Eq B USD ACC	$ 237.72	-	0.64	-
SF Global Best Ideas Eq D GBP INC	£ 273.00	-	1.98	-

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

Fund	Bid	Offer	D+/-	Yield
Aptus Global Financials B Acc	£ 3.67	-	-0.04	4.35
Aptus Global Financials B Inc	£ 2.56	-	-0.03	5.58

Toscafund Asset Management LLP
www.toscafund.com

Fund	Bid	Offer	D+/-	Yield
Tosca A USD	$ 306.77	-	-23.55	-
Tosca Mid Cap GBP	£ 180.86	-	27.47	-
Tosca Opportunity B USD	$ 274.77	-	41.76	-
Pegasus Fund Ltd A-1 GBP	£ 43.14	-	6.53	0.00

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	D+/-	Yield
Trojan Ethical O Acc	118.02	-	-1.12	0.10
Trojan Ethical O Inc	117.79	-	-1.12	0.09

WA Fixed Income Fund Plc (IRL)
Regulated

Fund	Bid	Offer	D+/-	Yield
European Multi-Sector	€ 127.53	-	0.26	3.16

Zadig Gestion (Memnon Fund) (LUX)
FCA Recognised

Fund	Bid	Offer	D+/-	Yield
Memnon European Fund - Class U2 GBP	£ 196.38	-	-0.43	0.00

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Guide to pricing of Authorised Investment Funds: (compiled with the assistance of the IMA. The Investment Management Association, 65 Kingsway, London WC2B 6TD. 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.

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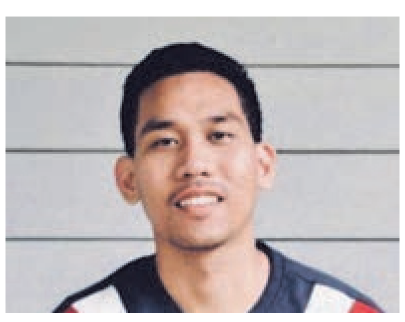
CORONAVIRUS CRISIS APPEAL

MEDECINS SANS FRONTIERES
DOCTORS WITHOUT BORDERS

An MSF contact tracer takes part in a mass screening event to test people for COVID-19 in Johannesburg, South Africa. Photograph © MSF



DR KHAIRIL MUSA IS AN INTENSIVE CARE DOCTOR IN YEMEN

Médecins Sans Frontières/Doctors Without Borders (MSF) is providing urgent medical care and support in more than 70 countries to counter the COVID-19 pandemic. In Aden, MSF is running the only COVID-19 treatment centre in southern Yemen. Dr Khairil Musa is an intensive care doctor on the frontline of this unfolding catastrophe.

"The situation here is extremely challenging. Many patients are arriving with severe respiratory distress and unbelievably low oxygen levels, some as low as 40 per cent; that's really not anything I've seen before in my career. Our patients tend to be quite young, much younger than what we're seeing elsewhere in the world with COVID-19. Most are aged 40 to 60, with some as young as 20. And they're dying.

Today we have 32 patients in the inpatient ward and six patients in intensive care. Many of them are dying in quite horrific ways, gasping for breath. It's really very distressing to watch. But we're determined to do the best we can for these patients, even with the little that we have.

Yemen is a country at war, and all the difficulties experienced by the rest of the world in combating COVID-19 are compounded here by a lack of supplies and a health system that has basically collapsed.

IMPROVE THE SITUATION, SAVE LIVES

There's a global shortage of personal protective equipment (PPE) and we're really feeling it here. We're at the stage where we're having to reuse masks and gowns. We don't have an autoclave to sterilise the gear, so the teams just hang them up at the end of the shift and then put them on again when they come back. It's not great practice but we've run out of options. We're searching for more PPE locally and we have an international shipment on its way, but lockdowns and the collapse of supply chains means it could take weeks.

It's very difficult. I was talking to the other intensive care doctor and we both know that we're going to be exposed to COVID-19. We're at peace with that, but it really worries us that we could put our colleagues at risk. We can't guarantee their safety and that's a very difficult thing to accept. But it's the situation we're in.

Why should people care about Yemen? It's hard to turn a blind eye when people are suffering and dying, especially in the midst of conflict. During this pandemic, there are places that can handle the challenges better than others. Unfortunately, Yemen is not one of those places.

We're only at the beginning of this outbreak here and we're concerned it will get worse over the coming weeks. But we're hopeful about the work we're doing. We have a great team of people working to improve this situation and save lives. But we need a lot of support."

We are using nearly 50 years of our experience fighting epidemics to protect the most vulnerable and save lives.

WE'RE SENDING MEDICAL TEAMS
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WE'RE PROTECTING HEALTH STAFF
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£864	can provide a hand-held ultrasound used for detecting underlying health issues

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CALL 0800 055 7985

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msf.org.uk/pandemic

YES, I would like to support MSF's medical teams as they respond to the coronavirus crisis

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We won't allow other organisations to have access to your personal data for marketing purposes and we won't bombard you with appeals.

By supporting MSF, you will receive our quarterly magazine Dispatches, event invitations, and occasional emergency appeals with requests for donations by post. You can change how you hear from MSF UK by emailing **uk.fundraising@london.msf.org** or calling **020 7404 6600.** Visit our privacy notice for more: **msf.org.uk/privacy.**

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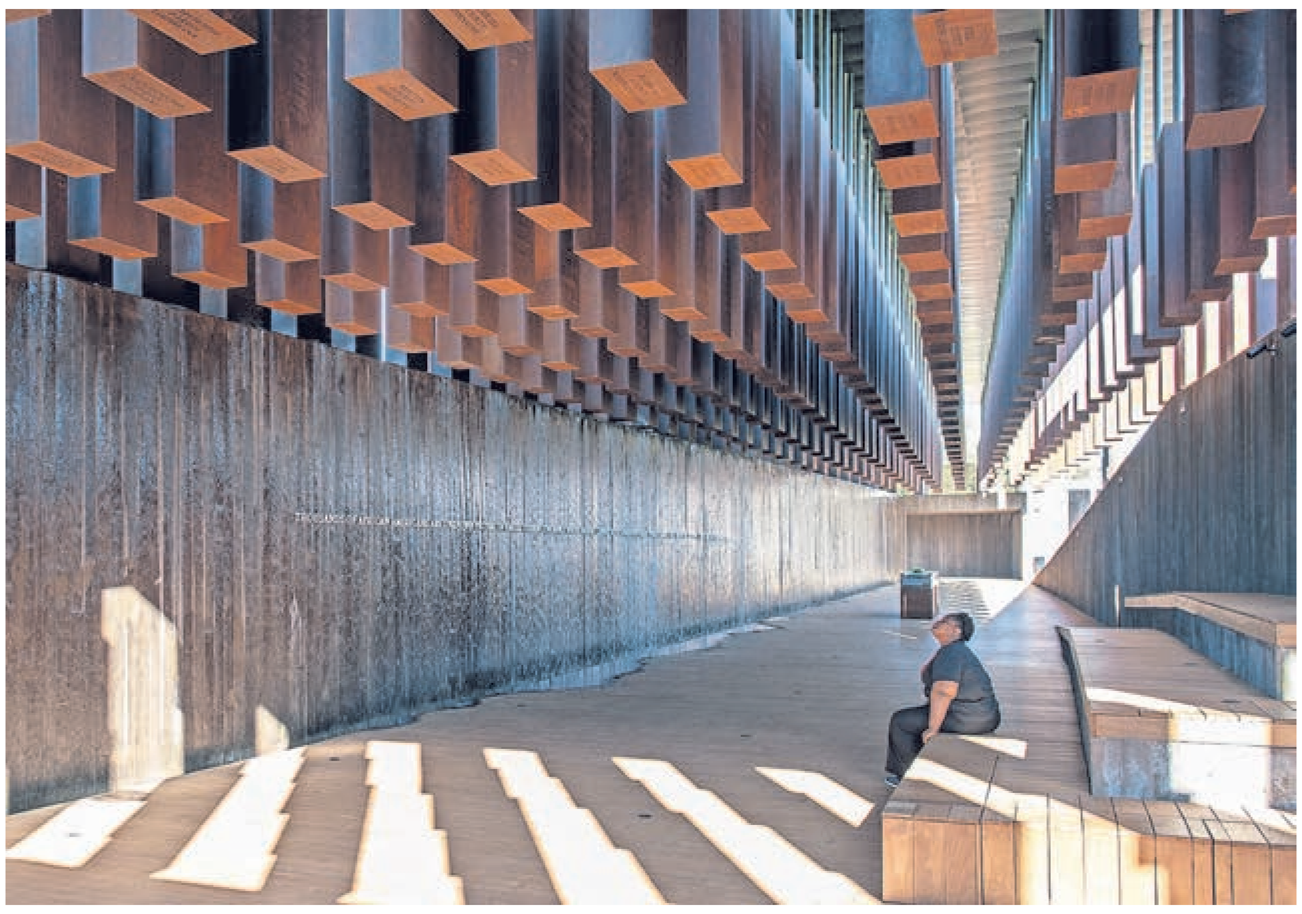
Memorial rules are not set in stone

Grandiose memorials are springing up across the world, sparking questions and controversy, writes Edwin Heathcote



Clockwise, from main: National Memorial for Peace and Justice in Montgomery, Alabama; Maggi Hambling's sculpture honouring Mary Wollstonecraft; statue commemorating the rescue of Spencer Bailey from a plane crash in Sioux City, Iowa
Alan Ricks/MASS Design Group; Spencer Bailey

Only a very small part of architecture belongs to art: the tomb and the monument. Everything else that fulfils a function is to be excluded." The Austrian architect Adolf Loos, writing in 1910, suggested that for architecture to be art, it must be about memory. "To that extent," he continued, "one could chart a history of the art of architecture as a history of the design of death."

From the pyramids onwards, you might well argue that. But the pure abstraction allowed by the function of the memorial as public art has been both a blessing and a curse. In the era when all those bronze statues of colonialists, soldiers and slaveholders were erected, there was some consensus on what art should be and public monuments could exude a kind of civic clarity. But in today's age of pluralism, things are trickier and controversy almost inevitable.

When Maggi Hambling's memorial to Mary Wollstonecraft was unveiled in north London last month, there was outcry about the association of a tiny nude figure with the feminist pioneer. But then almost every new memorial of the past few decades has sparked controversy, from Maya Lin's Vietnam Veterans Memorial in Washington DC (too minimal) and Frank Gehry's Dwight D. Eisenhower Memorial in the same city (too much like a billboard) to the Memorial to the Murdered Jews of Europe in Berlin (too bleak) and the proposed UK Holocaust Memorial in London (too big, wrong location).

There are issues of aesthetics, representation and siting, arguments about scale, style and what is being remembered. The dunking of the statue of slave trader Edward Colston into Bristol harbour and the graffiti that have appeared on Confederate, Churchillian and colonial commemorations across the world in protests this year suggest that we are beginning to see memorials more clearly and read them more closely.

A new book, *In Memory Of: Designing Contemporary Memorials*, has been authored by a figure who has himself become very visible in a memorial, which is unusual for a living person. Spencer Bailey appears in a statue as a child being cradled in the arms of the man who rescued him from the plane crash in which his mother was killed in Sioux City in 1989. I ask Bailey what the experience of having been memorialised while still alive had meant to him. "It's a memorial that needs two plaques," he says, "and it still fails."

For Bailey, memorials are in danger of being unread or misread. "That sculpture," he says "becomes a hero story, all about the rescue, and it doesn't represent the right thing: the loss, my mom who I lost that day."

The figurative memorial, sculpted by Dale Lamphere, is a part of memorial culture which has not come to terms with modernity or, one might argue, with history; after all, what is a pyramid or a mausoleum but a profoundly abstract monument?

Bailey's book is a survey of memorials across the world commemorating events from the Holocaust and 9/11 to the burning of witches in Norway and the Irish potato famine. Leafing through the succession of often vast, expensive and striking designs, you can't help wonder whether we are in some kind of strange golden age of memorials.

Every culture, it seems, is building ever more grandiose monuments. This memorial inflation is a phenomenon of our age, the creation of a whole new layer of cultural infrastructure that is not so much about curation or collection but commemoration.

Is it doing any good? The argument behind an architecture of permanence at this scale is a rejoinder not to forget. Yet it comes in parallel with a tsunami of misinformation and fake news spread through the fleetingly ephemeral digital media. The explosion of conspiracy theories, anti-science hokum, Holocaust denial and the rewriting of histories is leading to an atomisation of national and cultural memory which even the grandest and weightiest of memorials are clearly failing to counter.

One of the trickier issues here is beauty. Can we reconcile the memory of an ugly episode in human history with an elegant memorial, or should the art of memory unsettle and disturb?

Almost exactly a century ago, the Cenotaph was unveiled in London. Designed by Edwin Lutyens, architect of grand country houses and colonial capitals, it was a slender tower designed as a vertical extrusion of a funeral bier, a pedestal for a coffin. In terms of contemporary memorial design, it is puny. But it has served well, becoming dignified and urbane, set in the middle of the street and so impossible to avoid. But Lutyens's Memorial to the Missing of the Somme in Thiepval, France, is something else — a massive arch built around a series of voids, an expression of absence. Both memorials are outwardly elegant but inwardly screaming.

The war memorial was reinvigorated and radically reimagined in the early 1980s by a 21-year-old architecture student at Yale, Maya Lin, the winner of a competition to design a memorial to those killed in the Vietnam war. "It changed everything," Bailey says. The shiny black wall with the names of the dead inscribed into the surface introduced the language of art-world minimalism into what had often been a rather maximalist field.

> Can we reconcile the memory of an ugly episode in history with an elegant memorial?

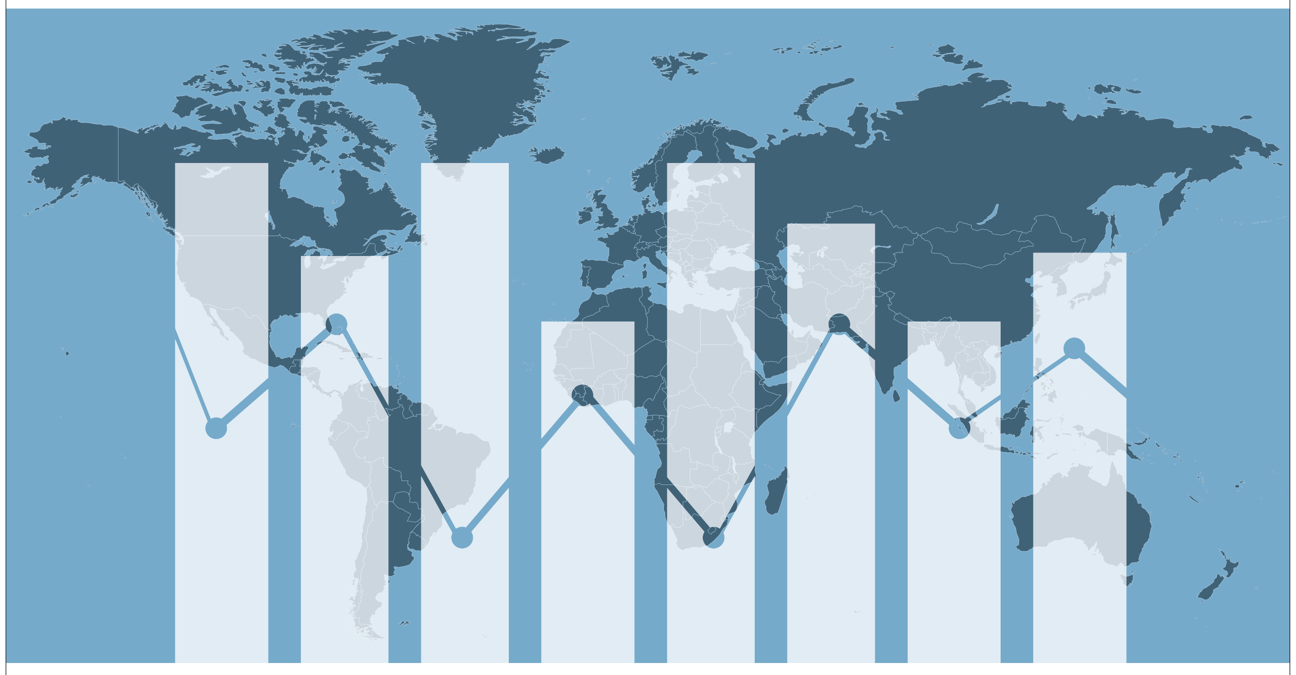
It was felt, perhaps, to be too radical a statement, and the addition of the figurative "Three Soldiers" by sculptor Frederick Hart was seen as a populist touch to those still affronted by a work of pure abstraction by a Chinese-American undergrad. Lin was incensed at the addition of the sculpture, referring to it as a "rape" of her work. Decades of relatives and visitors stroking the names on the wall have vindicated Lin. People have a more nuanced view of memorials than they are given credit for.

Bailey picks the wall out as the most influential memorial of the modern age and also points out the power of the remarkable National Memorial for Peace and Justice in Montgomery, Alabama (2018, designed by MASS Design Group), which he says is the most moving he has experienced. In it we see more evidence of a kind of victory for minimalism. The rusting steel "tombstones", representing counties which were sites of lynchings and inscribed with the names of the dead, are profoundly haunting, with other versions hanging, unsettlingly, from the roof inside. But even here, in this most legible of memorials, it was considered necessary to add sculptural figures. We have not yet transcended representation.

The crimes now being commemorated are monumental: slavery, genocide, mass murder through terror. Yet you might also wonder whether memorials have outgrown themselves. The proposed UK Holocaust Memorial in Westminster's Victoria Tower Gardens is, for instance, too big for its site, an overwhelming gesture for a small sliver of park. Often the most moving memorials are the smallest. I find the Stolpersteine (stumbling stones) on the pavements of central European cities sobering. Small brass plates set into the paving, they mark and name individuals who lived at those addresses and perished in the Holocaust. The direct connection between a name, place and date is perennially arresting.

The memorial that seems most poetic to me is not even there at all. Conceptual artist Jochen Gerz's Monument Against Fascism in Harburg, a suburb of Hamburg, is a lead-clad monolith on to which people were encouraged to inscribe messages and names. It was lowered, gradually, over years, until it disappeared beneath the ground, leaving only a small square of metal at the surface. Like memory, it is mostly buried, but it is always there.

'In Memory Of: Designing Contemporary Memorials' is published by Phaidon



Taylor moves swiftly on

POP ALBUM

Taylor Swift: Evermore
Republic Records
★★★★☆

Ludovic Hunter-Tilney

Highly productive: Taylor Swift
Getty

A song on Taylor Swift's surprise new album *Evermore* seems to refer to her *annus horribilis* in 2016, when "I fell from the pedestal/Right down the rabbit hole".

In that anti-Wonderland, Swift found herself held up as the epitome of white American privilege. Locked in an undignified feud with Kanye West and Kim Kardashian, her public image was distorted into that of a calculating creature of wealth.

Her pleasure in setting clues and puzzles for fans acquired a sinister connotation, the fake smile concealing a scheming mind. Everything had a hidden purpose. To the most demented anti-Swiftians, the cats that lolled and purred on her various social media platforms resembled the cosseted felines of a Bond villain intent on world domination.

The song about this turbulent period of Swift's professional life is called "Long Story Short" and ends with the words: "I survived". In brief: her foes have fallen silent; it is West and Kardashian who are now revealed as the super-rich narcissists. Meanwhile Swift has pushed forward as a musician, first with 2019's superbly expressive *Lover*, then with her impressive switch to introspection on this year's *Folklore*. *Evermore*, whose existence was announced just hours before its release, is its sister record.

Is it a calculated move? Swift's love of game-playing and numerology should perhaps have triggered expectations of a brace of albums in 2020. "Ever since I was 13, I've been excited about turning 31 because it's my lucky number backwards," she has added in explanation of *Evermore*'s sudden appearance on the eve of her 31st birthday.

There are sound business reasons too for the plethora of new songs. The arrival of three albums in 16 months coincides with Swift's fury about the sale of her past recordings. In 2019, the record executive and manager Scooter Braun purchased the rights to her first six albums, which were sold last month to a private equity group, reportedly for $300m. Swift has begun re-recording her early work in order to gain rights over it. Meanwhile the outpouring of new songs — whose masters she owns — compensates for the loss of the old ones.

Her productivity also fits with the new model of streamed music. Speaking when *Folklore* came out, Spotify boss Daniel Ek warned musicians that "you can't record music once every three to four years and think that's going to be enough". He cited Swift as an example of a big star who had got the message. In that respect, releasing two surprise albums in a year is a sign of the music industry's remorseless new economy.

> 'To put it plainly, we just couldn't stop writing songs,' she explains in the liner notes

However, Swift claims that spontaneous creativity is the reason for *Evermore*'s appearance, not commercial contrivance. "To put it plainly, we just couldn't stop writing songs," she explains in the liner notes. She and her *Folklore* collaborators — chiefly Aaron Dessner of the band The National and Justin Vernon of Bon Iver — were on a roll. "Before I knew it there were 17 tales," she explains.

The first is "Willow", which is sung from the point of view of a woman who is swept off her feet by a man, an overpowering force not unlike the unplanned creative energy that apparently prompted *Evermore*'s making. "Life was a willow and it bent right to your wind," Swift sings over a gently insistent acoustic melody, an unforced, organic register. It is a subtle song, which refuses to make literal the theme of tumultuous emotion with melodramatic key changes or extravagant vocals.

References to late autumn and winter recur throughout the album, a muted season of deep-hued colours. Echoes of Swift's country-pop origins can be heard from time to time, but the songs' instrumental arrangements generally play a picturesque background role. Swift's vocals are the main source of melody.

Although never a singing powerhouse, she shows how good a singer she is on *Evermore*. One of its highlights, "Marjorie", is a touching ballad about her dead grandmother, an opera singer whose sampled trilling can be heard at the song's end. Swift follows a different tradition of vocalism, an idiomatic, conversational style that is no less demanding in terms of tonal control. The way she leads a song and dominates its action sounds easy; it is anything but.

The odd moment of overwriting ("We were like the mall before the internet/It was the one place to be") betrays the danger of prolific artistry, striving too hard for effect. But the album's schematics are carefully designed, with themes threaded neatly through songs. The unfaithful man who meets a bad end in "No Body, No Crime" is replaced by a sympathetic portrait of an unfaithful woman in "Ivy".

Songs double back on one another, just as *Evermore* doubles back on *Folklore*, its 2020 sibling. There is calculation here, but not of the cynical variety. Consider it instead the signature of a singer-songwriter exercising her considerable talent.

FT BIG READ. US ECONOMY

Bigger companies have been the main beneficiaries of central bank largesse, issuing a record $2.4tn of corporate bonds this year. But smaller companies are struggling without much support from lenders.

By Robin Wigglesworth, Joe Rennison and Robert Armstrong

Credit crunch hits US small business

Over the past three decades, Kim Peacock and her husband Don Milroy built up a modest but respectable nut business based in Arlington, Texas. In March, 31 years of toil nearly unravelled in a matter of weeks.

The producer and retailer's biggest customer was American Airlines' Fort Worth hub. Every year GNS Foods supplied the carrier with millions of pounds' worth of roasted pecans, pistachios, cashews and almonds. But when the Covid-19 pandemic grounded much of the airline industry, its wholesale business evaporated almost overnight.

"You think, how can I fight this? How can I survive? What can we do to make this work? Ms Peacock says. "And you just dust yourself off and get a second breath and go back at it. The last thing you want to do is let your life's work go down the tubes."

To survive, GNS quickly polished its website and set up a retail outlet in its Arlington factory, to sell over 100,000 bags of suddenly surplus nuts originally destined for American Airlines. The pivot has helped the small company stay afloat, albeit without Ms Peacock and Mr Milroy taking any salary and supporting themselves with savings. However, GNS is not out of the woods, and its struggles highlight the challenges faced by many US small businesses in 2020, with traditional sources of corporate funding shrivelling and the immediate burst of state aid receding.

Efforts to refinance a $500,000 mortgage on its Arlington warehouse proved arduous. Although GNS kept making its loan payments, initial conversations with its bank Wells Fargo went nowhere after the pandemic struck. It was only in late November — a full 10 months after talks had first begun — that the mortgage was finally refinanced. "It's as if they were looking for a reason not to give us a loan," says Ms Peacock.

Not every US business is suffering from a credit shortage. Even as GNS was struggling to refinance its mortgage, its erstwhile customer American Airlines tapped the bond market for $2.5bn this summer, despite burning through an estimated $58m a day at the time.

It came at a steep price, but helped the airline stave off bankruptcy for a few more months. That even American — one of the most stricken members of an industry that was shredded by the pandemic — could issue bonds at all is largely thanks to the power of the extraordinary stimulus unleashed by the Federal Reserve since March.

But the central bank's largesse has failed to trickle down to a large part of corporate America, with smaller businesses suffering the worst credit crunch since the financial crisis.

The incoming Biden administration has many tasks in its inbox. But addressing the unequal access to corporate credit may be one of the most pressing. Failing to do so might mean that coronavirus will leave economic wounds that could take years to heal, analysts warn.

"This is the Achilles heel of the recovery," says Gregory Peters, a fund manager at PGIM Fixed Income. "Smaller and medium-sized businesses that don't have access to capital markets are struggling mightily. They're really hanging on for dear life. At this point, they're being left behind. Inequality is a theme in all aspects of life these days."

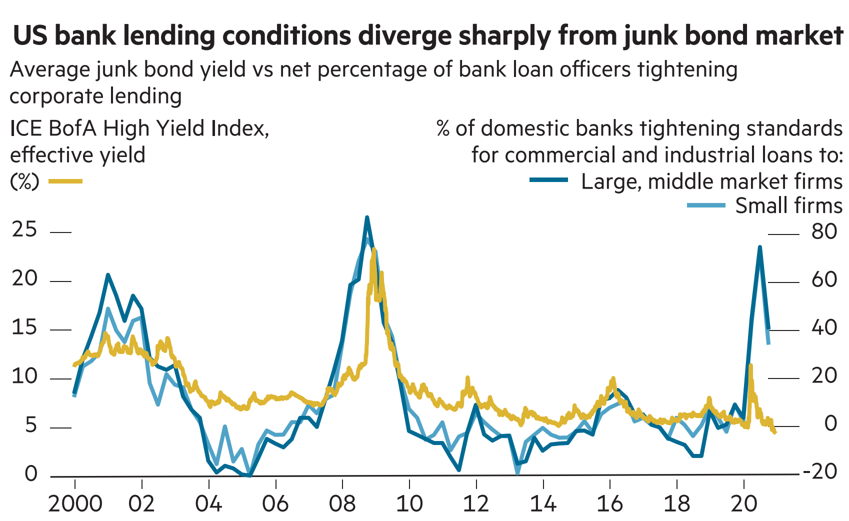
Borrowing spree

The widening gulf between the credit haves and have-nots is a longstanding trend in the US, as the bond market has become increasingly important as a source of funding and the banking industry has gradually retrenched.

Bigger companies also have access to more collateral to offer lenders — American backed its summer bond sale with some of its juiciest routes and gates — and can offer the prospect of lucrative investment banking commissions. Yet unequal access to credit has become particularly clear since March, when loan and bond markets bifurcated dramatically.

In addition to buying trillions of dollars worth of Treasuries, the US central bank even started acquiring corporate bonds for the first time. Although modest in scale, the signalling effect of the Fed crossing this Rubicon has been a boon to any company big enough to tap the bond market.

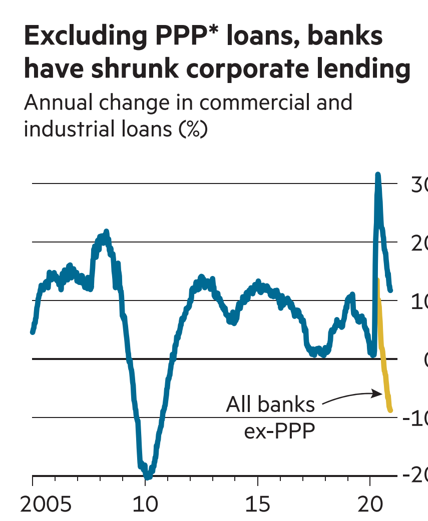
As a result, corporate bond yields have tumbled back to the lows seen in the pre-pandemic era and nurtured a remarkable borrowing spree. US companies have sold $2.4tn of bonds so far this year, smashing records, according to Dealogic. However, most American companies are too small to even contemplate issuing bonds, which typically need to be at least $200m in size.



US bank lending conditions diverge sharply from junk bond market

Average junk bond yield vs net percentage of bank loan officers tightening corporate lending

Source: Federal Reserve Bank of St Louis

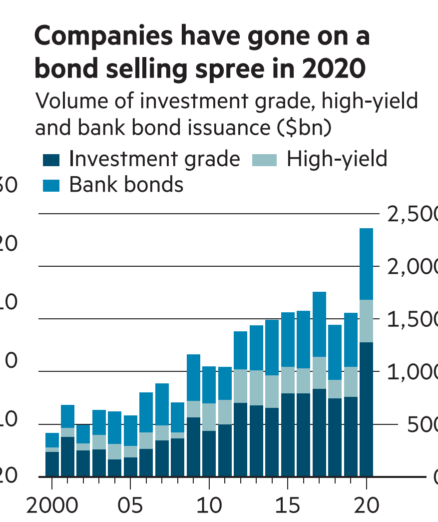


Excluding PPP* loans, banks have shrunk corporate lending

Annual change in commercial and industrial loans (%)

Source: UBS

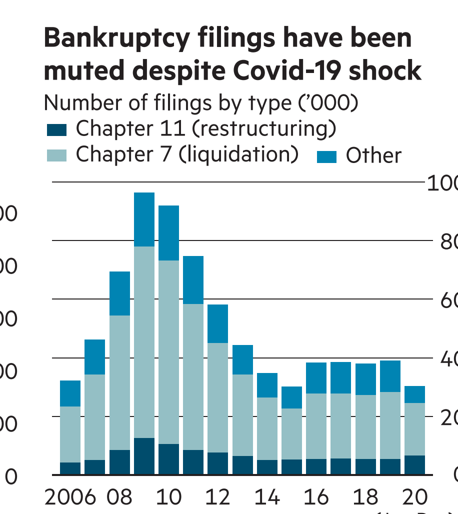
* Paycheck Protection Program



Companies have gone on a bond selling spree in 2020

Volume of investment grade, high-yield and bank bond issuance ($bn)

Source: Dealogic



Bankruptcy filings have been muted despite Covid-19 shock

Number of filings by type ('000)

Source: American Bankruptcy Institute

Top: GNS Foods' wholesale nut business evaporated almost overnight when the pandemic struck, but it was only able to refinance its mortgage last month. Below: American Airlines, once a leading GNS customer, secured $2.5bn from the bond market in the summer, despite burning through an estimated $58m a day at the time

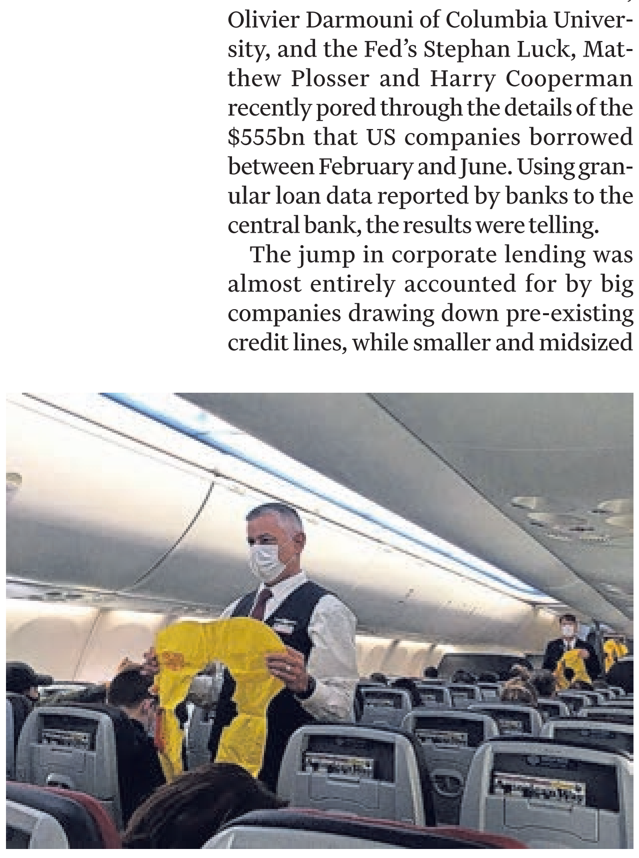
Jaime Carrero/FT

The government's $525bn emergency "Paycheck Protection Program" offered vital succour to many smaller companies earlier this year, and helps explain why corporate bankruptcies have been surprisingly muted. But the programme ended in the summer. Meanwhile, the Fed's separate "Main Street Lending Program" has struggled for traction, and may be killed off by the exiting Trump administration's plans to withdraw the money that backstops it.

Many smaller companies therefore have to appeal to commercial banks for credit to help them survive until the economy fully recovers. That is proving tough. The Fed's surveys of loan officers indicate that banks continue to tighten conditions on corporate loans. Although the latest survey from October was not quite as grim as the one from July — when the negative reading was the worst since the financial crisis — it showed credit conditions worsening for a third consecutive quarter. Huw van Steenis of UBS notes that excluding PPP-arranged loans, US bank lending to companies has contracted at the sharpest rate since 2008-09.

Gabriel Chodorow-Reich of Harvard, Olivier Darmouni of Columbia University, and the Fed's Stephan Luck, Matthew Plosser and Harry Cooperman recently pored through the details of the $555bn that US companies borrowed between February and June. Using granular loan data reported by banks to the central bank, the results were telling.

The jump in corporate lending was almost entirely accounted for by big companies drawing down pre-existing credit lines, while smaller and midsized ones actually saw reduced use of credit lines in the second quarter.



The researchers point out that it is understandable that smaller businesses get poorer access to credit, given the paucity of timely, comprehensive and reliable financial information available to lenders, while big companies are regularly audited, often graded by rating agencies and — if listed — continuously scrutinised by thousands of fund managers and financial analysts.

Nonetheless, the Covid-19 economic shock allowed them to explore just how divergent the access to credit has become, not just in volume but in how onerous the conditions are. "The terms for smaller firms are much more constraining, the maturities of the loans are shorter, the loans more likely require collateral, the interest rates are higher, and the covenants are more binding," Mr Plosser says.

The implications are considerable, Mr Luck notes. "The data points to smaller firms undergoing a credit crunch, while bigger firms are not. Down the road, that has implications for who is able to survive," he says.

Uprooted lenders

This is not just a US phenomenon. The Bank for International Settlements has found that companies with revenues of $1bn or more accounted for 70 per cent of all borrowing from the corporate bond and syndicated loan markets between January and June, close to the highest in a decade. This was unlikely to have been driven by their greater financial strength, as the creditworthiness of these bigger companies was only "marginally" better than midsized companies in the study, the BIS notes.

However, the bifurcated access to credit — between bigger companies that can access the fixed income market and smaller companies that have to rely on banks — is particularly acute in the US, where bonds make up a far bigger proportion of overall lending. The number of US bank branches per 100,000 people peaked at almost 36 in 2009 and has since shrunk to about 31 in 2017, according to data from the St Louis Fed. Personal banking has migrated online, but small business lending still often requires local, physical roots.

Meanwhile, the heft needed to tap fixed-income markets is increasing. The average size of corporate bonds issued in the US reached a record $1.1bn this year, twice that in 2007. In Europe the average issuance size has also hit a record, but remains at just $593m, according to Dealogic, a data provider.

The difference between American Airlines' bond market success and GNS' struggles with Wells Fargo highlights the divergence. "It's been better to be a big company than a good company in this market, and American Airlines is the posterchild of this," says Victor Khosla, head of Strategic Value Partners, an investment group that specialises in the debt of struggling companies.

One potential solution lies in the rapidly-expanding "private credit" industry, funds run by investment groups such as Blackstone, BlackRock and Apollo to lend directly to companies. This is now close to a $1tn industry, according to analyst estimates. Although it is nursing losses at the moment, the opportunities thrown up by the coronavirus crisis mean that there has been a boom in fundraising.

However, some industry insiders say private credit funds are increasingly focused on bigger companies. Given their expanding size, and the fact that the due diligence needed on a $50m loan is not much easier than that for a $200m loan, many funds are concentrating their efforts on larger companies.

Moreover, the industry is overwhelmingly set up to fund companies owned by private equity firms. This means that most of corporate America have little hope of tapping them. "For businesses without private equity support it's a challenge to find a financing source," says Randy Schwimmer, head of origination and capital markets at direct lender Churchill Asset Management.

Nor has the Fed's Main Street programme — an effort to deploy the central bank's firepower, in conjunction with the US Treasury, to help tide smaller companies over the coronavirus crisis — proved to be much help.

Despite revisions since its June launch, most recently lowering the minimum loan size to $100,000 from the initial $1m, the take-up was dismal even before outgoing Treasury secretary Steven Mnuchin decided to withdraw by year-end the $75bn that the department had handed the Fed to insulate it against losses. As of November 5, only $4.9bn of the $600bn originally on offer had been lent, Goldman Sachs says.

"The quickly deteriorating virus situation raises the risk that small businesses may struggle in coming months without further support," the investment bank warned in a recent report.

> 'You think, how can I fight this? What can we do to make this work? The last thing you want to do is let your life's work go down the tubes'
>
> **Kim Peacock, GNS Foods**

> 'We've created a caste system for credit. It's significant, because its basis is entirely a function of size, not quality'
>
> **Peter Atwater, former JPMorgan banker**

Moving with urgency

Mr Mnuchin has proposed a new stimulus package with more support for small businesses, and the incoming Biden administration could look to restart or overhaul the Main Street programme. At her nomination as Mr Biden's Treasury secretary, former Fed chair Janet Yellen said aggressive action was needed to address "an American tragedy".

"It is essential we move with urgency," she noted. "Inaction will produce a self-reinforcing downturn causing yet more devastation."

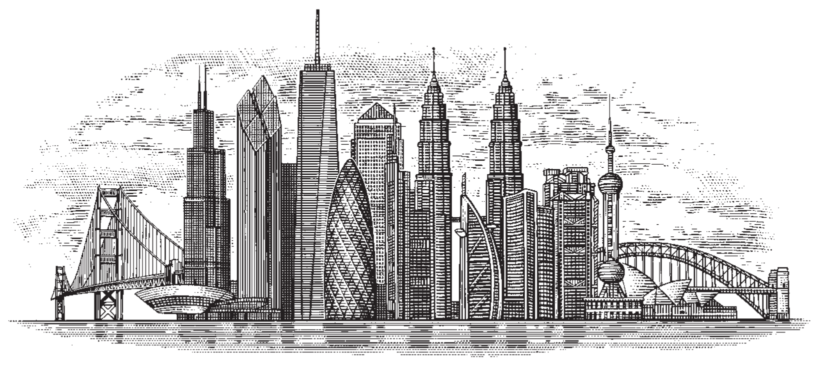
Goldman Sachs advocates that the incoming government explore a loan guarantee programme akin to those in Germany, France or Denmark as a "middle ground" between the expensive, grant-like PPP and the cost-efficient but less effective MSLP. Done well, this could encourage banks to provide more of a financial bridge to struggling companies and ensure that they survive until the economy is in better shape.

Nonetheless, something more durable may be necessary to help ensure that smaller US companies continue to access credit even when the pandemic fades away, says Peter Atwater, an adjunct lecturer in the economics department at William & Mary university and a former JPMorgan banker. "We've created a caste system for credit," he says. "It's significant, because its basis is entirely a function of size, not quality."

Wells Fargo declined to comment on the problems faced by GNS in refinancing its loan, but said in a statement that it was striving "to make every responsible loan we can" to small businesses. "This year has been extremely hard for small businesses and we at Wells Fargo are doing all we can to help our customers keep their doors open," it said.

Although GNS eventually managed to cajole Wells Fargo into refinancing its mortgage, Mr Milroy, the chief financial officer, is now fretting about the company's credit line, which is due for renewal early next year. He argues that the willingness of banks to finance smaller companies has been noticeably declining for a long time, and especially in the wake of the 2008 financial crisis.

"It's gotten harder every year we've been in business," says Mr Milroy.



FINANCIAL TIMES
'Without fear and without favour'
TUESDAY 15 DECEMBER 2020

Christmas celebrations in the age of coronavirus

Restricting social contact is even harder during the festive season

The first coronavirus vaccinations were given in the US yesterday, days after the UK became the first western country to start mass inoculations — opening a new phase in the battle against Covid-19. The discovery of vaccines that appear effective in guarding against the virus has lifted hopes that societies will soon be able to return to normal. Once a sufficient proportion of the population has been immunised there will be less need for restrictions preventing mixing, celebrating and doing all the things that brighten the gloomy winter months in the northern hemisphere.

Unfortunately, another rise in cases in the US and Europe shows just how far from normal many societies remain. The next few weeks — normally the busiest for the hospitality sector and social butterflies alike — will be critical in preventing a further acceleration in cases that could overwhelm hospitals. It underscores the need for continued restraint and vigilance over the next month — when many would rather be celebrating than socially distancing.

The number testing positive for the virus has increased despite the reintroduction of restrictions after the summer. This has, in turn, absorbed much of the capacity of healthcare systems to treat and protect populations. Governments have little choice but to impose tougher restrictions again — Sweden, which has tried throughout the pandemic to allow its citizens more freedoms, has received offers of support from its Nordic neighbours for help with its overwhelmed hospitals.

The upsurge in cases is widespread across developed economies. Germany, which was largely spared the worst of the first wave compared with its neighbours, is set to go into a strict lockdown from tomorrow involving closures for schools and shops. France is introducing an 8pm curfew, including on New Year's Eve. Italy is likewise mulling curfews and bans on non-essential travel. Belgium has extended its curbs through the holidays and will allow people to invite only one adult friend — known as a "cuddle contact" — to their homes, or two if they live alone. In the UK, from Wednesday, the capital London will be under the strictest of England's three tiers of restrictions.

This is unfortunate, but also made more difficult by the fact it is happening just before the holiday period, when families will want to be together. Many may simply ignore any instruction from the government that smacks of an attempt to cancel Christmas celebrations. This desire to relax or bend the rules is understandable. Combating the virus has involved a great deal of sacrifice and isolation, all of which has left people craving the mix of family, festivities and fun that holidays bring.

However, it is exactly this desire for human contact that viruses have evolved to take advantage of. Coronavirus initially arrived shortly before the Chinese lunar new year. The restrictions the Chinese government placed on movement out of Hubei province, where the virus is thought to have begun, probably helped reduce the spread. In the US, recent Thanksgiving festivities and travel led to a sharp increase in infections; the US experienced its most deadly week of the pandemic last week.

The coming weeks, when citizens in many countries will be deprived of the normal pleasures of the holiday season on top of the sacrifices already made this year, will be some of the hardest of the pandemic. The launch of vaccination programmes, however, means the new year will bring hope of the beginning of the end.

Britain must tread with caution on new nuclear

The country's first power plant in over 20 years is costly and late

More than a decade ago the UK head of EDF, the French power company, promised that Britons would be cooking their Christmas turkeys with power from a new nuclear plant in 2017. Three Christmases after that deadline, Britons are still waiting; Hinkley Point C, the Somerset plant in question, is not expected to start providing electricity until 2025. The 2017 pledge has haunted EDF ever since, and dogged the government's attempts to formulate a coherent energy policy. Britain's commitment to a target of net-zero emissions by 2050 has only added to the urgency for a new approach.

A long-awaited white paper, published yesterday, has set out how Britain can deliver on its net-zero commitment. At the same time, the government said it had begun formal talks with EDF over how to finance a planned £20bn sister plant to Hinkley Point, to be built at Sizewell on Britain's east coast. There are good reasons in principle to back the construction of a new plant. Britain generates about 20 per cent of its electricity from nuclear, but nearly half of the stations will shut by 2025. Sizewell, like Hinkley Point, would generate 7 per cent of the country's electricity and would help to plug the gap in power supplies. It would also provide low-carbon baseload electricity, especially at a time when technologies such as carbon capture and long-term battery storage have not yet become commercially viable.

Ministers, however, should proceed with caution. The government cannot afford a repeat of what happened with Hinkley Point. Thanks to spiralling construction costs and a controversial support system that guaranteed EDF and its junior partner, China's CGN, a steep price for the electricity, it has become one of the most expensive nuclear reactor projects in the world. Under the 2013 deal, the coalition government agreed a price of £92.50 per megawatt hour for the electricity — at the time, close to double the wholesale price. The price is also indexed to inflation. Since then, the cost of renewables has plummeted, making Hinkley Point look even more expensive.

In considering a new agreement, ministers should adopt a "technology neutral" position; the onus must be on EDF to make the case publicly on how Sizewell will deliver electricity at a reasonable cost to consumers. In addition, given the long lead times in the construction of new reactors and the sheer pace of technological change the world has already witnessed in renewable energy, EDF should demonstrate how it will apply the lessons learned from Hinkley Point. Two of its other plants which are using the same design — in Flamanville in France and Olkiluoto in Finland — have also been dogged by repeated setbacks.

A new funding model will need to be agreed. The government said talks would focus on a so-called "regulated asset base model" which has been used for other infrastructure, such as the Thames Tideway "super sewer". This has attracted fierce criticism as it would see energy bill-payers charged upfront. There is also talk of the government taking a direct equity stake in the construction. This would have some merit given the size of the risk. The government's long-term borrowing costs are currently below 1 per cent. The structure of any contract, with appropriate penalties if conditions are not met, will be key.

The final decision to build the plant will be subject to a full regulatory and planning approval process. Nuclear power has the attraction of being low-carbon but not being subject to the vagaries of the weather. Britain needs both to embrace this opportunity — but ensure it does not pay over the odds.

Letters

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UK workplace training scheme should be saved

Peggy Hollinger is absolutely right on the need for a workplace training partnership (Inside Business, December 10). The government's offer giving limited entitlement to level 3 skills training, which is parallel to A levels and advanced apprenticeships, from next April is not enough. We need a massive retraining programme now to combat rising unemployment and prepare for disruption from automation, the move to net zero emissions and new ways of working after the pandemic.

There is already an incredibly successful workplace partnership scheme — the Union Learning Fund, which supports non-union members too. It is funded by government, delivered by union learning representatives and facilitated by employers. But the Department for Education is proposing to scrap it when the current funding year ends.

This is despite union learning surpassing its targets and receiving glowing independent evaluations. Ending it would set back the government's own skills goals, with the loss of up to 200,000 learning opportunities each year. And it would reduce take-up of the new entitlement to train for level 3.

Employers are deeply concerned too. Tesco, Heathrow, Hinkley Point C and Tata Steel and many others are lobbying to save it. They tell us that it has played a tremendously valuable role improving the skills and motivation of their workforce.

The government should safeguard union learning and build on its success, expanding the partnership approach with a statutory right to retraining for all workers, and industrial transition programmes agreed in partnership between unions, employers and government.

Kevin Rowan
Head of Learning and Skills, Trades Union Congress, London WC1, UK

Don't forget gold in search for a new reserve currency

Ruchir Sharma argues that governments should not assume traditional currencies are the only store of value that people will ever trust ("Will bitcoin end the dollar's reign?", Opinion, December 10). So, after 100 years of dominance, will bitcoin replace the dollar as the new reserve currency?

He's right that the vast printing of money is eroding public trust in currencies and, with inflation, the dollar's status as the world's reserve currency is at risk. People are looking for an alternative and currencies face being displaced by digital upgrades.

Bitcoin is certainly a top contender, but he has overlooked a more obvious, logical alternative: gold. Through bitcoin's very own blockchain technology, you can allocate and exchange physical gold and silver. Precious metals are infinitely more stable and fairer than both the dollar and bitcoin, so why not integrate them back into the monetary system?

With global debt spiralling, we're going to have to rethink the modern economy. The imminent devaluation of currencies shows it's time to move away from debt-based currencies. Currencies were invented as an "I owe you" for precious metals when it became too impractical to use them in financial transactions, but now you can swap the assets directly through technology.

History shows us that gold can provide monetary stability, which is needed more than ever. The signs certainly suggest that money is going to evolve away from the free-flowing currency experiment towards a digital alternative, but the only "digital gold" is gold itself.

Thomas Coughlin
Chief Executive, Kinesis
Brisbane, Australia

A history of money shows what bitcoin is up against

Ruchir Sharma penned an interesting article discussing the primacy of the dollar as the number one world reserve currency ("Will bitcoin end the dollar's reign?", Opinion, December 10). While he makes a few valuable observations, his overall assessment of bitcoin's potential is off the mark.

He makes a comparison with gold which used to be a worldwide reserve money for a long period of time. This is misleading for two reasons. First, gold was commodity money, which means it used to have a double function: a

natural one (eg, jewellery, etc) and as money. Without the first it could have never acquired the second use. Why? Because for the evolution of a commodity into money it needs to have a natural commodity use in the first place.

Modern money is usually called credit money because it is created by lending. It has a single use only: it is money and nothing else. It looks similar to bitcoin. But there is a big difference: credit money is created by the banking system which is regulated by a state monopoly called a central bank. People have trust and confidence in credit money only because, and so long as, they trust the central bank and the state. Without the state no single-use money can discharge the most important functions of money: its role as a medium of exchange and medium of payment.

There are four conditions which make the dollar supreme today: the dollar is fully convertible; it is backed by the largest economy of the world; the US has the largest and most liquid capital markets; and rule of law reigns supreme in the US. All these conditions must prevail at the same time. If one is missing there is no chance a currency can emerge as the number one world reserve currency.

Bitcoin may enjoy the very first of these requirements but never the others.

It shows rather eloquently that without the stamp of approval of a large, strong and good quality state no money will be accepted as a global reserve currency.

Lajos Bokros
Professor of Economics and Public Policy
Central European University
Vienna, Austria

Recalling pellucid prose of a judge's antitrust ruling

Your article "Facebook begins legal battle to avoid break-up" (Report, December 11) quotes the aptly-named Judge Learned Hand's pellucid prose in the 1945 Alcoa case to the effect that "the successful competitor, having been urged to compete, must not be turned upon when he wins" — presumably to prop up Facebook's defence.

However, your reporters, by doing so, give the impression that Alcoa, the "successful competitor", won the case. Judge Hand in fact ruled against Alcoa, noting the belief that "great industrial consolidations are inherently undesirable, regardless of their economic results".

Judge Hand did not order a break-up of Alcoa because the federal government had created new aluminium firms to support the war effort, so Alcoa had lost its monopoly anyway. The decision should become a guidebook for our rejuvenated anti-trusters.

Leonard Hyman
Sleepy Hollow, NY, US

There are many reasons for British pub's decline

I sympathise mightily with the anguish that lurks beneath the surface of the article by Jo Eames ("What will Britain be without its pubs?", Opinion, FT Weekend, December 12).

She lays some of the blame for the slow dismantling of the pub sector during Covid-19 on the "dogged insistence" of "well-meaning epidemiologists and scientists" who inadvertently advise the government to kill the pub forever.

But the statistics she quotes at the start of her article provide another context — they show the number of pubs has fallen by 22 per cent over the past 10 years. And that is because the customer is changing.

The conversation, between the bishop and the groundworker, that she highlights is nowadays very likely to be carried out via Twitter, and no longer does the newcomer get to meet the manager of the town's five-a-side team in the pub, because they are likely to be dining, at separate tables, without talking to each other.

The world of the pub, like everything else, is changing. To lay the death of the pub at the feet of epidemiologists, or the prime minister, as Ms Eames does is, regrettably, only part of the story.

Peter Backman
London, N3, UK

How to change global warming to global cooling

You write about consumers needing to change their habits to meet net-zero carbon targets, however this does not account for the residual carbon in the atmosphere which will continue to heat the planet for the foreseeable future (FT View, December 12). Reducing this is an imperative. Sequestering carbon in the soil through the use of no-till farming methods is the answer, but this will require governments across the globe to support regenerative farming. If regenerative methods are employed, not only will the human race be healthier, but everything from insect life to global biodiversity will reap massive benefits. Furthermore, global warming could be changed to global cooling within a generation.

Erica Austin
Soil Advocate, Kiss The Ground
Burford, Oxfordshire, UK

Mine water is a proven geothermal technology

There are many positives in the government's energy white paper (Report, FT.com, December 14), but the failure to mention geothermal is a serious omission. About 30 per cent of our CO_2 emissions are from heating and heat pumps. Using warm water in abandoned coal mines is 30 per cent more efficient than ground source or air pumps. Furthermore, the minewater can provide a daily to seasonal heat-storage facility which will be greatly needed given the mismatch between solar and wind supply and domestic demand.

The technology is proven not speculative and can be brought on stream quickly.

A quarter of the nation lives in areas which could use the mine water heat source, so the jobs created would be in the "red wall" of constituencies the Conservatives took from Labour in the last election.

Helen Goodman
Professor Jon Gluyas
Director, Durham Energy Institute
Department of Earth Sciences
Durham University, Durham

Scottish artist hits all the right notes at La Scala

Richard Fairman reviewed the La Scala opening gala noting the dazzling visual presentation (December 9). He mentioned Lucia di Lammermoor paddling on a beach, but it's worth adding that this staging was linked to a background of a human tableau meticulously copying "The Singing Butler" by Scottish artist Jack Vettriano. How interesting that La Scala chooses to celebrate this popular painter while the British art establishment pays him scant attention.

Michael Vavrinek
London W2, UK

Douglas-Home did it with matchsticks

It is not only governors of the Bank of England that have problems with economics (Letters, December 10) but prime ministers, too. Alec Douglas-Home in an interview with the journalist Kenneth Harris explained: "I have to do my economics with matchsticks."

Jean Lang
Dorchester, Dorset, UK

A changed Senate awaits an optimistic president-elect

Washington Notebook

by Courtney Weaver

In the early days of January 1973, Joe Biden arrived at the US Senate at one of the nadirs of his personal life. The 30-year-old father of three had just lost his wife and baby daughter in a car crash weeks before. His two sons, who were also in the vehicle, were recently out of hospital.

No longer anxious to join the chamber to which he had been elected in an upset victory six weeks before the crash, Mr Biden was talked into the role by Mike Mansfield, the long-serving Democratic Senate majority leader. He persuaded Mr Biden to come and do the job for six months. Mr Biden stayed for 36 years.

In January, Mr Biden will return to Washington as president. He will find a different Senate from the one he joined in the 1970s, or the one he contended with as Barack Obama's vice-president from 2009-2017.

In his most recent book, Mr Obama writes that he chose Mr Biden as his Senate intermediary not just because of the Delaware politician's long history with the body. He knew that, in the Republican Senate majority leader Mitch McConnell's mind, negotiations with Mr Biden did not "inflame the Republican base" in the same way that "any appearance of co-operation with (Black, Muslim socialist) Obama was bound to do".

Mr Biden appears to continue to share Mr Obama's thinking. He has acknowledged, in the wake of his electoral victory, that he is prepared to initially run into "some real brick walls", if Democrats fail to pick up two additional Senate seats in a pair of Georgia run-off races next month. But he has expressed confidence that he may be able to navigate the opposition in a way other Democrats could not.

"I believe I know the place," he professed to supporters last month. "I believe we can ultimately bring it together."

When Mr Biden first arrived in the building he was one of the youngest senators in US history — so young that he was often mistaken as a staffer by workers and then secretary of state Henry Kissinger alike, he recalled in a memoir. His first Senate office was "so small that people on my staff had to get up and stand sideways just so somebody could open the front door". By the time he left to join the White House as Mr Obama's vice-president, he had served as chair of the judiciary and foreign relations committees.

Over the course of his tenure there, the Senate changed too. During his early years, it was an unwritten rule that senators did not campaign in favour of a sitting senator's political opponent — even members of the opposite party. When Hubert Humphrey, the former Democratic presidential nominee, was nearing the end of his time as Senate majority whip, shortly after Mr Biden's arrival, he shared a tearful embrace on the chamber's floor with Republican Barry Goldwater, another former presidential candidate and his ideological adversary.

Mr Biden has hearkened back to that moment — and other times of bipartisanship — as proof that the Senate is, at heart, a collegial place.

In his memoir, Mr Biden recalls witnessing "a thousand small kindnesses from one side of the aisle to the other", even amid the rise in partisanship: "Any day of the week you can read or hear about the lamentable state of our nation's politics, about our bitter and partisan party divisions, about the regrettable coarseness of the discourse. I don't deny it, but from inside the arena none of it feels irreversible or fatal."

In the weeks since Mr Biden's victory, only a handful of Republican senators have acknowledged his win or publicly congratulated him. The president-elect has suggested this sort of attitude would change once Mr Trump leaves office and there is no longer "fear of retribution from the president", as he put it recently. "Hopefully when he's gone, they'll be more willing to do what they know should be done," he added. On Monday, US electors met to formally choose Mr Biden as the next president.

Mr Biden is likely to be disappointed. But perhaps it is too soon to fault him for trying. Even Humphrey was not always so idealistic about the institution — as he once put it: "The Senate is a place filled with goodwill and good intentions — and if the road to hell is paved with them, then it's a pretty good detour."

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Opinion

Punitive sick leave rules make us all pay

EMPLOYMENT

Sarah O'Connor

The events of 2020 have made us question things we used to take for granted, from why we used to commute daily to the office, to whether it was smart to depend so much on Google. Matt Hancock, the UK's health secretary, posed one such question last month: "Why in Britain do we think it's acceptable to soldier on and go into work if you have flu symptoms or a runny nose, thus making your colleagues ill?"

The numbers back him up. The UK has one of the lowest sickness absence rates in the OECD. The proportion of working hours lost to sickness has declined steadily for two decades, while measures of "presenteeism" — working while sick — are on the rise.

Take the NHS, the UK's biggest employer. The 2019 staff survey, which drew more than 500,000 respondents, found 57 per cent had gone to work in the previous three months despite not feeling well enough to perform their duties. Even before the Covid-19 pandemic, the danger of staff with infectious bugs interacting with vulnerable patients should have been clear.

Mr Hancock's question may have been rhetorical but it deserves an answer. One reason people "soldier on" is the country's inadequate statutory sick pay, currently one of the poorest in the OECD. A less visible explanation is the punitive approach that some employers take to managing sickness absence and, underpinning that, a simple mathematical formula with mysterious origins and dangerous consequences: the "Bradford factor".

No one knows for sure where the Bradford factor came from. HR folklore sources it to a pharmaceutical company in the 1980s whose managers attended a seminar at the Bradford University School of Management (Bradford University didn't reply to my questions about it). It is based on the assumption that frequent, short-term absences are more problematic for organisations than longer-term ones. The formula is S-squared x D, where S is the number of spells of absence in the last year, and D is the total number of days of absence in that year. If one employee is off for 14 days in a row, and the other is off for seven two-day spells, their Bradford scores would be 14 and 686 respectively.

> Tools such as the 'Bradford factor' can scare the genuinely ill into going to work

Use of the Bradford factor is relatively common, especially in the public sector. It has spread as far as Dubai and New Zealand. It's easy to see the appeal of a quasi-scientific metric that treats everyone the same and allows comparisons across teams. Stephen Bevan, head of HR research development at the Institute for Employment Studies, says the scores can be a useful early warning flag for problems such as depression. "But in the wrong hands," he adds, "it's toxic."

Some employers use Bradford scores to rank people for redundancy. Many use them as "trigger points" to manage their absences. The Rotherham, Doncaster and South Humber NHS Foundation Trust, for example, states that employees must keep their Bradford score below 80, or enter a "monitoring stage" where they are reminded that "continued absence" could "potentially put their continuation of employment at risk". They must then keep their Bradford score below 10 for a certain period. Nicola Hartley, director of people for the trust, told me that adjustments were made for employees with a recognised disability and that managers used flexibility and compassion.

These tools may dissuade shirkers but they can also scare the genuinely sick into going to work. Jean Fisher, an occupational health nurse who runs a consultancy in Wales, has had people tell her they are "frightened to go for their hospital appointments because they'll get more [Bradford] points and they'll be disciplined". These are often older workers with back, heart or lung problems, especially if they've had a "heavy life of work" in factories. People with disabilities are protected by law, but she says many don't dare pick a fight.

David D'Souza, of CIPD, the UK professional association for HR staff, hopes the pandemic has jarred companies out of their old mentality towards sickness. "People haven't been talking about absence triggers, quite often the opposite, they've been talking about making sure people aren't overly present," he says. Infectious diseases aside, punitive sickness policies are not fit for the future. The proportion of the working age population aged between 50 and the state pension age will increase from 26 per cent in 2012 to 34 per cent in 2050. Almost half of people aged between 50 and the state pension age have at least one long-term health condition. Employers need to learn how to adapt and support staff with health problems, not pressure them to work through the pain or push them out of the door.

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Britain will do a Brexit deal on Europe's terms

GLOBAL AFFAIRS

Gideon Rachman

And so we stumble onwards. The extension of trade talks between the EU and the UK should not be a surprise. For all Boris Johnson's bravado about "prospering mightily", the British prime minister knows that a "no deal" Brexit would be disastrous for the country. The EU would also suffer, but not nearly as much. So there will probably be a deal struck before the end of the year; if not, soon afterwards.

When an agreement is reached, it will largely be on Europe's terms. The EU will doubtless makes some concessions on fisheries as part of last-minute haggling. But Britain will have to agree to the EU's central demand, which is that there must be "level-playing field" rules — ensuring that the UK cannot undercut EU regulations on competition at will.

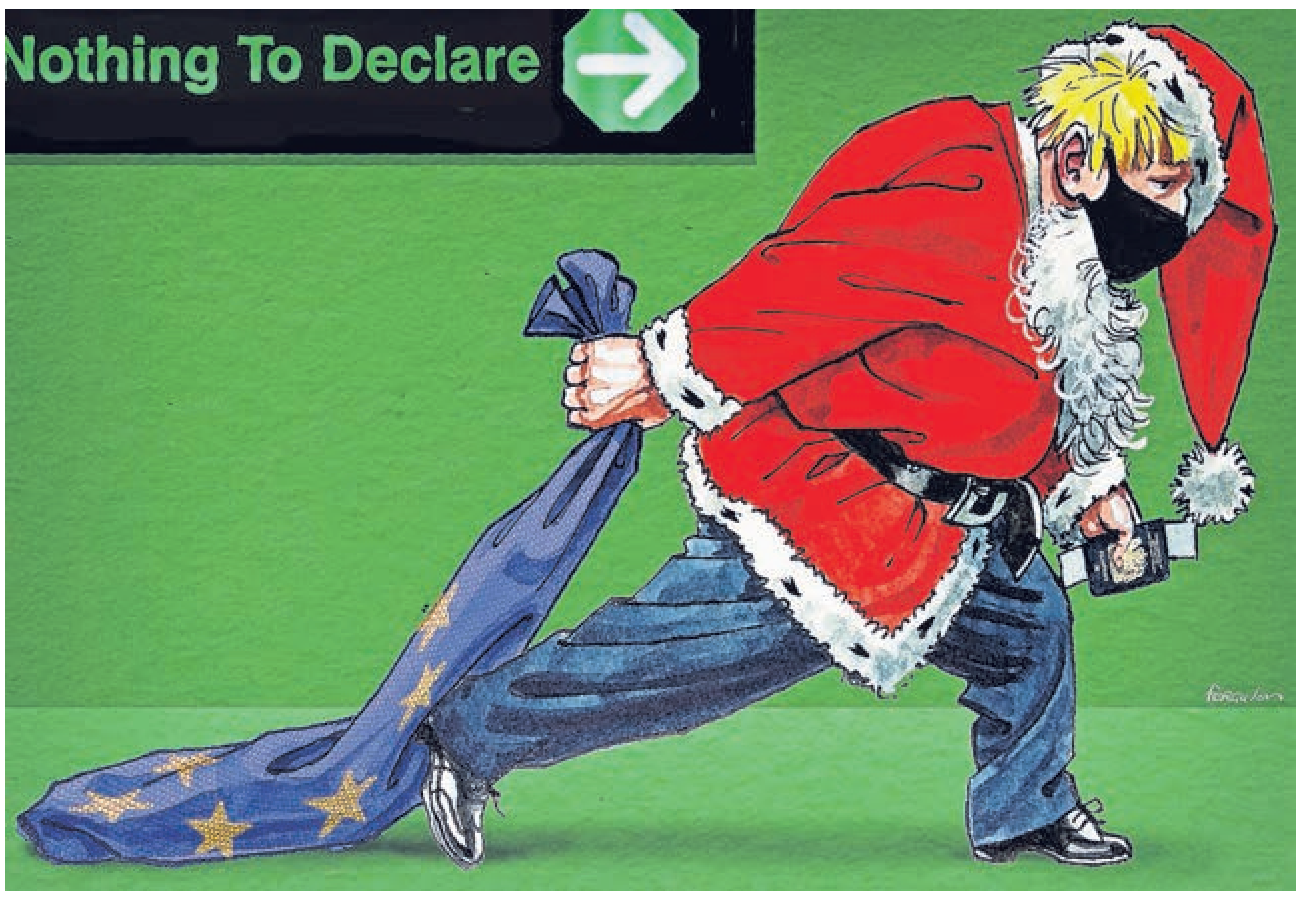
The reason that the deal will be done on the EU's terms is the same reason why the whole Brexit process has been so painful for Britain — a fundamental asymmetry in power between the two sides. Britain sends 43 per cent of its exports to the EU; Germany, France and Italy all send around 6 per cent of their exports to Britain. The population of the UK is nearly 67m; that of the EU is 447m. Even without Britain, the EU has a single market comparable in size to that of the US or China.

Mr Johnson insists that the UK and the EU are "sovereign equals". But, as long as the EU maintains its unity, they are not equals in terms of power. And that is what has mattered in these negotiations. It is why Britain has made a series of painful concessions over the past four years — most notably by agreeing to a separate status for Northern Ireland, which will see customs checks on goods crossing the Irish Sea, effectively dividing the United Kingdom.

The British have always insisted there is a win-win deal that Brussels and London should both happily embrace. But they have failed to understand how the EU sees its own interests. The integrity and attractiveness of the European single market is the EU's single most important strategic asset. Brussels is determined not to undermine that strength, by allowing the UK market access on terms that are too advantageous.

The Europeans also need to demonstrate to Eurosceptic forces within their own countries that leaving the EU is a bad idea. So they have always been much less sold on the idea that there can be a "win-win" outcome from Brexit.

Once the Europeans had decided that it was not in their interests to grant Britain the easy access to the single market that Mr Johnson had breezily promised to UK voters, relative power became crucial. Unfortunately, Britain's Leavers have consistently overestimated Britain's power — believing that the EU was about to fold or make concessions that never materialised.



Why did Britain make this mistake? Partly because Leavers have placed far too much faith in the fact that the EU enjoys a large trade surplus with the UK. They have forgotten that, on a global scale, Britain is only one market among many. For years, the British have been waiting for the German carmakers to arrive over the horizon — like Gebhard Leberecht von Blucher at Waterloo — and save the day. We are still waiting. Reduced access to the British market would be painful for German carmakers — but not so painful that it is worth undermining the integrity of the EU single market.

More broadly, Britain's Leavers were guilty of swallowing their own propaganda. For decades, the belief that the EU (and/or the euro) is on the point of collapse has been a staple of British Eurosceptic discourse. A generation brought up on tales of British military victories over Germany and France finds it hard to envisage that "if it comes to it", Britain will not ultimately prevail over those flaky Europeans.

> A fundamental power asymmetry puts the UK at a disadvantage in the negotiations

This kind of jingoism was epitomised by the recent remark by Gavin Williamson, Britain's education secretary, that we're "a much better country than every single one of them". This is the same man, who as defence secretary, once told the Russians to "shut up and go away".

As their illusions have been stripped away, Brexiters have resorted to complaining that the EU is treating Britain unfairly. But students of international relations and trade negotiations could have pointed out to them that relying on the kindness of other countries is not a sound strategy. Nations, Britain included, look out for their own interests first.

Horror at the weakness of Britain's position has led to an outbreak of xenophobia and empty bluster. One British newspaper this weekend, quoting an unnamed government minister, shouted — "Merkel wants Britain to crawl across broken glass".

The previous day, the same paper's headline had screamed — "We'll send in Gunboats". The obvious response to that is — and then what? Confronting French fishermen with military force invites non-military retaliation from the whole of the EU — which brings Britain back to that awkward asymmetry in power.

In the two world wars — which have done so much to frame Brexiter thinking — the UK prevailed with the help of America. But the Biden administration will not ride to Britain's rescue in a confrontation with the EU. A no-deal Brexit would result in not-very-splendid isolation. That is why a deal, largely on the EU's terms, is by far the likeliest outcome.

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To the moon and back, Chinese R&D is leaving America behind

Matthew Slaughter

Many people around the world, especially in the US, are focused on the prospect of Covid-19 stimulus packages. But for the long-run health of the world's nations, the most important pieces of recent economic news may have come from two unexpected places: Puerto Rico and the moon.

On the first morning of December, the Arecibo radio telescope of the US National Science Foundation in Puerto Rico collapsed. In seconds, the instrument's 900-tonne constellation of radio receivers and girders crashed into the massive radio dish hundreds of feet below. Since its completion in 1963, Arecibo has been among the world's most powerful radars. It anchored earth's search for extraterrestrial life; its examination of the heavens contributed to foundational discoveries and Nobel Prizes. But there are no current plans for its rebuilding or replacement.

That same day, but on the moon, China landed a spacecraft. The Chang'e-5 spent two days gathering lunar dirt and rocks before planting and unfurling a Chinese flag, and then blasting off. On Sunday, it docked flawlessly in the moon's orbit with its return-journey vehicle. Chang'e-5 was China's third successful moon landing since 2013. If the mission ends as planned, China will be only the third nation to return moon materials back to earth for research.

One of the most important opportunities for building economic prosperity comes from basic research. New knowledge generates social returns that can far exceed private returns as ideas can often be shared freely. Scholars consistently estimate that the social return to research and development is at least 30 per cent. One result of this is that private markets alone generate too little investment in research. So the proper solution to this positive externality is for governments to support it. Indeed, the US's founding fathers recognised this by writing the so-called "patent and copyright clause" into the constitution.

Once upon a time, the US government invested heavily in research. US federal R&D spending surged after the Soviets launched Sputnik, peaking in 1965 at 11.7 per cent of federal spending and at 2.2 per cent of gross domestic product. Frontier discoveries from that time led to the internet and GPS, the global navigation system. But in the decades since putting a person on the moon, US government investment in ideas has waned. In constant dollars, Nasa spending had fallen by more than half by the early 1970s; it has been flat ever since. By 2019, total federal R&D spend constituted just 2.8 per cent of all federal spending and just 0.6 per cent of GDP — the lowest in over 60 years.

> Great nations summon the will to invest in tomorrow even during their darkest todays

Meanwhile, Chinese investment in research has surged. In launching its "Made in China 2025" plan five years ago, Beijing created more than 900 innovation funds that collectively planned nearly $350bn of new R&D investments. This year, the US National Science Foundation's biennial review reported that from 2000 through 2017, Chinese R&D spending grew at an average annual rate of around 17 per cent. This left the US increasingly "seen globally as an important leader rather than the uncontested leader" with China "rapidly closing the innovation gap." Indeed, an NSF official commented at a press briefing that preliminary 2019 data suggests that China has now surpassed the US in total R&D spending.

Great nations summon the will to invest in tomorrow even during their darkest todays. In the spring of 1862, the US Civil War was widening in scope and horror. Yet on May 5, Vermont senator Justin Smith Morrill reintroduced the Land-Grant Agricultural and Mechanical College Act. This passed the Senate on June 10, the lower house on June 17, and was signed by President Abraham Lincoln on July 2. It allowed US states to sell portions of their federal lands to fund new colleges for research in agriculture, science and engineering.

At that time, America was graduating only about 300 engineers a year, mainly from six institutions. By 1870, 21 US colleges offered engineering degrees. By 1911, America was graduating about 3,000 engineers a year, versus fewer than 2,000 in Germany. Land-grant colleges helped power the US's economic rise into the 20th century. Today, the Morrill Act is seen as a seminal US investment in research.

Amid the tragedy of the pandemic, the world's two great economic superpowers continue to clash with each other in a trade war and other skirmishes. But last week, as the scientists of one nation mourned the collapse of one of its signature instruments, scientists of the other celebrated the prospect of discoveries soon to come. Will history view that moment as a harbinger?

The writer is dean of the Tuck School of Business at Dartmouth College

Cuba's dissident protest shows need for more US engagement

Michael Bustamante

Compared with recent mass protests elsewhere in Latin America, Cuba can seem an island of stultifying calm.

But a recent, social media-fed demonstration against the authorities by artists and dissidents shows that many Cubans also thirst for change. Contrary to what some hardliners in the US argue, however, the incoming administration of President-elect Joe Biden should not treat this incident as an impediment to re-embracing a policy of engagement with the communist-ruled island.

The controversy began a month ago, when members of the San Isidro Movement — a small collective of anti-government artists and activists — went on hunger strike to protest against the imprisonment of one of their own. A week later, the authorities raided its headquarters and detained all members, accusing them of violating Covid-19 protocols. The next day, artists, independent journalists and young creatives who had followed the news on social media gathered before the Ministry of Culture to demand a meeting. On the agenda was the need for more cultural and political opening.

The protest was unprecedented in two ways: its size (up to 500 people), and the fact it crossed generational and political lines. Moreover, the group was joined by well known cultural luminaries, even if they did not fully agree with the San Isidro movement and its anti-government message. What united them all was the demand that freedom of expression be respected, period.

> It was Obama's detente, not hardline Trump sanctions, that helped spawn the San Isidro movement

Talks were held, but the dialogue has since mostly fallen apart.

For Cuban authorities, the timing of these events is suspicious, as they come at the tail-end of US President Donald Trump's administration whose punishing sanctions have hammered the economy. The hunger strike was staged, Cuban officials insisted, so as to dissuade the incoming Biden team from returning US-Cuba policy to a more rational footing. Cuban state media discredited many San Isidro members as US stooges. An ill-considered tweet from a US official calling them "colleagues" only made things worse.

If the whole thing was cooked up by US hardliners, though, Cuban officials played into their hands by responding with heavy-handed and outmoded rhetoric. Cuba is a low priority for Mr Biden, amid so many other inherited crises. But making it harder still to change the status quo are sanction supporters, who argue the protests are a sign that the "pressure works", and that Havana's recent moves to revive market reforms — such as its decision last week, after years of waiting, to move ahead with a currency devaluation — flow from Cuba's worst economic crisis in three decades.

Hopefully, the Biden administration will take away a different lesson. Cuba's economic stress has certainly contributed to unease on the island, but that distress is due more to Covid-19 and its fatal effect on tourism, as well as dwindling aid from Venezuela. Any internal changes due to Mr Trump's hardline policies, such as a cap on family remittances, have not been worth the humanitarian cost.

Furthermore, Cuba's latest bout of citizen activism is the product of a new and more connected generation on the island who have travelled abroad, including to the US, and have Facebook on their 3G phones. These changes were helped by the policy of engagement introduced by former president Barack Obama, not by Mr Trump's clampdown.

Washington should listen to the protesters and their sympathisers. Many insist that US policies of hostility and blanket sanctions damage the cause of a more democratic Cuba. History has long shown that the more that events inside Cuba are mixed up with the interminably knotty theme of US relations, the more Havana will have an excuse to dodge its citizens' calls for dialogue and reform.

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AstraZeneca/Alexion: the odd couple

Some of the gloss was knocked off AstraZeneca's stock by its recent Covid-19 vaccine trial results. But the shares are still valued more highly than those of most of its peers. The Anglo-Swedish drugs company is putting its paper to work in a $39bn stock-and-cash acquisition of US biotech Alexion. It is an unexpected target, but a canny one.

Admittedly, the deal will unnerve some investors. This is one of the largest US takeovers to be announced this year. AZ is paying a 45 per cent premium for a business that does not obviously fit with its own portfolio. Its share price fell 7 per cent yesterday.

The immunology specialist has not attracted any suitors until now, even though frustrated investors have long hoped for a takeover. A valuation of less than 10 times forward earnings shows what investors think of it. The deal will help AZ meet the $40bn revenue goal for 2023 that helped fend off a Pfizer takeover, but sceptics will worry it will prove a drag on growth.

Such fears would be misplaced. The premium is not high by biotech standards. It leaves Alexion shareholders with 15 per cent of the combined company, with the cash element amounting to just over a third of the price. The debt being taken on by AZ is likely to be paid off within three years, thanks to Alexion's strong cash flow. The transaction will boost earnings per share by double digits for the first three years.

The low valuation of Alexion's shares is a legacy of ill-judged mergers. Another factor is blood disease drug Soliris, which is approaching the end of its patent life. But the competitive threat to Alexion is reduced by a second generation product to which many patients are switching.

AZ can boost Alexion's sales by selling its drugs in new markets such as China. In all, AZ reckons there will be $500m a year of synergies, most of which are cost savings. That, taxed-and-capitalised, would cover less than a quarter of premium. But this deal is not primarily about consolidation.

The technology developed by Alexion complements AZ's skills. It can be applied to more than rare diseases. Conversely, Alexion's expertise in the fast-growing rare disease market could raise the uptake of niche discoveries from AZ's research labs. This potential will not be realised for years. But AZ has built its recent success on its scientific acumen. Investors should give it the benefit of the doubt.

Boston Dynamics: uncanny resemblances

Creepy videos of a five-legged robot dog opening a door and back-flipping headless humanoid robots that can outrun you have gripped viewers for years. Boston Dynamics' technology impressed both Alphabet and SoftBank enough for each to acquire the US robotics group. Making money from cyborgs was a different story. Hyundai Motors has stepped up to try its luck.

The South Korean automaker will buy an 80 per cent stake from SoftBank, valuing Boston Dynamics at $1.1bn. SoftBank bought the company for a reported $100m from Alphabet three years ago.

That looks pricey for a company that has changed hands a few times in a decade. Top talent has been lost on the way. Meanwhile, commercialisation of its robot dogs will not happen soon.

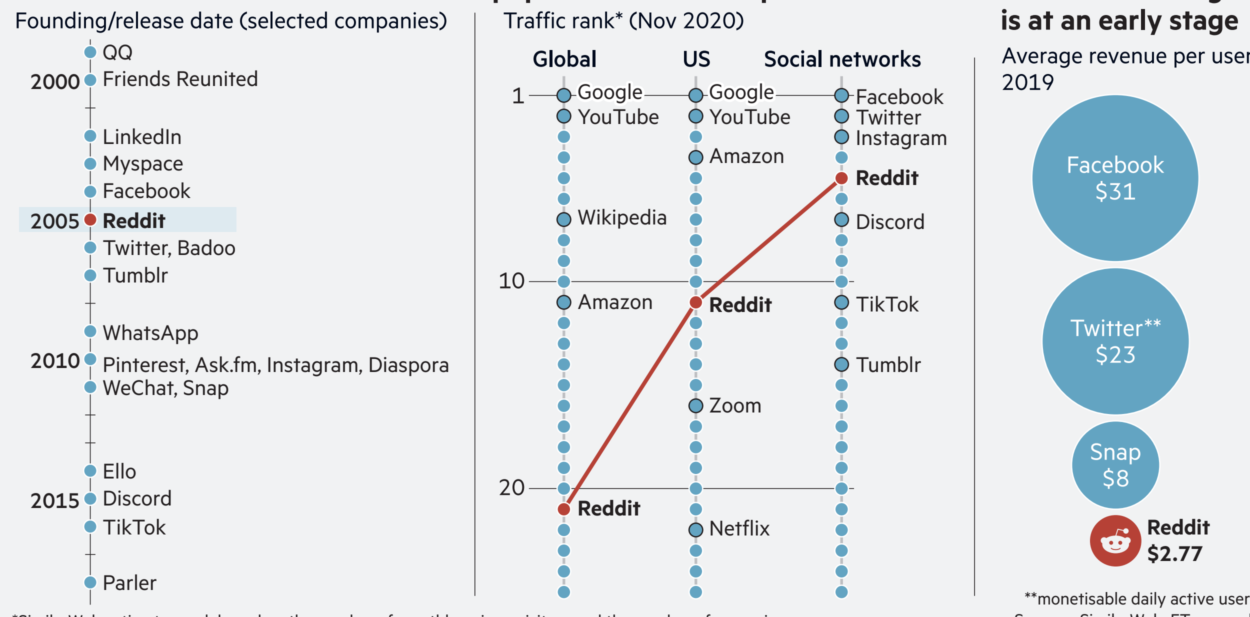
Yet Hyundai could make the deal worthwhile, even without selling a single robot dog. For years, it has planned to develop a car that sprouts legs for extreme terrain. The deal would save Hyundai years of research for the walking concept car it showcased at the Consumer Electronics Show last year. Hyundai wants a fifth of its future sales to come from robotics.

There are good reasons for this. Analysts estimate lost production from strikes to be as much $1.7bn a year at Hyundai. The sensors, arms and bipedal walking technology of Boston Dynamics' Atlas robot could be integrated into Hyundai's production lines, starting with repetitive tasks.

Hyundai subsidiaries in car parts and logistics also require automation. Boston Dynamics' background in military contracting, halted under Alphabet, should come in useful for Hyundai's defence unit. Meanwhile, Hyundai's production capabilities offer Boston Dynamics' technology wider use. All that, however, will depend on how forcefully Hyundai can integrate the new robotic technologies. Without some worker co-operation, the chances are high that yet another buyer will be reviewing the sticker price at Boston Dynamics in a few years time.

Reddit/Dubsmash: AMA on video

For 15 years Reddit has been drawing in millions of people with 'subreddits' on everything from coding to philosophy to dating etiquette. It remains one of the world's most popular social media platforms but that success has not yet translated into advertising dollars.



*SimilarWeb estimates rank based on the number of monthly unique visitors and the number of page views

**monetisable daily active users

Sources: SimilarWeb; FT research

Reddit's cluttered homepage is about to get even busier. The San Francisco-based social media company has made its first big acquisition, buying video platform Dubsmash for an undisclosed sum. The purchase is part of a broader plan to monetise Reddit's notoriously privacy-focused users. After 15 years, Reddit may finally be on its way to an initial public offering.

Dubsmash is described as a rival to TikTok. In reality it has a fraction of TikTok's appeal. Reddit says Dubsmash generates 1bn video views a month. TikTok claims it is nearing trillions. But for Reddit, the purchase makes sense as a way to expand its own user-uploaded videos — and as a result video advertising revenues.

The lo-fi, text-heavy social media platform was created in 2005, at about the same time as Twitter and Facebook. Popular with users, it has outlasted networks like Bebo. But Reddit's small size and lack of personal data collection make it a hard sell to advertisers. Videos offer a new way to sell ads.

Best known for its niche interest groups and "ask me anything" (AMA) live Q&As, Reddit says that it has 52m daily active users — fewer than a third of Twitter's 187m and nowhere near Facebook's 2.54bn. It told the Wall Street Journal that advertising revenue was more than $100m last year and expected to reach $170m this year. From these figures Lex can extrapolate an average revenue per user figure of less than $3 in 2019. That compares with about $8 for Snap, $23 for Twitter and about $31 for Facebook.

Co-founder Steve Huffman has aimed to close that gap since returning as chief executive five years ago. Last year Reddit raised $150m from China's Tencent in a deal that valued the company at $3bn. As well as buying Dubsmash it has expanded its sales teams. It has also become more active in removing content. Some Redditors moan but user numbers and advertiser interest have grown as a result.

As a private company Reddit has managed to clean itself up, away from the glare of regulators. If it can raise its revenue numbers by using video advert sales, expect Reddit to join the IPO gold rush.

Dignity: changing of the guard

Death may be certain but there is little certitude for the industry servicing it. Dignity, Britain's second-biggest funeral provider, has suffered waning profitability and a share price crash down to roughly one-quarter of the 2017 peak. An anti-competition probe, shelved by Covid-19, lurks in the wings. Worse, there is a revolving door in the boardroom as the group undergoes a protracted "root and branch review".

First out was chief executive Mike McCollum who quit in April. Now finance director Steve Whittern and corporate services director Richard Portman will exit in a couple of weeks.

Dignity has shuffled around existing personnel and is putting out a search for others. Thus besides a chief executive, Dignity needs a long-term finance director and a chief operating officer, likewise a board position.

These are tough roles. Any fire fighting has bought it time, not a reprieve. The Competition and Markets Authority's August package of lowball remedies will surely be toughened once the pandemic subsides. If the postponed price caps do follow — Dignity's share price jumped 60 per cent following the CMA announcement — profits will sink.

Already cracks have appeared. Operating margins, 37 per cent in 2016, have sagged to about 20 per cent. Social distancing and economic concerns force a focus on simpler services. Dignity registered a 23 per cent increase in deaths in the first half. Underlying operating profit, however, rose just 6 per cent.

It has a bloated balance sheet with net debt (even without leases) worth 6.5 times this year's expected ebitda, according to S&P Capital.

Incoming directors can expect plenty of meetings with Dignity's biggest shareholder, though perhaps little sympathy. The aptly named Phoenix Asset Management's 28 per cent stake give it a key role in future strategy; it may even be called upon to backstop any financing. Headhunters have a tough task ahead of them.

US regional banks: urge to merge

Detroit and Columbus are far from Wall Street. But Midwestern lenders cannot get away from the pain of low interest rates. The pandemic has added to their woes, boosting the risk that bad loans will pile up from the smaller businesses they serve. To survive, the banks believe they need to team up. Over the weekend, Huntington Bancshares and TCF Financial became the latest US regional banks to merge.

The all-stock transaction values Detroit-based TCF's equity at roughly $6bn. Huntington, which has a market value of about $13bn, is paying a 10 per cent premium to TCF's Friday closing price. Combined, the banks will have about $168bn in assets and a network primarily in Michigan and Ohio.

The pressure on smaller banks to consolidate is strong. To survive against behemoths like JPMorgan and Bank of America, the thinking goes, regional lenders must invest more in technology such as smartphone apps for mobile banking. Linking up with a rival allows pooling of resources while also helping to spread costs. JPMorgan, for example, spends $11bn a year on technology alone. That is 37 times TCF's net income last year.

Not that consolidation provides a panacea for small regional banks. TCF completed a merger with Chemical Bank in August 2019. That deal did little for TCF's share price, which is down 40 per cent from its 2018 highs.

Together, Huntington and TCF would trail behind regional rivals Fifth Third Bancorp and Citizens Financial, which have about $200bn and $179bn in assets, respectively. The deal also does little to move the combined banks' geographical dependence away from the US rustbelt, an area still vulnerable to economic downturns.

True, Huntington shareholders get a decent price. The $490m in touted cost savings, taxed and capitalised, more than covers any implicit premium. TCF trades at a lower price to book. But by keeping its borrowers geographically near, this combination will not bring Wall Street investors in any closer.

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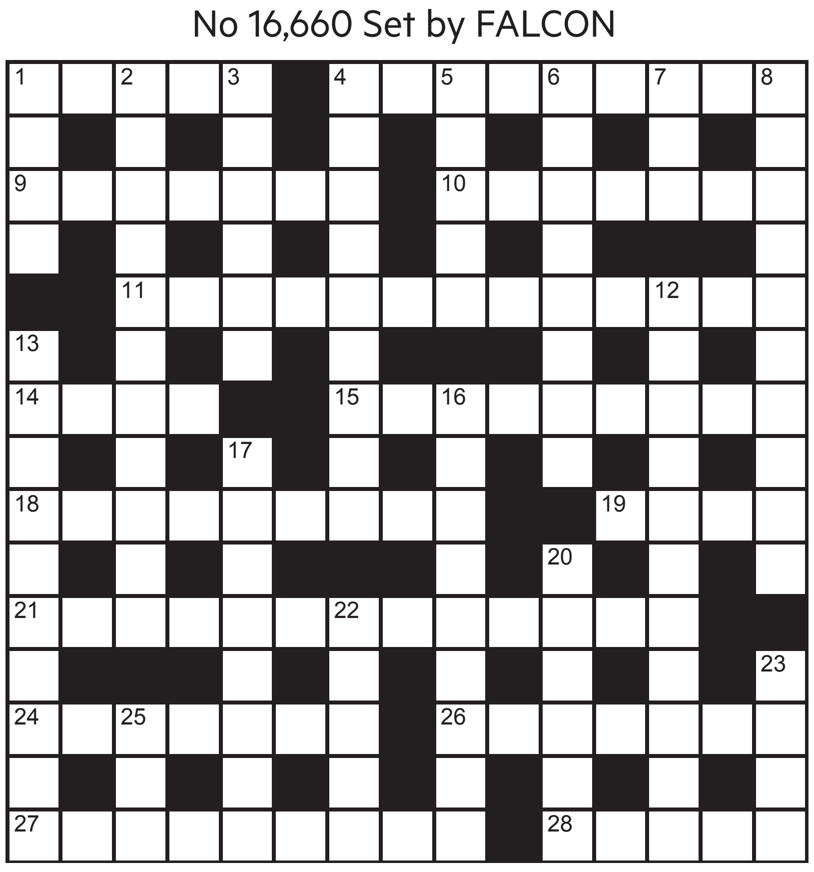
CROSSWORD

No 16,660 Set by FALCON



ACROSS

1 Colour scheme in side corridor (5)
4 Material needed by friend, organ cleaner (6,3)
9 Ideal head of popular Spanish region (7)
10 Ruminant studied, highly valued reportedly (3,4)
11 In Wellington, buy exotic bird (6,7)
14 Gem in ring set by friend (4)
15 Utterly depressed? True (9)
18 Singer's hit – score rearranged by producer, ultimately (9)
19 Fell in chamber after retiring (4)
21 Having plenty of money on respectable poker hand (8,5)
24 Round, helping to produce speech (7)
26 County's routine win (7)
27 Absolve former partner facing single charge (9)
28 One identifies bishop and rook pocketed by small child (5)

DOWN

1 Prepare training information (4)
2 Suck up to groom with act of kindness (5,6)
3 Royal English feast (6)
4 State capital in New England, a leader in trade pact (9)
5 Starts to time his round, old bobby's beat (5)
6 Commonplace, a penny-farthing years ago (8)
7 Extra purchase? Sounds like it (3)
8 Blush over a Conservative being intentionally offensive (10)
12 Having a cheerful outlook, popular goatherd worried about nothing (2,4,5)
13 Jasper, perhaps a jester (10)
16 Staff employed by church (9)
17 To make light of note is easy at first (8)
20 Copper with most unusual habit (6)
22 Woman upset after husband suggests dye (5)
23 Wife dropped from golf club side (4)
25 Bother American before function (3)

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Corporate Change & Technology

Part One

Tuesday December 15 2020

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Sustainability takes centre stage in shift to digital

The pressure for finance chiefs to be able to understand ESG-related risks is coming from many quarters, writes *Sarah Murray*

If presented with bird's-eye views of oceans, forests or deserts, many chief financial officers might struggle to connect them to financial planning or cash flow management. But with pressure for companies to demonstrate their sustainability credentials, satellite imaging and other technologies are becoming increasingly relevant to the work of the CFO.

The technologies are evolving at a rapid pace. Remote sensors and artificial intelligence tools now make it possible to track everything from water pollution and deforestation to "dark fleets" of vessels whose fishing practices breach environmental or human rights regulations.

These are issues to which finance functions must pay close attention, says André Haag, chief financial officer at Triodos Bank, an ethically-focused Dutch financial institution.

"The CFO plays an important role in creating value, and that's now much more than traditional financial value — it's about sustainability and creating impact."

Ultimately, technology will make measuring and managing all this much easier. With unprecedented amounts of data being generated, the application of AI and data analytics can enable far more accurate evaluations of companies' environmental, social and governance (ESG) performance than was previously possible.

"For sustainability it's phenomenal," says Georg Kell, chairman of Arabesque, an ESG quantitative asset manager that uses AI and big data to assess the

Continued on page 2

Bird's-eye view: satellite imaging that tracks environmental impact is growing in relevance for CFOs — PlanetScope

Inside

'Whenever you make a good hire you kick yourself for not doing it earlier' — Troy Pospisil, founder of InCloudCounsel — Getty Images

When is the best time for small teams to hire a finance chief?

Recruitment

A chance to shape a company from the ground up can help lure a CFO, writes *Antonia Cundy*

When Troy Pospisil was setting up his own business, a cloud-based platform for companies' everyday legal work, he was given some sage advice.

"Someone said to me: 'Whatever you are best at, I can promise you your company will be the worst at, because you will delay bringing on strong leadership in that role because you think you can manage it'."

Mr Pospisil, who has a background in finance, recalled the words a few years later when he found himself spending more than a third of his day on the accounts of his company, InCloudCounsel. "In reality I needed to spend my day on growing the company . . . [not] getting bogged down in how we implement our new finance software," he says.

And so began his search for a chief finance officer.

For small organisations, the decision to bring a chief finance officer on board is a critical one. Founders have to time it right, know where to recruit from, and decide what they are looking for in a role that has changed vastly over the past decade to now encompass technology and digital transformation.

Duncan Hoggett, chief finance officer specialist at executive search firm Odgers Berndtson, says arriving at the best decision is about "understanding where you are on that growth journey".

"As a business starts, often having someone that's a strong accountant is all that's needed . . . Your CFO would very quickly become bored if you weren't scaling at pace," he says, adding that a finance director — a less executive and senior role than chief finance officer — can help smooth the transition to CFO.

"The danger is you outgrow your finance director and find yourself missing opportunities . . . As you're looking for investors, as you're looking to grow, as you're looking to make decisions around strategy, to what extent is finance providing the data for those decisions? If it's not contributing in a satisfying manner, at that point you need a CFO," he says.

As well as wanting to free up his own time, Mr Pospisil says bringing on a professional investment partner combined with the financial complexities of becoming a global business spurred the decision to recruit.

"When you're raising capital it's good to have sophisticated financial experience to support the process and investors are going to be more comfortable if you have strong financial leadership," he says.

Timing can also impact the success of the recruitment process itself. "Whenever you make a good hire you kick yourself for not doing it earlier," says Mr Pospisil. "But the reality is when you're smaller, your budget might not support the kind of executive hire you ultimately want to make, and you may not be able to attract the type of talent that you really want."

CFO remuneration can vary wildly depending on various factors including company size. Smaller organisations must not "undersell" themselves either, Mr Hoggett advises. If they are not cash rich, equity and the chance to shape a company from the ground up can make the offer more attractive.

Ann Cairns, global chair of the 30% Club diversity campaign and executive vice-chair of Mastercard, says the possible "K-shaped" recovery from the pandemic — where some companies' growth accelerates while others struggle — has made it even more important for organisations to understand what they need. "Is it a CFO who is going to be managing costs, to stabilise a company, or is it one that's going to try and take advantage of this?," she says.

> 'When raising capital, investors are going to be more comfortable if you have strong financial leadership'

The pandemic has emphasised the strategic nature of a CFO's role, she adds, as technology increasingly replaces manual tasks — for instance bookkeeping software that also offers reporting tools.

Other events, such as a float or fundraising exercise, will also help decide whether sector or skills-based experience is the priority, says Mr Hoggett. However, the most important thing is that the executive team gels well.

"In smaller and growing organisations, the critical factor is that you're effectively a small family and when you're bringing in an outsider, you've got to be sure that the chemistry is there, that everyone's aligned, because it destabilises very quickly otherwise," he says.

This was what led Mr Pospisil to recruit from his own network, eventually hiring a former colleague. He acknowledges, however, that leveraging a personal network risks ending up with a less diverse team, an area to which he says his company has since given more focus as companies with diverse leadership are more likely to outperform.

If the network had not delivered what he wanted, Mr Pospisil says he would have used a headhunter. "If you advertise your job you might get lucky, but normally the people you want to hire are not going to apply because they are happily entrenched in a well-compensated role, and you have to pull them out of there."

Interim appointments can also be a saving grace, Ms Cairns says. "You can find people who've been CFOs of other companies who will step in and help you get yours into the kind of shape you want."

Digital shift takes a sustainable approach

Continued from page 1

performance of globally listed companies. "Interpretive power is multiplied [by technology] in its ability to assess investment risks and opportunities."

The pressure for CFOs to be able to understand and assess ESG-related risks and opportunities is coming from many quarters. Improving the company's financial position is one incentive.

"They have discovered that for debt financing, whether through bonds or loans, they can get preferential conditions if they choose green or sustainability bonds," says Mr Kell. "So it's a market-led inducement that has brought many to this agenda."

Meanwhile, more investors want to build portfolios that contain companies that are addressing issues such as human rights and climate change. This means chief financial officers need to understand how to use technology and data to demonstrate their company's ESG performance and communicate it — whether that be through reporting and disclosures or direct contact — to asset managers and investors such as pension funds and sovereign wealth funds.

A further driver is the shifting regulatory landscape. In the UK, for example, the Financial Reporting Council, the accounting watchdog, is pushing for companies to provide investors with more information on climate risks. And Mr Kell cites the ambitious package of policies known as the European Green Deal, as well as pledges by China, South Korea and Japan of becoming carbon-neutral economies.

"There's wide agreement, especially after the Biden election, that we're back to a race to the top on decarbonisation," he says.

Beyond this, however, finance chiefs also need to respond to changes in corporate strategy, as chief executives recognise the risks and opportunities ESG presents to their companies.

"The financial return element has shifted this from being simply about sustainability in terms of the benefits conferred on the environment and society, to what impact this has on companies and their performance," says Colin Mayer, professor of management studies at the University of Oxford's Saïd Business School.

For finance chiefs, the shift will not be easy. For a start, they need to understand how money spent on new technologies will provide a return on investment. "Unless you can do that, it's hard to fund and adopt those technologies," says Ankur Agrawal, a partner in the strategy and corporate finance practice at McKinsey.

The focus on technology will also demand investments into new kinds of talent. "Whether it's accounting tools, advanced analytics or natural language processing, you need a different set of finance professionals to work with those technologies," says Mr Agrawal.

Technology alone will not enable CFOs to make the right decisions with respect to social and environmental impact. This, says Prof Mayer, is because tools such as AI and machine learning behave in the way humans design them to behave — whether that is prioritising profit and shareholder value, or ESG goals.

"The key is who is programming the AI algorithms and for what purpose," he says. "It raises fundamental issues about whose interests [CFOs] are serving."

> 'CFOs have discovered that for debt financing, they can get preferential conditions if they choose green bonds'

Mr Haag argues that, as well as adopting new technologies, finance professionals need to make a cultural shift. "Most are in the traditional CFO role, maximising shareholder value and profit, and the new profile is shifting to a broader stakeholder model focused on establishing a sustainable economy," he says.

This inevitably expands the role of the finance function. "Technology and decarbonisation are here to stay," says Arabesque's Mr Kell. "CFOs need a more holistic understanding of the market system, and not just of the narrow field of finance."

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How to become an insider's outsider at a partnership

Leadership

Focus on potential for profit to gain trust of firm's inner circle, writes *Alicia Clegg*

Knowing that all your shareholders are on site, while having the founder and their family "sitting beside you in the office all day long" — that sums up the typical experience of a chief financial officer employed by a partnership, as characterised by one such CFO.

Simon Russell, chief financial officer at law firm Moore Barlow, is not alone in reaching for such descriptions to explain the status of those charged with bringing financial discipline to bear on partnerships such as law firms and consultancies (see page 6).

Laura Empson, a management professor at Cass Business School, shone a light on this in her 2017 book, *Leading Professionals*. She wrote of the insider-outsider dynamic between the fee-earners who become partners, and the cast of professional managers such as finance chiefs — who occupy a position somewhat akin to "a highly paid butler" — who historically do not. So what is the appeal for a CFO in working for a partnership?

If you crave the limelight and lack the patience to build relationships, working for a partnership is not for you, says Mark Freebairn, a CFO headhunter and partner at Odgers Berndtson.

In the corporate world the finance chief is second only to the chief executive. "Everyone else ultimately needs you, and because they need you, you have power."

In a partnership structure, the partners pay the wage bill and "they will not take well to being told what to do by someone who isn't an owner", says Professor Empson.

Yet there are ways to compensate for this seemingly lower status.

Find an ally

To bolster their authority, the CFO can stay close to the partner to whom others look for leadership, typically the managing partner. This is especially helpful when trying to get higher-ups to do things, such as learning a new technology or complying with newly automated procedures, Professor Empson says. "Having the managing partner explain why something is important and necessary can make a difference," she adds.

But while the senior partner can lend power to a chief financial officer, to lead in their own right a CFO needs to earn people's respect. To avoid being labelled the "managing partner's attack dog",

'Highly paid butler': professional managers are in service to the partnership's owners Getty Images

Mr Russell uses financial analytics to help partners in underperforming practice areas to devise strategies to restore their waning margins.

This is more powerful, he says, than merely saying "your performance isn't good enough". If you can convince a partner that "the end result will be that their profit share is maintained, they will buy in to it".

Professor Empson's research suggests that many finance chiefs can become, if not full members of the firm's inner circle, then at the very least someone who the partners trust to take care of their interests.

Mostly, partners "don't really care about finance as long as their tax is sorted out", says Mr Russell. What they do care about, however, is anything that affects their clients.

To avoid friction, he recommends testing new technologies with small pilots and consulting meticulously — which is how he won round the partners at one former employer to a new credit control system administered by the accounts team.

"We spent a lot of time just getting the partners comfortable with the wording of the credit control letters [to clients]."

Professor Empson sees the power plays between partners and salarymen as "part of a process of growth" through which the partners delegate authority.

"Some CFOs will see it as an interesting challenge not just to do the job but to persuade people to let them do it. Others will think this is ridiculous, I just want to get on with managing the money." She adds: "Sometimes a partnership needs to chew up its first CFO and then do better the second time."

Partners gradually cotton on to the commercial advantages of having a senior person who is "not in the trenches" look strategically at what is best for the business, says Philippa Sturt, managing partner at Joelson, a London-based law firm.

Skin in the game

Caroline Matthews, co-founder of Koto, a London-based brand consultancy, has taken a different approach. In 2019, she looked for an up-and-coming candidate to appoint as a finance director. She found her — and if all goes well she plans to make her Koto's first CFO and with the status of partner. "I wanted someone who'd be curious about what we do, not an extremely senior person who might limit us by laying down guardrails and hard rules," she explains.

As partnerships weigh up the pros and cons of making big-ticket technology investments, Mr Freebairn notes that giving the CFO equity, rather than ever-higher pay, is becoming more common and is a good thing.

"If you're serious about the role, then the CFO needs to be on an equal footing with the partners and have a comparable voice," he says.

In the future, rather than splashing their cash, forward-looking partnerships might choose instead to make the finance chief one of the family.

Covid nudges bank customers into digital era

Finance Crisis has cut in-person transactions, helping US banks to trim costs and branches, writes *Laura Noonan*

By May, more than 45 per cent of Americans had changed the way they interact with their bank
Noam Galai/Getty Images

America's top banks have decided not to let a good crisis go to waste. During the pandemic, they have capitalised on their customers' increased willingness to use digital financial services.

For a country with global tech hubs like Silicon Valley and Austin in Texas, US banks had offered bafflingly archaic financial services, even by the start of the year.

Cheques were commonplace and mostly deposited in bank branches. Card payments often required a customer's signature, and "tap-and-go" technology such as Apple Pay was unusual, especially when compared with levels of use for similar services in other developed economies.

Bank branches remained open and well-used, with 30 of them per 100,000 people versus 16 in Sweden and 11 in Germany, according to 2019 World Bank data — which does not include the many brokerage offices Americans frequented for routine wealth-management services.

Then came the Covid-19 pandemic. Banks had closed branches by mid-March, leaving customers with no choice but to use technology if they wanted transactions done.

By May, more than 45 per cent of Americans had changed the way they dealt with their bank, a survey of 1,000 people by consultancy FIS found.

Mary Mack, who runs consumer and small business banking for Wells Fargo, says the pandemic has driven a 35 per cent increase in the number of cheques deposited digitally, a more than 50 per cent rise in online wire transactions, and a surge of mobile sign-ups by customers who had previously stuck to bricks and mortar and call centres.

Wells Fargo, America's third-largest bank by assets, developed the trend with on-the-hoof innovations such as increasing the value of cheques that could be lodged via mobile devices, and increasing the limit for withdrawals at ATMs, so people could do more without using a branch.

The effort continues, even now that 85 per cent of Wells' branches have reopened (many of them in limited capacity).

When customers visit branches, the bank contacts them to tell them if they could have completed their transactions online, saving themselves a trip. "They relate to it," says Ms Mack, who believes that the changes in customer behaviour will endure because "this thing is going on for so long".

"It takes three weeks for somebody to develop a new exercise routine. We're eight months into this pandemic," she adds.

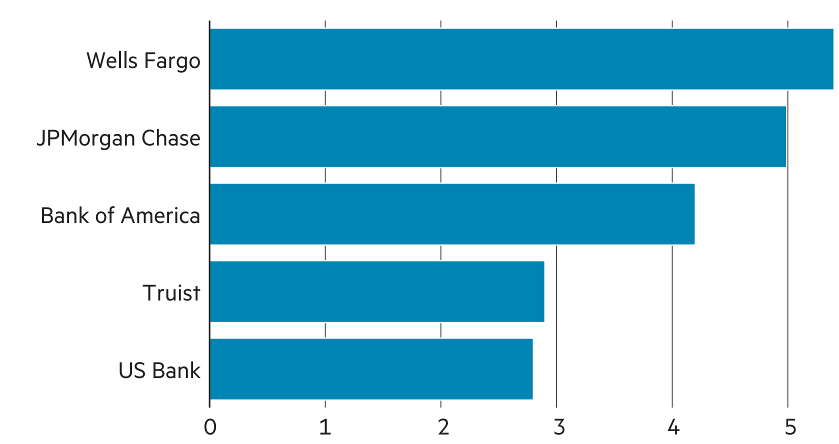
Such behavioural change would be welcome news for Wells, which has promised investors it will cut $10bn in costs. It can serve customers more cheaply through digital channels — the bank's strategic plan already includes significant cuts to America's largest bank branch network.

"We'll be directed by what our customers tell us," Ms Mack says of its future branch strategy. "If what they are telling us is we won't be using branches any more because we have gotten really comfortable with great digital tools, then we will respond accordingly."

Bank of America, the second-biggest bank by assets in the US, has experienced trend.

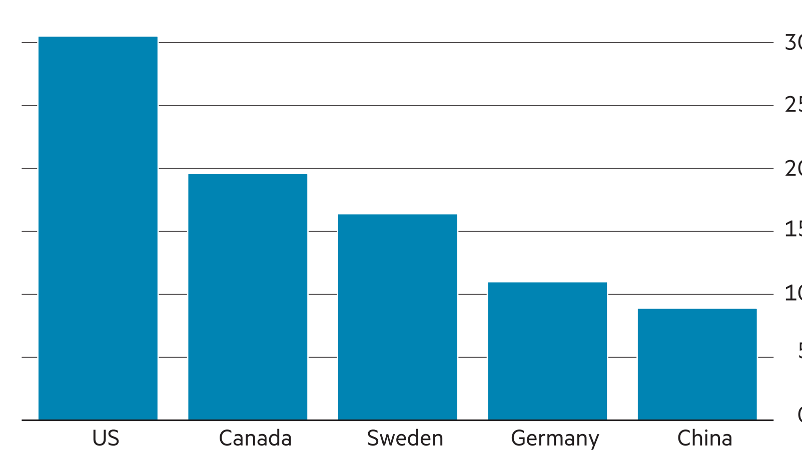
Almost 40 per cent of BofA's cheque deposits are now done online, as are around 50 per cent of this year's sales — almost double the 27 per cent of the bank's sales that were digital in 2019.

Top 5 US banks by branches
Number of domestic branches as of Sep 30 2020 ('000s)



Source: Federal Reserve Bank

Americans are well served in face-to-face banking
Commercial branches per 100,000 adults (2019)



Source: World Bank

In mortgages, traditionally a paperwork-heavy activity, digital sales have accounted for 60 per cent of 2020's activity. Erica, the bank's artificial intelligence chatbot, is handling 400,000 client interactions a day — twice as many as a year ago.

"We do not expect that if and when the world gets back to a place that's more normalised, [digital adoption] is going to drop," says David Tyrie, BofA's head of digital banking. Even as branches reopen, the bank is testing new services, such as video consultations with customers.

Truist, a bank forged by the 2019 merger of domestic lenders BB&T and SunTrust, has also been rolling out new technology, partly to ease the pressure its customers were under throughout the pandemic.

Dan Massey, Truist's digital banking head, says it created "virtual payment-relief assistance", allowing customers to submit forbearance applications online and receive answers to frequently asked questions from a chatbot.

"These solutions made a real impact," he says, describing how they were able to deal with 50 per cent more applications at one stage, while halving the volume of queries to its call centres and reducing callers' average hold times by nearly 60 per cent.

Andy Saperstein, head of wealth management at Morgan Stanley, says he has seen big improvements in efficiency as clients turned to digital tools.

Before the pandemic, clients came into Morgan Stanley's brokerages for everything from annual portfolio reviews to having someone look over financial documents. In the pandemic era, much of this activity has taken place on Zoom.

"Once things go back to normal of course advisers are going to go back to meeting with clients in person [for some things]," Mr Saperstein says. "But it's pretty efficient, if you want to review a document or analysis, to jump on a Zoom call and do it together."

He says there is "no question" that digital adoption is here to stay. "Once you try something digitally you realise that it is a lot easier," he says. "You are going to keep doing it."

Careers CFOs must be able to demystify complex data using compelling language to reach a variety of audiences internally and externally, writes *Ria Hylton*

How to become a finance officer with impact

The average age of a chief financial officer at the point of hire in the US has crept up in recent years, reaching just below 49 in 2018 — yet a handful of notable individuals have bucked this trend.

Facebook co-founder Eduardo Saverin was 22 when he became the social media platform's inaugural finance chief. Zach Kirkhorn, still in his mid-30s, was made chief financial officer at Tesla last year, and Dhivya Suryadevara was 39 when she landed the position at General Motors in 2018 — in October this year she moved into the same role at Stripe, the US-based payments company.

In their own way, each example stands apart from the staid and steady image of a CFO, due in part to the multi-faceted nature of the role.

"It's not just about looking at your spreadsheet and number-crunching for this quarter's earnings. Those days are gone," says Ayako Yasuda, finance professor at University of California's Graduate School of Management.

The modern CFO is as much a thought leader as a voice of financial discipline. Developing strategy, creating shareholder value and communicating the company's mission are par for the course. For those thinking about a career in the upper echelons of finance, here are some tips from insiders.

Lead on technology

Technology is woven into businesses' strategies across all industries. Robotic process automation (RPA) has streamlined many financial operations for a while. Automation is developing at such a pace that soon it will be able to carry out many more finance functions, freeing up the CFO's time to focus on other parts of the role. Cerence, a US-based software company, even demonstrated its own technology by using AI-generated cloned voices of its chief executive and CFO to deliver the company's quarterly results last month.

Where finance heads of the past might have deferred to the wisdom of their colleagues in IT, today's cohort must demonstrate sufficient technological knowledge in order to make effective long-term investments.

"CFOs have the budget authority when companies are making critical decisions," Ms Yasuda says. "For them to make the right call in authorising new technology investment, they can't just say, 'I don't understand this technology, but let me ask the expert and then I'll make the decision'. They need to understand the implication of one technology versus the other, enough so that they are making an informed investment decision."

'Make the numbers dance'

CFOs are the company's chief storytellers — or, as Jennifer Piepszak, JPMorgan Chase's finance head, puts it, they "make the numbers dance". Around 80 per cent of finance chiefs believe data storytelling is an essential part of their role, according to a 2018 study by Accenture, the consultancy.

From public-facing work, sharing financial reports, advising on policy and reassuring the markets, to encouraging cross-departmental co-operation, boosting morale and pushing for cultural change, the CFO liaises with most company stakeholders. To do this effectively, a finance chief needs to demystify complex figures with compelling narratives targeted at different audiences.

"One CFO who came to my class put it this way: you need to speak multiple languages. You're the one person in your company who can speak to the engineers, the legal team, the accountants, corporate development and the C-suite," recalls Ms Yasuda. "And because you speak multiple languages, you are at the centre of the network. You hear everything from everybody."

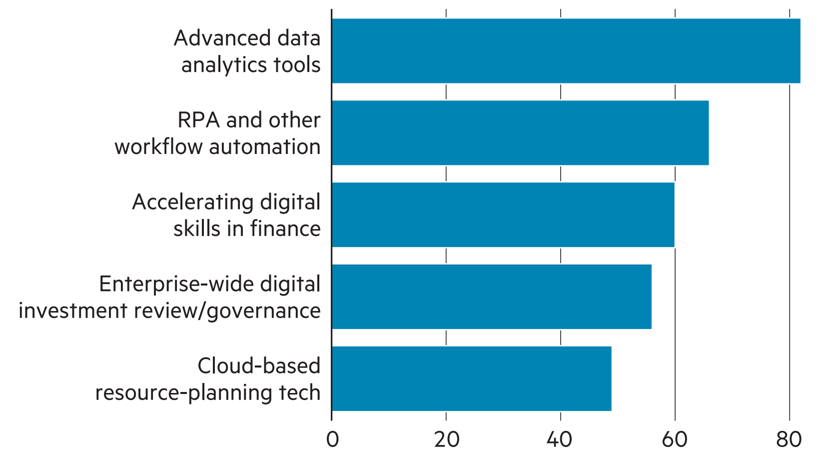
Data is your friend

"The CFO role now is very big on driving results and accountability through data analytics," says Robert Craig, senior client partner and CFO recruiter at consultancy Korn Ferry.

A 2019 PwC report showed top-performing finance chiefs currently spend 75 per cent of their time on data analysis alone, while research published last month by Statista, a research company, suggests CFOs expect to spend even more time working on data analytics next year.

Finance chiefs' 2021 tech priorities

Percentage of CFOs who expect to spend more time on these areas next year



173 respondents globally Source: Statista

Above, left to right: Robert Craig, Cheryl-Jane Kujenga, Jennifer Piepszak and Ayako Yasuda

High-quality data helps to inform strategic decisions and generate the market credibility CFOs need.

Cheryl-Jane Kujenga, the former finance head and chief executive at South African recruitment company Adcorp, likens the strategic side of the role to that of a ship navigator.

"The CEO says, 'that's the horizon, that's where we're heading', operation is rowing, doing the work needed to get there, but you're the person saying, 'guys, we're off course' or 'we're on course, we're going to get there faster'."

Find your leadership style

Identify your leadership style early on. Whether you like to direct, delegate or build consensus, figure out what you are best at and then adapt. Once in the role, try to make a couple of successes early on, advises Korn Ferry's Mr Craig, who also used to be a CFO.

"I tell people: don't try to do too much, pick things that you can deliver on, be successful, get in a couple of wins and build out that camaraderie."

Remote working during Covid-19 has brought added complications to finance teams but Mr Craig identifies common traits among the most successful leaders. "The CFOs that shine are action oriented, can evaluate and make quick decisions."

Know your team

As the performance of a company depends on its people, finance will need to pay close attention to personnel. In the case of M&As, for example, finance chiefs will play a pivotal role in identifying target companies, doing due diligence, negotiating transaction prices and closing deals — but the hardest part, says Ms Yasuda, is then integrating the people from the acquired company into the existing team. "They call it the IQ hire," she says, when the main asset being bought is the people in the workforce.

Getting this right comes down to strong management skills and being prepared to ask the right questions, she adds. "What is the right retention plan? What is the right compensation and benefits plan? How do you hire and retain talent? Because that's really the driver of the financial performance of the company, and CFOs need to be involved in that process."

Stay curious

Future CFOs will need to respond to rapid change, which is why Ms Kujenga — who was a partner at EY for nine years — recommends building a diverse experience base. "Because of that [role] I got exposure to many different industries, but I wish I had been even more curious."

A certified public accountant qualification is a safe bet but Ms Kujenga, who was recently appointed finance chief at South African healthcare group Ascendis Health, also suggests a coding course or technology degree to help understand new developments. "It's easier to have a vision when you can appreciate what the possibilities are."

What is most clear is that the individuals who step into these roles will need to enjoy everything it brings.

Ms Piepszak says there are few positions in any company offering the access and vantage point of a CFO.

"We're often viewed as just the numbers people, but finance people have a fascinating perspective. It's a bird's-eye view, and it's a privilege."

Hedge funds exploit technology to help reduce cost and waste

Asset management

Growth in data volumes has pushed finance chiefs to move to one trading system, writes *Laurence Fletcher*

Hedge funds have sucked in tens of billions of dollars in investments in recent years, assisted increasingly by technology. The same tech is also benefiting those people who make the financial decisions at these organisations.

Techniques such as machine learning and analysing big data have become increasingly commonplace in the industry, as managers hunt for an edge in trading markets.

But beyond the chief investment officers and investment portfolio managers, other parts of the hedge fund business are trying to exploit technology to improve efficiency, reduce costs and keep track of complex interactions with service providers and regulators.

Hedge funds tend to have relatively low staff numbers compared with other financial services companies — UK-based companies have an average of 29 people, while their US counterparts have 20, according to a 2017 report by industry body the Alternative Investment Management Association and data group Preqin.

That means many do not have a chief financial officer, but instead combine the roles of CFO and chief operations officer (COO). That person can end up overseeing everything on the non-investment side of the business, including the organisation's financial health, its interactions with banks and investors, and its regulatory compliance.

Hedge funds work with a range of portfolio, order and execution management systems, and the varied role of the head of financial operations means they sometimes have to reconcile data from across these sources, at times manually. But the growth in the amount of data that funds must handle has led many finance chiefs to move all their data to one trading system.

"As the type and quantity of data being used is ever-increasing, [hedge funds'] existing systems are becoming operationally inefficient, dragging performance speed and increasing internal tensions," says Chris Jenkins, managing director at trading software firm Tora.

Mark Jones, chief financial officer at Man Group, one of the world's biggest hedge funds with \$113.1bn in assets, says that while some organisations use a range of trading systems, he insists on having data on a single operating platform.

Man then uses Python, the coding language, to access data and produce charts and other visualisations that can help senior management in their decisions.

Efficiency savings

Technology is also changing the financial operations chief's role in calculating funds' so-called "shadow net asset value" — the value of assets that the fund management firm works out themselves, to verify the official valuation by the external administrator.

Rather than using email to communicate with the administrator, API connectivity — ie a "pipe" running between two different systems — allows the manager to access greater volumes of data from the administrator in close-to-real time, and is widely viewed as being more secure.

"There are definitely efficiency savings there," says Tim Ridgway, director of governance services at Crestbridge, an administration and corporate governance company, who previously worked as COO at a hedge fund. "It saves the manager having to replicate the work the administrator has done, and possibly prevents the manager having to employ extra staff."

Finance chiefs also often oversee hedge funds' relationships with prime brokers — banks that offer stock lending, financing and trade settlement — to monitor how much they pay. Such calculations can be complicated, for instance because banks may measure the amount of revenue a fund generates in a different way from the hedge fund manager.

Now, says Mr Ridgway, technology is allowing hedge funds to better gauge the number of interactions with the bank and the work it has done, giving the fund's CFO a clearer idea of how that relates to the money it has spent.

Man's Mr Jones has also used technology to get more frequent information on how the company is doing, and now receives daily updates on metrics such as assets under management, revenue run rates and weighted-average fund performance against peers.

"It can take businesses a while to figure out where they are [financially]. I know by just after lunch where revenues are," he says. This helped provide useful information during the market turmoil this spring, when Man decided to halt some business expenditure.

Technology allows finance chiefs to better gauge interactions with prime brokers and how that relates to cost
Alamy

'It saves having to replicate work and possibly prevents the manager having to employ extra staff'

Man is also using techniques such as machine learning — primarily used to help its funds with trading — as part of a programme to try to predict how investors will react to gains or losses. Such information on likely investor flows is important to fund management companies.

Mr Jones says Man has found computers are better at processing large quantities of data, for instance relating to smaller amounts of inflows and outflows, particularly when looking at a larger number of funds.

However, humans are still better at predicting the timing on larger investments from bigger clients, he says. "In the second quarter [of this year] it feels like redemptions were pulled forward [from the next nine months]," Mr Jones explains. "The computer wasn't great at spotting that.

"At the moment it still needs human judgment."

Digital transformation boosts profile of CFO

Law

Finance chiefs play a greater role in strategy as more firms engage with technology, writes *Reena SenGupta*

Many finance heads at top legal practices have become careerists in the industry, tending to stick to either a single or series of law firms.

For some chief financial officers, the allure of being the only "numbers" person in a partnership of lawyers can provide a sense of status; for others, having shareholders wander the corridors outside their offices makes the job intensely personal.

In the past, the role was not comparable in complexity to that of a CFO of a publicly traded company — but this is beginning to change. Many big commercial law firms are now billion-dollar businesses with complex financial challenges.

Jay McAveeney, chief financial officer at Reed Smith, a global law firm, says: "We may not have inventory like a manufacturing business, but we have borrowing, capital exposures, currency exposures." For him, the complexity and enjoyment of the role comes from the partners who are both co-workers and owners.

Mr McAveeney has served as both CFO and chief operating officer at various law firms including Baker & McKenzie and Kirkland & Ellis, two of the largest firms in the world by headcount and revenues. Some law firm finance chiefs have also served as the COO, but this is becoming less common as the top roles become more defined.

The slowness of many partnerships in recognising business professionals and support functions for the value they deliver has contributed to the industry being slow to adopt digital technology.

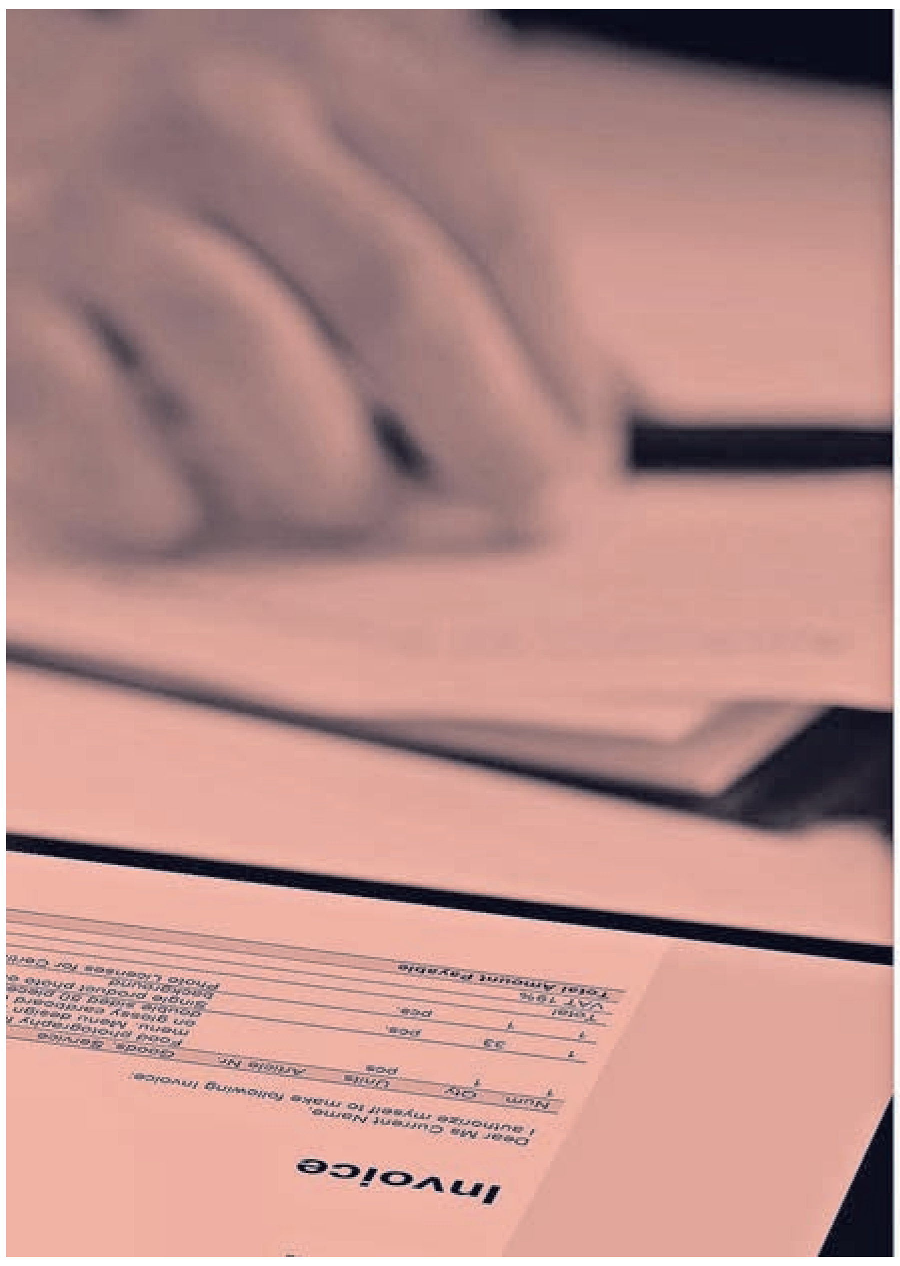
"Law firms have not completely digitally transformed themselves. [Digital] is a small part of the business today but it is changing," says Jason Haines, chief finance officer at Allen & Overy, a global law firm.

Mr Haines, who has also served as A&O's chief information officer, feels the pandemic has reinforced the importance of the finance chief at law firms. "Cash flow is essential. We did a capital raise in the middle of the pandemic and put in cash measures to keep the business resilient. It is an essential role of a CFO but often underplayed," he says.

He plays a role in A&O's digital strategy and focuses on the benefit the firm can realise from its technology investments. With an IT background, Mr Haines sees himself as a poacher turned gamekeeper. He is wary of the term "digital transformation" as he feels it is overused and can mean many things to different people. However, he says, "if law firms don't do this [go digital], they will find it hard to keep up".

A&O was one of the first big firms to invest in a digital legal information business, Aosphere, which has been running since 2001. Via Fuse, A&O's start-up incubator, the focus of the firm's digital investment is now on legal technology.

Linklaters, another magic circle firm, also invests in legal tech start-ups. Finance chief Peter Hickman sits on the investment committee, which closely monitors two of their ventures: Nivaura, which focuses on automating processes in capital markets, and another start-up established with the International Securities and Derivatives Association. But this work accounts for only a small part of his role. "The core of the job remains focusing on the firm's finances and engaging with the partners," says Mr Hickman.



Fits the bill: many law firms have embraced automated processing
Alamy

'We did a capital raise in the middle of the pandemic and put in cash measures to keep the business resilient'

He is an advocate for greater efficiency and says partners are still too involved in the billing process. The shift to fixed fees may streamline this, but partners often like to have oversight. "If I had a magic wand, I would minimise the role of partners in billing and embed more financial advisory support in the practices," Mr Hickman says.

Linklaters and others have moved to electronic billing. But Mayank Patel, finance director at Mishcon de Reya, a midsized UK-based law firm, says: "Until lockdown, we were a manual billing firm, on paper. Now we have moved to an electronic process via email."

For others, going digital is transforming CFOs' ability to advise the partnership. Reed Smith created a Financial Intelligence Unit in 2019 to provide partners with real-time information via interactive dashboards. It became an essential tool in helping the firm respond to the pandemic, and which Mr McAveeney says had a "snowball" effect in getting the firm to embrace data.

"Our leadership team can now ask complex questions and we can reply about what we know based on experiences across the firm to help inform their decisions," he adds.

The digital approach is also creating opportunities for the firm's practice areas to enhance their legal expertise and success for clients. "We will have the data analytics expertise to work with our lawyers and to help assess the probability of successful outcomes in our representations," says Mr McAveeney.

With evidence at the heart of what lawyers do, if finance chiefs can show partners the power of digital, the shift could have a positive bearing on legal firms' digital transformations.