The Economist

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Politics this week

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Dozens of people were killed in protests in **Nicaragua**. People are furious that the regime of President Daniel Ortega emptied the public pension pot and then ordered workers to top it up. The protests lasted for days, even after Mr Ortega backed down. Several ugly sculptures erected by his wife were wrecked by angry mobs. Independent news channels were blocked by censors; a journalist was killed while recording a broadcast.

Mario Abdo Benítez won **Paraguay's** presidential election, maintaining the ruling Colorado Party's grip on power. The former senator beat Efraín Alegre, of the Liberal opposition.

In the first of three televised debates, **Mexico's** five presidential candidates sparred over how to reduce crime and violence. Most pundits thought Ricardo Anaya, the centrist candidate, gave the best performance, but polling gives Andrés Manuel López Obrador, the left's man, a lead of up to 20 percentage points. The election is on July 1st.

Prosecutors in **Guatemala** working with CICIG, a UN-backed anti-corruption commission, accused President Jimmy Morales's party of accepting more than $1m in illegal donations during the campaign in 2015. A group of prominent businessmen apologised for funding him. Mr Morales claims he is innocent.

In **Toronto** the driver of a van that ploughed into pedestrians, killing ten, was charged with murder. Before the attack the driver announced on Facebook that a revolt of involuntarily celibate men—who resent women for not having sex with them—had begun. Most of the dead were women.

Harmony breaks out

North Korea announced that it was suspending missile launches and nuclear tests, in advance of a summit between its leader, Kim Jong Un, and South Korea's president, Moon Jae-in. South Korea, for its part, stopped blaring propaganda, including K-pop music, across the border with the North.

Setya Novanto, a former Speaker of the lower house of **Indonesia's** parliament, was sentenced to 15 years in prison for corruption. The case had been seen as a test of the country's justice system.

A suicide-bomber killed 60 people who were registering to vote in Kabul, the capital of **Afghanistan**. Parliamentary elections, currently scheduled for October, have already been delayed by three years because of squabbling within the government.

Police in **Shanghai** arrested eight people in connection with what officials described as a Ponzi scheme operated by a Chinese company, Shanlin Financial. They have been accused of illegally raising more than 60bn yuan ($9.5bn), using money deposited by new investors to pay long-standing ones.

The former chief regulator of **China's** insurance industry, Xiang Junbo, was formally charged with bribe-taking. Mr Xiang was sacked last year. His agency was merged with the banking regulator last month.

A new terror

An attack on a church in **Nigeria** left at least 19 people dead, including two priests, in the latest incident of violence between nomadic herders and farmers in the country's volatile middle belt. The escalating conflict is now claiming more lives than an insurgency in the north-east of the country by jihadist groups, including Boko Haram.

A parliamentary committee in **Zimbabwe** summoned Robert Mugabe, the former president, to testify in relation to allegations that up to $15bn-worth of diamonds were looted from government-controlled mines.

Palestinians in **Gaza** demonstrated along the border fence with Israel for the fourth time in recent weeks. **Israel** says Hamas, the Islamist movement that rules Gaza, is using the protests as cover for attacks. Israel has shot and killed 40 Palestinians over the course of the protests, according to Gaza's health ministry.

An air strike hit a wedding in **Yemen**, killing dozens of people. The Houthi rebels blamed the Saudi-led coalition that is fighting on behalf of Yemen's deposed government. The secretary-general of the UN, António Guterres, called for an investigation.

Out of office message

Armenia's president-turned-prime minister, Serzh Sargsyan, resigned days after being elected to his new job following huge demonstrations against him, including by off-duty members of the armed forces. Russia declined to intervene.

Peter Madsen, a renowned **Danish** inventor, was sentenced to life in prison for the murder of a Swedish journalist, Kim Wall. Ms Wall's dismembered body was found off the coast of Copenhagen in August. She had visited Mr Madsen's submarine for an interview.

Germany's Social Democrats formally elected Andrea Nahles as their leader, the first woman to head the party. Ms Nahles has a battle trying to unite the SPD after its battering at last year's general election and contentious decision to join another grand coalition with the Christian Democrats.

The ask Haspel show

The Senate Foreign Relations Committee voted in favour of **Mike Pompeo** as secretary of state. A few hesitant Democrats in the full Senate threw their support behind his appointment. It was less clear whether the woman chosen to succeed Mr Pompeo as director of the CIA will be confirmed. Concerns have been raised about **Gina Haspel's** past involvement in torture. A battalion of retired military officers have voiced their objections to her nomination.

The **Republicans** held a congressional seat in the suburbs of Phoenix, but with their majority slashed from 37 percentage points in 2016 to just five. It is the latest special election indicating a swing towards the Democrats ahead of the mid-terms in November.

Emmanuel Macron went to Washington on a state visit, the first of the Trump administration. Last year the French president charmed Donald Trump at the Bastille parade in Paris. He used his trip to the American capital to try to persuade Mr Trump not to pull out of the agreement monitoring Iran's nuclear programme, which Mr Trump wants to "fix". In a speech to Congress, delivered in flawless English, Mr Macron decried the rise of nationalism in various parts of the world.

Business this week

Print edition | The world this week Apr 26th 2018

The yield on America's **ten-year Treasury bond** passed 3% for the first time since early 2014. Stockmarkets frowned, as investors worried that a climbing yield on the benchmark bond would lead to higher borrowing costs. In the aftermath of the financial crisis, when central banks hoovered up trillions of dollars-worth of government bonds, the ten-year yield fell to historic lows. It has risen steadily this year in part because the Federal Reserve is continuing along its path of tightening monetary policy.

A muddle for Murdoch

Comcast formally submitted a £22bn ($31bn) bid for **Sky**, Britain's premier subscription-TV broadcaster. That prompted Sky to withdraw its recommendation to accept an offer from **21st Century Fox**, which owns 39% of Sky and wants to buy the remaining 61% in order to sell the lot to Disney, along with Fox's other entertainment assets.

Vincent Bolloré, one of the richest businessmen in France, was placed under formal investigation in a corruption probe. A former subsidiary of his Bolloré Group is alleged to have supported the election campaigns of politicians in Guinea and Togo in 2009 and 2010 in return for port contracts. Mr Bolloré and his firm deny wrongdoing.

After rejecting four previous offers, **Shire**, which specialises in drugs for rare diseases and is listed in London, said it was willing to recommend to shareholders a preliminary takeover bid from **Takeda**, a smaller Japanese rival. The deal is worth £46bn ($64bn). If completed the combined company would rank alongside industry giants such as Bayer and GlaxoSmithKline.

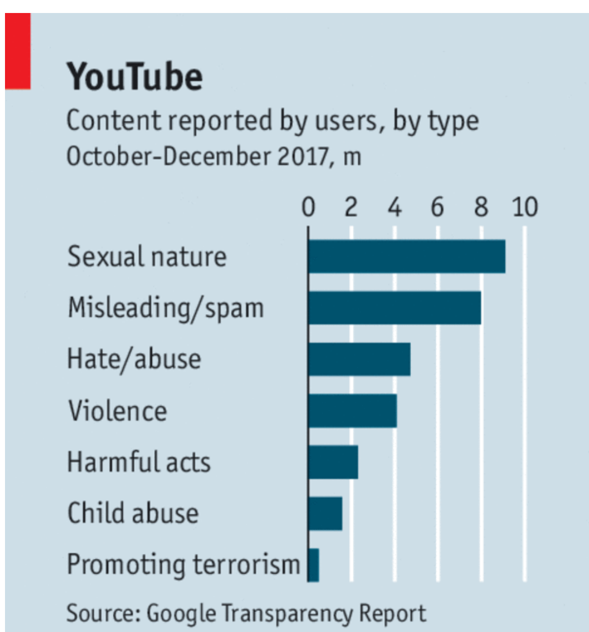
Christian Sewing used his first quarterly earnings report since becoming chief executive at **Deutsche Bank** to lay out sweeping changes to its investment-banking and trading divisions. Revenue from trading plunged by 17% in the first quarter compared with the same period last year, a stark contrast with Deutsche's American rivals, which posted strong growth in trading income. Deutsche now plans to shrink its business in America, a move that activist investors had been pushing for, in order to focus on commercial clients in Europe. The German bank's overall net income fell by 79% to €120m ($147m).

Barclays said that Britain's financial-conduct regulators had finished their investigation into Jes Staley, the bank's chief executive, over his attempt to uncover the identity of a whistleblower, and that they have proposed he pay a financial penalty, but "are not alleging…that he lacks fitness and propriety" to continue in his job.

The Irish government reached an agreement with **Apple** over repaying the €13bn ($16bn) in back taxes that the European Union's competition regulator has decided are owed to Ireland. The government and Apple are both appealing against the regulator's ruling from 2016, which found that Ireland's low-tax arrangements with the tech company constituted illegal state aid. Until the appeals process is exhausted, Apple will pay the €13bn into an escrow account.

Soaring revenues from advertising pushed **Facebook's** net profit in the first quarter up by 63% year on year, to $5bn. The number of monthly active users grew sharply to 2.2bn in the three-month period (the Cambridge Analytica scandal emerged at the tail end of the quarter). Alphabet, **Google's** parent company, saw its net profit increase by 73% to $9.4bn.

Planting a flag



Economist.com

Meanwhile, **YouTube**, which is owned by Google, published its first data on the videos it removes from its website. Nearly 8.3m videos were taken down in the last three months of 2017 for violating YouTube's guidelines; four-fifths of them had been identified by machine-learning algorithms. Around 30m people objected to videos; 1.5m were taken down because of human complaints. Of those that were flagged by people, sexual content caused the most concern, accounting for 30% of all videos reported.

Twitter reported net income of $61m for the first three months of the year, its second consecutive quarterly profit following years of losses. The social network now has 336m monthly active users. Its profile has been lifted by one very active user, Donald Trump, who has posted 37,400 tweets (and counting) since signing up in March 2009.

Baby, you can't drive my car

Compelled to make its deliveries ever more convenient, **Amazon** demonstrated a service that allows couriers to leave packages in customers' cars, which can be unlocked with a wireless connection. The service is available for certain types of vehicles with the required technology and certain types of drivers with the required level of trust.

KAL’s cartoon

Print edition | The world this week Apr 28th 2018

Global health
Within reach

Medicine

Universal health care, worldwide, is within reach

The case for it is a powerful one—including in poor countries

Print edition | Leaders Apr 26th 2018

BY MANY measures the world has never been in better health. Since 2000 the number of children who die before they are five has fallen by almost half, to 5.6m. Life expectancy has reached 71, a gain of five years. More children than ever are vaccinated. Malaria, TB and HIV/AIDS are in retreat.

Yet the gap between this progress and the still greater potential that medicine offers has perhaps never been wider. At least half the world is without access to what the World Health Organisation deems essential, including antenatal care, insecticide-treated bednets, screening for cervical cancer and vaccinations against diphtheria, tetanus and whooping cough. Safe, basic surgery is out of reach for 5bn people.

Those who can get to see a doctor often pay a crippling price. More than 800m people spend over 10% of their annual household income on medical expenses; nearly 180m spend over 25%. The quality of what they get in return is often woeful. In studies of consultations in rural Indian and Chinese clinics, just 12-26% of patients received a correct diagnosis.

That is a terrible waste. As this week's special report shows, the goal of universal basic health care is sensible, affordable and practical, even in poor countries. Without it, the potential of modern medicine will be squandered.

How the other half dies

Universal basic health care is sensible in the way that, say, universal basic education is sensible—because it yields benefits to society as well as to individuals. In some quarters the very idea leads to a dangerous elevation of the blood pressure, because it suggests paternalism, coercion or worse. There is no hiding that public health-insurance schemes require the rich to subsidise the poor, the young to subsidise the old and the healthy to underwrite the sick. And universal schemes must have a way of forcing people to pay, through taxes, say, or by mandating that they buy insurance.

But there is a principled, liberal case for universal health care. Good health is something everyone can reasonably be assumed to want in order to realise their full individual potential. Universal care is a way of providing it that is pro-growth. The costs of inaccessible, expensive and abject treatment are enormous. The sick struggle to get an education or to be productive at work. Land cannot be developed if it is full of disease-carrying parasites. According to several studies, confidence about health makes people more likely to set up their own businesses.

Universal basic health care is also affordable. A country need not wait to be rich before it can have comprehensive, if rudimentary, treatment. Health care is a labour-intensive industry, and community health workers, paid relatively little compared with doctors and nurses, can make a big difference in poor countries. There is also already a lot of spending on health in poor countries, but it is often inefficient. In India and Nigeria, for example, more than 60% of health spending is through out-of-pocket payments. More services could be provided if that money—and the risk of falling ill—were pooled.

The evidence for the feasibility of universal health care goes beyond theories jotted on the back of prescription pads. It is supported by several pioneering examples. Chile and Costa Rica spend about an eighth of what America does per person on health and have similar life expectancies. Thailand spends $220 per person a year on health, and yet has outcomes nearly as good as in the OECD. Its rate of deaths related to pregnancy, for example, is just over half that of African-American mothers. Rwanda has introduced ultrabasic health insurance for more than 90% of its people; infant mortality has fallen from 120 per 1,000 live births in 2000 to under 30 last year.

And universal health care is practical. It is a way to prevent free-riders from passing on the costs of not being covered to others, for example by clogging up emergency rooms or by spreading contagious diseases. It does not have to mean big government. Private insurers and providers can still play an important role.

Indeed such a practical approach is just what the low-cost revolution needs. Take, for instance, the design of health-insurance schemes. Many countries start by making a small group of people eligible for a large number of benefits, in the expectation that other groups will be added later. (Civil servants are, mysteriously, common beneficiaries.) This is not only unfair and inefficient, but also risks creating a constituency opposed to extending insurance to others. The better option is to cover as many people as possible, even if the services available are sparse, as under Mexico's Seguro Popular scheme.

Small amounts of spending can go a long way. Research led by Dean Jamison, a health economist, has identified over 200 effective interventions, including immunisations and neglected procedures such as basic surgery. In total, these would cost poor countries about an extra $1 per week per person and cut the number of premature deaths there by more than a quarter. Around half that funding would go to primary health centres, not city hospitals, which today receive more than their fair share of the money.

The health of nations

Consider, too, the $37bn spent each year on health aid. Since 2000, this has helped save millions from infectious diseases. But international health organisations can distort domestic institutions, for example by setting up parallel programmes or by diverting health workers into pet projects. A better approach, seen in Rwanda, is when programmes targeting a particular disease bring broader benefits. One example is the way that the Global Fund to Fight AIDS, Tuberculosis and Malaria finances community health workers who treat patients with HIV but also those with other diseases.

Europeans have long wondered why the United States shuns the efficiencies and health gains from universal care, but its potential in developing countries is less understood. So long as half the world goes without essential treatment, the fruits of centuries of medical science will be wasted. Universal basic health care can help realise its promise.

This article appeared in the Leaders section of the print edition under the headline "Within reach"

Time to retire

Riots threaten Nicaragua's autocratic president

Daniel Ortega's corrupt regime resorts to violence to stay in charge

Print edition | Leaders Apr 26th 2018

AMONG Latin America's handful of autocracies, that of Daniel Ortega in Nicaragua once stood out for its stability. Mr Ortega was the most prominent leader of the revolutionary Sandinista regime of the 1980s, but lost an election in 1990. He later forged a dirty deal with a conservative rival that let him return to power with just 38% of the vote in 2006, and has since clung to office by nobbling democratic institutions. At the last election in 2016, he banned the main opposition. Nicaragua thus joined Venezuela, the only two Latin American countries to have regressed from democracy to dictatorship.

Mr Ortega rules by combining left-wing rhetoric with mainly right-wing policies, letting the private sector and the Catholic church do what they like and avoiding quarrels with the United States. He has kept his political base among the poor thanks to roughly $5bn in Venezuelan aid. He has made his wife, Rosario Murillo, vice-president. Corruption has flourished. All this carries a whiff of the Somozas, the brutal, thieving dictators whom the Sandinistas overthrew in 1979. Nevertheless it has worked. The country, ravaged by civil war in the 1980s, has been at peace. The economy has grown strongly.

But on April 18th something snapped. After years of his government plundering the national pension pot, Mr Ortega imposed by decree a 5% cut in pensions and raised contributions. Furious citizens rioted (see article). Police and pro-regime thugs responded with clubs and bullets. Almost three dozen people were killed. The government silenced several television channels. A degree of calm returned only after Mr Ortega cancelled the decree.

Mr Ortega's problems may have just begun. Everything indicates that the ruling couple have lost the consent of their people. It is often forgotten that authoritarian governments tend to depend even more on popularity than democratic ones do. Mr Ortega has neutered the institutions that might serve as shock absorbers against popular ire. In this predicament authoritarian rulers can negotiate, or dig in and tough it out. Which will Mr Ortega pick?

He has offered to talk to the private-business lobby and the church. They should insist on a broader dialogue. This cannot only be about pension reform. It should include, at the very least, an investigation into the recent deaths, an independent audit of the government's accounts and of aid money, the restoration of political freedoms and the reform of the Ortega-nobbled electoral authority and supreme court.

Ortega family values

Unfortunately Mr Ortega is unlikely to go along with much of this. Aged 72, he appears to want to install Ms Murillo as his successor. The chances are that he cannot do that democratically. After several years of rapid growth, the economy has started to slow. The fiscal accounts are under pressure. Unlike his friend Nicolás Maduro in Venezuela, Mr Ortega has no oil. His economy depends on the confidence of investors and lenders. All this suggests harsher repression may not work.

In one sense, Mr Ortega is not alone. His fellow populist caudillos in Latin America are each in varying degrees of trouble. Having lost majority support, Mr Maduro abolished Venezuela's parliament and is dragging his country to socioeconomic catastrophe. In Ecuador Rafael Correa lost control after he sponsored a successor who has adopted more moderate and democratic policies. In Bolivia Evo Morales may face electoral defeat if he insists on trying to prolong his more than a decade in power at an election in 2019. Sooner or later people tire of caudillos. Mr Ortega faces a stark choice: retreat while he still can, or risk plunging his country into far deeper turmoil.

This article appeared in the Leaders section of the print edition under the headline "An eruption in Nicaragua"

Yielding to pressure

The meaning of 3% Treasury-bond yields

There is no need to panic about the government-bond market

Print edition | Leaders Apr 26th 2018

Economist.com

ROUND numbers would be irrelevant if investors were rational. But they are not. This week the ten-year Treasury-bond yield passed the 3% threshold for the first time in over four years and investors shuddered. Their worry is that the long downward march in yields, which began in 1982, may at last be over. Is it?

That question is not of interest just to bondholders, for whom higher yields mean lower prices. Government-bond yields set the benchmark for the borrowing costs of companies and consumers. When they rise, the weakest companies and the most indebted consumers are likely to get into difficulty. If the cost of government borrowing rises, it becomes harder to finance budget deficits. Politicians may be forced into cutting spending or raising taxes. If the breaching of the 3% threshold were to presage an abrupt rise in yields, there could be trouble ahead (which is why stockmarkets wobbled this week). Yet a bond-market bloodbath seems unlikely.

It is no surprise that bond yields have been trending upwards. They reached historically low levels after the financial crisis of 2007-08, when central banks pulled out all the stops in an attempt to revive the global economy. Trillions of dollars of government bonds were bought as part of quantitative-easing (QE) programmes. As worries mounted about "secular stagnation", an extended period of slow growth and low inflation, investors were even prepared to lock in losses. At one point more than $10trn-worth of bonds traded on negative yields.

Last year, however, the global economy seemed to pick up again. Central banks withdrew some monetary stimulus. At the same time, governments started to ease fiscal austerity. The developed world may have reached a turning-point, where the amount of QE steadily dwindles and the amount of government-bond issuance rises. America is leading the way. The Federal Reserve is paring back its bond holdings. And after the tax cuts passed in December, trillion-dollar deficits are forecast from 2020.

The main threat to the government-bond market has historically been higher inflation. Headline inflation rates have ticked up a bit and the recent surge in the oil price may add to the pressure (see article). Tighter labour markets could yet push up wages and have a more lasting impact. But at the moment, the only OECD countries with annual inflation rates of more than 3% are Mexico and Turkey.

A sharp rise in bond yields may be self-limiting. The IMF warned on April 18th that global debt is higher than ever, relative to GDP. The risk that higher borrowing costs could sharply slow growth ought to dissuade central banks from tightening monetary policy too quickly.

Jumpy investors should remember Japan. Government-bond yields there have defied two decades of forecasts that they will move higher. Betting against Japanese bonds proved to be such a bad trading strategy that it became known as "the widow-maker". It is too early to proclaim the end of the low-yield era elsewhere, too. Economic data so far this year have been rather disappointing, particularly in Europe (see Finance section). And the gap between two-year and ten-year Treasury yields has narrowed since early February, from three-quarters of a percentage point to around half a point. This flattening of the yield curve is often seen as a sign that the market believes the peak in interest rates may be getting close.

The world is flatter

Some even think that the lows for government-bond yields are still to come. When the next recession hits, as it eventually will, central banks may not have the leeway to cut short-term rates by the four percentage points or so that are the typical response to a downturn. They may have to unleash a new round of QE and buy lots more bonds.

So do not panic. Even if bonds yield a bit more than 3%, that is a lot lower than the level which prevailed before 2007. Pension funds, insurance companies and retired savers will still be willing buyers of bonds at these rates. Unless inflation unexpectedly surges, this is not a rout.

This article appeared in the Leaders section of the print edition under the headline "Yielding to pressure"

Situation vacant

Gina Haspel must give answers before becoming the CIA boss

Would she torture again?

Print edition | Leaders Apr 26th 2018

WANTED: qualified candidates to work for the world's most scrutinised organisation. Applicants should be aware that the CEO has a history of undermining staff and firing them publicly. They should also know that his lawyer is under criminal investigation. Oh, and that the former head of the FBI is looking into how the CEO got the job. The successful candidate will face a televised inquisition by members of the Senate in which questions will be raised about their character.

Fifteen months into the presidency of Donald Trump, nobody who chooses to join his administration can say they have not been warned. His former press secretary has said he regretted misleading the public, under instruction from Mr Trump, on the first full day of the presidency. His former communications director said she told "white lies" for him. His former secretary of state did not deny reports that he called the president a "fucking moron". The former head of the FBI says Mr Trump is "morally unfit" to be president. When asked what working for Mr Trump was like, his former chief of staff replied: "Take everything you've heard and multiply it by 50."

And yet for America to have a functioning democracy, the president should be able to appoint a cabinet, made up of competent people willing to serve him. Mike Pompeo, who is set to be approved as secretary of state by the Senate this week, meets this standard. Mr Pompeo may be too eager to flatter the president but, sadly, that is a requirement for survival. He seems determined to restore confidence at the State Department, which became demoralised under Rex Tillerson. At the CIA he did not create any public scandal, unlike several of Mr Trump's other nominees. It is hard to think of many better-qualified choices who would want to work for Mr Trump, and all too easy to think of worse ones.

Gina Haspel, Mr Pompeo's successor at the CIA, who is due to appear in Senate hearings on May 9th, is a harder case. Ms Haspel is a highly regarded career officer, who can be expected to insulate the CIA from political interference by a president who does not recognise boundaries. But she ran a black site in Thailand where a prisoner was waterboarded. (She also transmitted her boss's orders to destroy video evidence of interrogations, though an investigation found she was not at fault.)

Desperate times

In using waterboarding, Ms Haspel was following orders that she believed might help prevent future terrorist attacks, orders which had been approved by the White House's legal counsel. Yet that defence is not enough, for two reasons.

First, the UN Convention against Torture, which America signed, bans punishment that causes physical or mental pain or suffering. The CIA was responsible for both at its black sites. "I couldn't get away from the mental pictures of naked men chained to the ceiling in a cold, blazingly lit cell for endless days, defecating in their diapers, unchained only to be further abused," writes James Comey, deputy attorney-general in the Bush administration, in his memoirs which came out earlier this month. Senator John McCain wrote of the harm the CIA did America, saying that it "compromised our values, stained our national honour, and threatened our historical reputation." Torture, even when it is carried out in defence of America, is un-American. Ms Haspel should have seen that.

Second, the prohibition on torture is less secure than it was when Barack Obama left office. In 2015 Congress passed a law restricting the army and the CIA to using techniques approved in the Army Field Manual. However, when campaigning, Mr Trump said he favoured bringing back "a hell of a lot worse than waterboarding", though there is no sign that he has sought to do so in office. Mr Pompeo has said he is open to using waterboarding; Jeff Sessions, the attorney-general, voted against the law of 2015 because he thought the CIA ought not to be constrained. In the right circumstances it is not hard to imagine the White House changing its legal guidance.

The CIA's leading role in interrogation and Ms Haspel's record put torture at the heart of her confirmation in a way that it has not been for other appointees. In her hearing she must set out what she considers to be torture, and then say whether she would follow an order from a president to carry out such treatment. Only if she acknowledges that what she did before was wrong should Ms Haspel win control of the CIA.

This article appeared in the Leaders section of the print edition under the headline "Situation vacant"

Digital dos and don’ts

How to regulate crypto

Three questions for the overseers of digital assets

Print edition | Leaders Apr 26th 2018


Satoshi Kambayashi

THE wild ride seems to have calmed. Late last year speculators sent the price of crypto-currencies soaring. The value of bitcoin, the best-known, has fallen by half since then. But the momentum behind all things crypto remains powerful. Bitcoin is still worth seven times what it was just a year ago. In the first quarter of this year, according to CoinDesk, a news service, $6.3bn was raised through initial coin offerings (ICOs), a form of funding in which firms issue digital tokens, more than in all of 2017. Last month the Student Loan Report, a website, found that one in five American students it asked had used part of their loan to join the crypto rush.

No wonder regulators want to exert greater control over the crypto-sphere. The chance to raise money via ICOs has attracted as many con men as it has genuine entrepreneurs. The head of Europol, Europe’s policing agency, has estimated that 3-4% of the region’s criminal proceeds are now laundered through crypto-assets. Plenty in the industry think regulation would help legitimise crypto. Yet crypto-enthusiasts are also right to fear that overzealous regulation, like China’s ban on crypto-exchanges and ICOs, could throttle a promising technology. To achieve the right balance, regulators must find sensible answers to three questions: what are crypto-assets? How should day-to-day risks be managed? And what threat do they pose to financial stability?

Today there is no consensus on what a crypto-asset is. Even within countries, authorities disagree on how to classify them. Are they a commodity, a currency, a security or their own, peculiar asset class? In America the Securities and Exchange Commission has hinted that it will treat most tokens issued through ICOs as securities. That would mean onerous disclosure requirements. But a blanket approach does not capture the shape-shifting nature of many digital assets. Better to go the way of the Swiss regulator, FINMA, which in February said it would base treatment on their actual function—ie, whether they are used for payments; as a utility token that gives its holder access to a specific service; or as an investment. This also means a token’s classification can change over time.

Such decisions point towards how to deal with day-to-day crypto-risks, from money-laundering to consumer protection. Criminals were among the earliest adopters of digital currencies. Regulation could help smoke them out by extending existing anti-money-laundering rules into the crypto-sphere (see article). The obvious targets are the exchanges where ordinary money is swapped for crypto and vice versa. Regulators should demand that these exchanges apply similar standards to those of banks. These include requiring identification from all customers and keeping a record of unusual transactions. Several countries, including Australia and South Korea, already do this; earlier this month the EU passed a directive stipulating the same thing. There is a need for a harmonised approach, in order to prevent illicit flows of money to crypto-havens.

As for how much protection consumers should enjoy when they invest in crypto-assets, some advocate restricting the market to accredited investors, on the ground that they may be better at judging risks than ordinary punters and are certainly more cushioned against any losses. But the bar to imposing bans on how people can risk their own money ought to be high. The authorities in many countries issue explicit warnings about the risks associated with crypto-speculation; several are clamping down on the advertising of ICOs. That, allied with existing rules to punish out-and-out fraud, is sufficient.

The third question is easily answered at the moment. Crypto-assets do not yet pose a risk to global financial stability; cumulatively, they are worth less than 3% of the combined balance-sheets of the central banks in America, Britain, Germany and Japan. But the wild swings of bitcoin are a warning that things can quickly change. Regulators must keep a weather eye on the factors that could heighten systemic risk, such as the amount of borrowing done by crypto-investors.

Lassoing cryptos

Regulating crypto-assets is no easy task. Too much red tape may hamper innovation. Some think, for example, that ICOs could give rise to a new form of "crypto co-operative" in which digital tokens provide founders, employees and users with a shared interest in its success. At the same time, a market in which scammers and criminals roam freely deters honest actors from taking part. The fact that all of this is new technological terrain adds to the pressure on regulators to show unusual flexibility. For as long as crypto has its Wild West image, regulators will need to keep their frontier mentality.

This article appeared in the Leaders section of the print edition under the headline "Taming crypto"

On AI, sewage, Puerto Rico, Thailand, Madeleine Albright, tech companies
Letters to the editor

Letters

Letters to the editor

On AI, sewage, Puerto Rico, Thailand, shipping, Madeleine Albright, tech companies

Print edition | Letters Apr 28th 2018

Letters are welcome and should be addressed to the Editor at letters@economist.com

Lessons from the past for AI

Your special report on artificial intelligence in business (March 31st) mused that "AI will make workplaces more efficient, safer—and much creepier". The emphasis on industrial engineering on the factory floor in the mid-20th century brought about men with clipboards telling employees exactly how to do their job, even going so far as to tell workers not to think, just perform. But in the 1970s one company that got its quality-control process right was Toyota. The secret to its success was integrating workers with new production-system techniques. Employees were respected for knowing most about the processes they used each day and, after training, were handed more control over their work. More important, they were given the opportunity to solve problems and continuously improve their processes. It was the workers who could connect the dots.

Companies seeking to utilise AI as the next stage in industrial management must incorporate these lessons into their systems, appreciating workers for their knowledge of what really happens in the day-to-day process, their creative potential and their basic humanity. Otherwise, as with industrial engineering, I suspect they may find themselves with bitter employee robots, antagonistic unions and disappointing results.

TIM LEVEQUE
Hilton Head Island, South Carolina

Sewage treatment

It is true that, seemingly against the odds, Bangladesh has made enormous progress in reaching our poorest and most marginalised communities with better sanitation facilities ("Beating the bugs", March 24th). The country has almost eradicated open defecation through community-led sanitation programmes and by investing heavily in shared latrines, particularly in its fast-growing slums. The positive effect this has had on people's lives includes improving health and productivity and getting more children into schools.

But the battle is not yet won. Nearly one in three people use unimproved sanitation services. Diarrheal diseases still claim the lives of 2,220 children each year. Moreover, Bangladesh's location on the front line of climate change threatens to reverse this progress, through rising sea levels and extreme flooding. One-third of our delta nation was submerged under monsoon rains last year. Without adaptation to become more resilient to flooding, these rains can sweep away latrines, contaminate water sources and threaten a return of widespread diarrheal illness. So though there is cause for celebration, there is little room for complacency.

KHAIRUL ISLAM
Country director
WaterAid Bangladesh
Dhaka

Their bangs brought bucks

One overlooked factor in Puerto Rico's decline over the past decade ("After the hurricane", April 14th) is the closure of Roosevelt Roads Naval Station in 2004. Roosevelt Roads was one of the largest naval bases in the world, supporting 17,000 personnel and pumping hundreds of millions of dollars a year into the local economy. Home to the Southern Area Command it was an economic and political power house. It also annoyed those who were bent on getting American armed forces to leave the island. An errant shell killed a civilian guard, igniting a social uproar that led to the base's closure. But the navy's eviction has contributed greatly to Puerto Rico's general economic atrophy.

WILLIAM GEMBUS
Fort Lauderdale

I am a former chief executive of a power utility and visited Puerto Rico last month. Despite a co-ordinated effort from the federal government and the American army to restore electricity, the underlying infrastructure, subjected to decades of theft, incompetence and cronyism, was barely functioning. The power system is so fragile that the slightest weather or procedural hiccup causes blackouts.

A group of experts, led by the New York Power Authority, has offered suggestions to make the system more reliable. Microgrids, hardened distribution sites and improved transmission lines are all on the drawing board, but there are not enough funds to complete it all. Privatisation, if a buyer can be found, will help, but it won't be easy.

Puerto Rico, like other non-voting territories of the United States, is at the end of the line when it comes to assistance. Only when the Puerto Rican people themselves decide that they have had enough and implement change will they be able to improve their own lot.

STEVE WALSH

Fredericksburg, Virginia

Thailand is not sclerotic

I disagree with your argument that Thailand is destined to meet the same fate as Japan ("A new shade", April 7th). Thailand's population is ageing, but, unlike Japan, the country imports lots of foreign labour. As well as taking in millions of migrants from Laos, Myanmar and Cambodia, it is an attractive destination for skilled foreign workers.

Contrary to your contention, there is room to be hopeful for Thailand's prospects. The government has set optimistic infrastructure objectives, especially relating to energy. It is ahead of targets to increase solar and wind capacity. Big public-private partnership projects have been announced, or are in the pipeline, in port infrastructure, toll roads, high-speed rail, LNG terminals and public transport. To put it mildly, the Thai government is gearing up for massive infrastructure development and the private sector is eager to take part.

DAVID BECKSTEAD
Consultant
Tilleke & Gibbins
Bangkok

* You cherry-picked selective evidence to explain the state of the Thai economy, which is misleading. Although it is true that Thailand's population pyramid structure may have been similar to that of Japan in 1992, using that fact and the 1.7% expansion rate of private investment to come to a conclusion that the Thai government is adopting macroeconomic passivity is unwarranted. Over the past few years, the government has initiated policies to transform the economy into a value-based and innovation-driven economy. A promising Thailand 4.0 policy, together with establishing a special economic zone, the Eastern Economic Corridor, will facilitate and attract investment in 11 innovative target industries in order to drive the country with a "New Engine of Growth". To further support Thailand 4.0 and the economic corridor in particular, a number of public-private partnership scheme infrastructure projects including high-speed and dual-track railways, upgrading intercity motorways, international airports and deep-seaports have been launched. The public and private investment partnership is expected to expand by 5.5% this year in comparison to 0.9% last year. Such progress suggests that the economic policy of Thailand is far from conservative.

Moreover, it is far-fetched to say that Thailand is developing an antipathy towards immigration. By the end of March 2018, Thailand had over 3m registered foreign workers compared with about 1.2m in Japan. In addition, the recent legal reforms that have been taking place are not intended to limit the number of foreign workers; rather, they have been implemented in order to ensure that their rights are protected as well as to prevent any forms of exploitation by employers.

The latest Thailand Economic Monitor from the World Bank expects the Thai economy's to accelerate its expansion in 2018, with growth projected at 4.1% to be driven by external demand and private consumption.

BUSADEE SANTIPITAKS
Spokesperson of the Ministry of Foreign Affairs
Bangkok


Alamy

The forecast for shipping

* Thank you for bringing to light the historic decision by the International Maritime Organization to limit shipping greenhouse gas emissions (" Smoke on the Water ", April 14th). After weeks of emotional negotiations, an initial strategy was agreed to lower emissions by at least 50% by the year 2050 as compared to 2008 while pursuing efforts to phase out fossil fuels. This was far short of what was hoped by many countries, including those whose very existence is threatened by rising seas. Still, this significant milestone sends a message to investors to move forward towards a modern, decarbonised shipping industry.

The IMO also forwarded a measure to ban heavy fuel oil in the Arctic where it accelerates climate change. The next step is to move forward as quickly as possible with short term measures to lower emissions while considering longer range strategies. If a country, shipping would rank sixth among greenhouse gas emitters and rising with increased trade. The world depends on shipping, but there is no place to hide from climate change. Costs for protecting ports and coastal cities from rising sea levels are already forecast at over $1trn. Without reform, the industry puts the entire Paris climate agreement at risk. From ancient Greece to the Battle of the Midway, empires rise and fall on the advantage of their ships. This time, we all depend on shipping to take the right course.

SUE LIBENSON
Senior Arctic Program Officer, Pacific Environment
Anchorage, Alaska

She can write

Your review of Madeleine Albright's "Fascism: A Warning" commented that the author's "way with words is a happy surprise" (" March of the times ", April 14th). Your reviewer must not have read "Prague Winter", Mrs Albright's memoir of childhood, adolescence and double exile, first by the Nazis and then by the Communists, from her native Czechoslovakia. It is one of the most engaging memoirs of any politician on either side of the Atlantic.

TERRY PHILPOT
Limpsfield Chart, Surrey

Corporate haze

We should find ways to replace the elaborate gobbledygook used to describe tech companies (" Grabbing back ", March 31st). Computers can make work more efficient, but they do not fundamentally alter the nature of the work itself. Accountants did not stop being accountants when they started using PCs. In the same way it is irrelevant if one taps an app to call a taxi, or whether a catalogue exists in paper or digital form. What is wrong with "Uber, a taxi firm", "Amazon, a mail-order company" and "Facebook and Google, two media groups"?

THOMAS LINSINGER
Geel, Belgium

* Letters appear online only

Global logistics
Thinking outside the box

Thinking outside the box

The global logistics business is going to be transformed by digitisation

This will be bad news for some

Print edition | Briefing Apr 26th 2018

THE *Munich Maersk*, which entered service in June 2017, is a testament to the technological marriage of information and transportation. Its bridge looks like a very spacious cockpit. Packed with computer screens, it is all glass, no brass—with a wheel that looks more like a pilot's control column. Sailing her 214,000 tonnes from port to port takes a crew of just 28. Loading and unloading the 20,000 containers she carries only needs the supervision of one crew member.

The *Munich Maersk,* though, is a high-end exception—one of the best ships in the up-to-the-minute fleet of the biggest shipping company in the world. It shows what can be done. But at the moment the industry's big issue is what is being left undone.

Between 1985 and 2007 trade volumes rose at around twice the rate of global GDP. In the 1990s the world's largest container ships only had space for 5,000 or so containers; now it boasts giants like the *Munich Maersk*. The global logistics industry had revenues of $4.3trn (€3.3trn) in 2014, according BCG, a consultancy.

But though the flows and the pipes have got bigger, the principles of the industry's plumbing have changed little since they took their modern form in the 1950s and 1960s. Use containers of standard sizes that can be loaded onto trains, lorries or ships as needed; use scale to cut costs; co-ordinate the whole thing with a physical paper trail. When in doubt, buy something bigger.

The economic slowdown following the global financial crisis hit this way of doing things hard. Although giants like Maersk continued to buy enormous ships, smaller lines with worse balance-sheets could not. Airbus, which had hoped to sell a freighter version of its A380 superjumbo, abandoned its plans. Freight rates plunged as demand for shipping did not keep up with supply. Between 2012 and 2016, the Shanghai Containerised Freight Index, a measure of prices, fell by 73%.

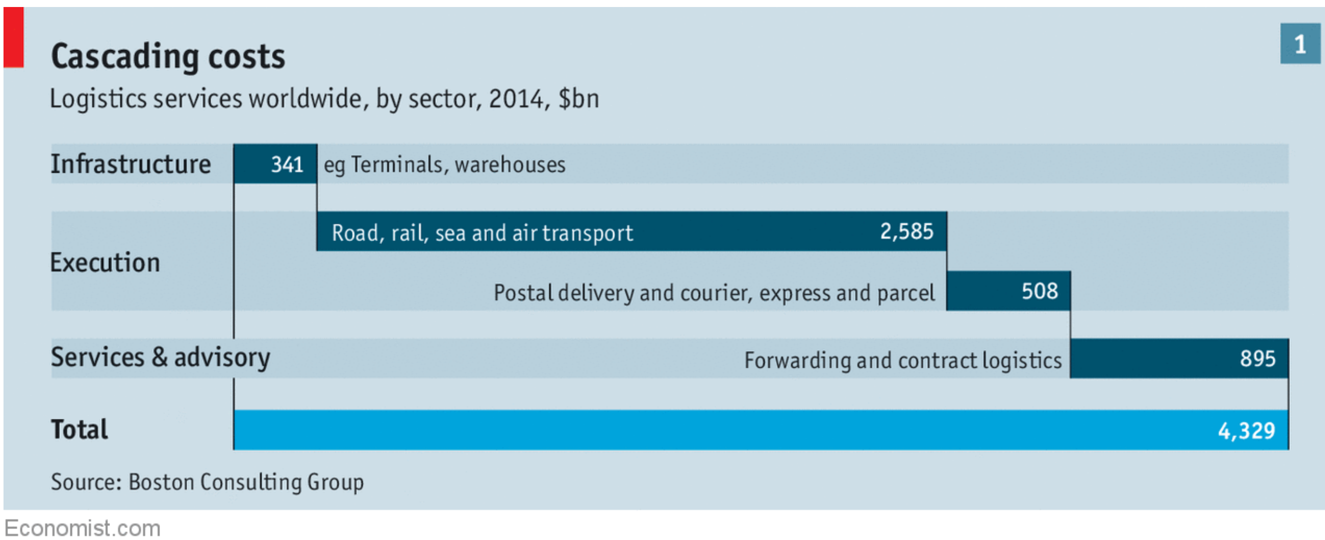
At the same time, the growth of e-commerce saw more aware, more demanding corporate customers insist on ever better handling of what is called logistics' "last mile"—moving purchases from their distribution warehouses to the people who bought them. Though today's talk is all of delivery drones and driverless vans, the key to this transformation has been not new equipment but new ways of handling data: knowing where hundreds of millions of things are and where they are going, and being able to act on that data as things change.

Now companies that have been crucial to these changes at one end of the distribution chain—Alibaba and JD, which are Chinese, and Amazon, which is American—are eyeing the rest of it. The business of moving goods internationally from factory to factory and warehouse to warehouse requires many more capabilities than shifting items from local warehouses to doorsteps. But it also accounts for 90% of the logistics' industry's global revenue. How far the intruders can displace the incumbents and what new business models come out of the struggle will help determine how much world trade can grow and who the winners and losers from that growth will be.

Adrift in a sea of paper

Firms looking to move components through their supply chain or finished goods to retailers have two main options. Express-delivery services such as DHL Express (part of Deutsche Post DHL), FedEx and UPS are fast and flexible—all the more so now they have embraced new data-management systems. But they are also expensive—especially for long-distance air freight. Shipping a 70kg parcel from Shanghai to London with DHL Express takes three times longer, and costs four times as much, as buying a human of the same weight an airline ticket. The passenger gets a baggage allowance and free drinks, too.

So most goods wend their way across the world using the second option—containerised freight. The non-domestic cargo business has revenues of $2.6trn a year, according to BCG. And a lot of those revenues go to middlemen. Dealing with customs clearances, insurance, transfers between sea and road and rail and all the other physical, procedural and bureaucratic hold-ups that freight is heir to requires the services of a freight forwarder. These companies account for over a fifth of the logistics industry's revenues (see chart 1); in some cases they receive as much as 45% of the total delivery cost. In 2016 Deutsche Post DHL's in-house freight-forwarder made over $26bn in revenues. Its smaller rivals Kuehne + Nagel, of Switzerland, and DB Schenker, of Germany, made $20bn and $17bn respectively.



For the most part, freight-forwarding companies charge a percentage of the total cost of the shipment; this gives them little incentive to drive costs down. In a free and transparent market where all the shipping options were easily discoverable, this problem would be solved through competition. But the complicated world of shipping contracts is a long way from that ideal, and the incumbents have clear reasons for keeping it so. Zvi Schreiber, founder of Freightos, a website headquartered in Hong Kong that is introducing some transparency by allowing users to compare and book different options, says many firms may take two or three days to quote a price for taking an air-freight pallet or a shipping container from A to B. And forwarders are often unable or unwilling to say whether the goods will get from China to Europe in one month or two.

The industry's backwardness can be seen in its thrall to paperwork. Systems based on e-tickets that say who is entitled to go where, and how, have been mandatory in air-passenger transport for ten years. But half of air cargo still travels with paper "bills of lading" rather than e-tickets. In the world of containerised shipping things are even worse: freight forwarders deal with shipping firms, airlines and hauliers mainly by fax. The cargo on each voyage of the *Munich Maersk* generates a library of documents—many of which then need to be sent to the ship's destination by some other means. That secondary shipping is not foolproof, either: vessels and aircraft are often delayed in port because the paperwork has not caught up with the goods that they carry.

The cost of all this is enormous. Removing administrative blockages and outdated practices would, by some accounts, do more to boost international trade than eliminating tariffs. The UN reckons that putting all the Asia-Pacific region's trade-related paperwork online could slash the time it takes to export goods by up to 44%, cut the cost of doing so by up to 31%, and boost exports by as much as $257bn a year.

The burden is felt throughout business. Two-thirds of the American importers who responded to a recent survey undertaken by Freightos said that over a quarter of their deliveries from abroad arrive late. Some 42% said they spend more than two hours on paperwork to arrange a shipment. And 83% said they struggle to track items as they move across the world. That leaves many frustrated. “Amazon Prime can deliver to your house from its warehouse at a set time,” Mr Schreiber says. “Why can’t you do the same with air and sea freight?”

One answer is regulation; there are a lot of institutional obstacles to reform. For instance, in 2008 a UN convention put electronic documents in international shipping on a firm legal footing. But for these “Rotterdam rules” to come into force, the agreement must be ratified by 20 countries. Owing to a lack of interest in the subject among politiciansthe tally so far is just four: Cameroon, Congo-Brazzaville, Spain and Togo.

Poor communications used to be partly to blame, too, but that excuse has fallen overboard. Inmarsat, a company originally set up by the International Maritime Organisation to provide satellite services for ships at sea, today offers data rates for ships that are over 100 times faster than they were 20 years ago. Various companies rushing to provide new mobile-broadband services will improve things further. Not just ships and planes, but the individual packages and containers within them, can increasingly be tracked in real time.

The Cincinnati kids

Such data can help integrate the legs of a journey, for example by making sure that lorries do not wait for a ship that is behind schedule, or that they arrive early for one that’s ahead. They open the possibility of redirecting items along quicker or cheaper routes as they become available—if the shipper can find out about them.

The hard-to-get information which lets people find spare shipping capacity will power the real revolution, according to Martin Stopford of Clarksons, a shipbroker. Matching spare capacity to cargo in need of transport on the fly would allow the “Uberisation” of the freight business. There are already signs of this in haulage. America’s lorries travel empty more than a quarter of the time: the wasted capacity is equivalent to 200,000 lorries travelling 1,000km every day. This is because it is hard for forwarders to find return cargoes using phone or fax. Now apps have appeared to match loads with drivers, just as the Uber app pairs passengers and drivers. Indeed Uber Freight is one of the contenders. Cargomatic, a startup based in Los Angeles, and Trucker Path, a rival in Texas that was bought by a Chinese firm in December, are competing with it for the freight business, while Amazon is testing “Amazon Flex” as a way of getting gig-economy drivers to make deliveries.

The vision of many in the industry is that such services will eventually cover all sorts of different transport modalities all over the world. In the past, realising the benefits of an integrated global network of ships, planes and lorries required owning such a network, a task too big for even the largest logistics firms. Maersk, one of the world’s largest container-terminal firms as well as its largest containership operator, ran its sea- and road-logistics businesses almost entirely separately until 2016. Most companies chose to specialise and hand co-ordination over to the forwarders. Smartphones and sensors mean that, with the right platform or platforms, a freight forwarder, or a tech firm that had taken on such a role, could co-ordinate things much better than is possible today—and without any faxes.

One of those seeking such changes is Amazon. In 2017 it spent $25bn on logistics. It thinks it could get better value for money by expanding what it does itself from last-mile to all-the-miles. It has created its own logistics division and acts as its own freight forwarder. Its cargo airline, Amazon Air, is still a tiddler compared with FedEx, with just 33 jets in its fleet. But the cargo hub in Cincinnati on which the company is spending $1.5bn will have room for 100 jets. It has also been granted a licence to act as a maritime freight forwarder.

Freight forwarders and transport giants alike claim that they do not see Amazon’s move into logistics as a threat. The explosion of e-commerce (see chart 2) allows DHL, FedEx and UPS to tell shareholders happy stories about their future. The demand for parcel delivery is growing by more than 7% a year, sufficient both to maintain jobs and survive competition, according to Frank Appel, the boss of Deutsche Post DHL. Automation may mean it will soon take a third fewer people to deliver a given volume of goods, he says—but the increase in demand will still make the industry a net job creator. And it will also mean that there will be room enough for both DHL and Amazon to grow.

Another reason for such optimism is that, so far, Amazon has mainly used its network to serve its own customers. But that will change. The companies with big e-commerce networks are keen to take on other firms' logistics, too. The idea is not to own all the ships and rolling stock—though they may own some particularly profitable bits of the system—but to control the platforms that make services available, and to bring the rest of the industry on board by simply being too big to refuse.

Perhaps the furthest down the road in this respect is Alibaba. Alibaba is a digital platform where buyers and sellers meet, rather than a retailer that holds inventory itself. It has thus always been focused on end-to-end logistics in a way that Amazon, which runs most of its business through warehouses to which goods are delivered by normal channels, is not. Alibaba says that last year it was the middleman in $550bn of transactions within China, serving over 500m customers. Through its logistics platform, Cainiao, it delivers 70% of all e-commerce parcels in China.

Now Alibaba has its eyes set on international e-commerce. A study produced by Alibaba's research arm and Accenture, a consultancy, in 2016 predicted that cross-border e-commerce shipments worldwide could rise from $400bn in that year to nearly $1trn by 2020. Until recently, these international shipments tended to be restricted to fairly high-value goods. But Alibaba now ships cheap, bulky things like nappies and milk powder from manufacturers in America to consumers in China. Last September the company said it was going to invest $15bn in boosting Cainiao's cross-border capabilities.

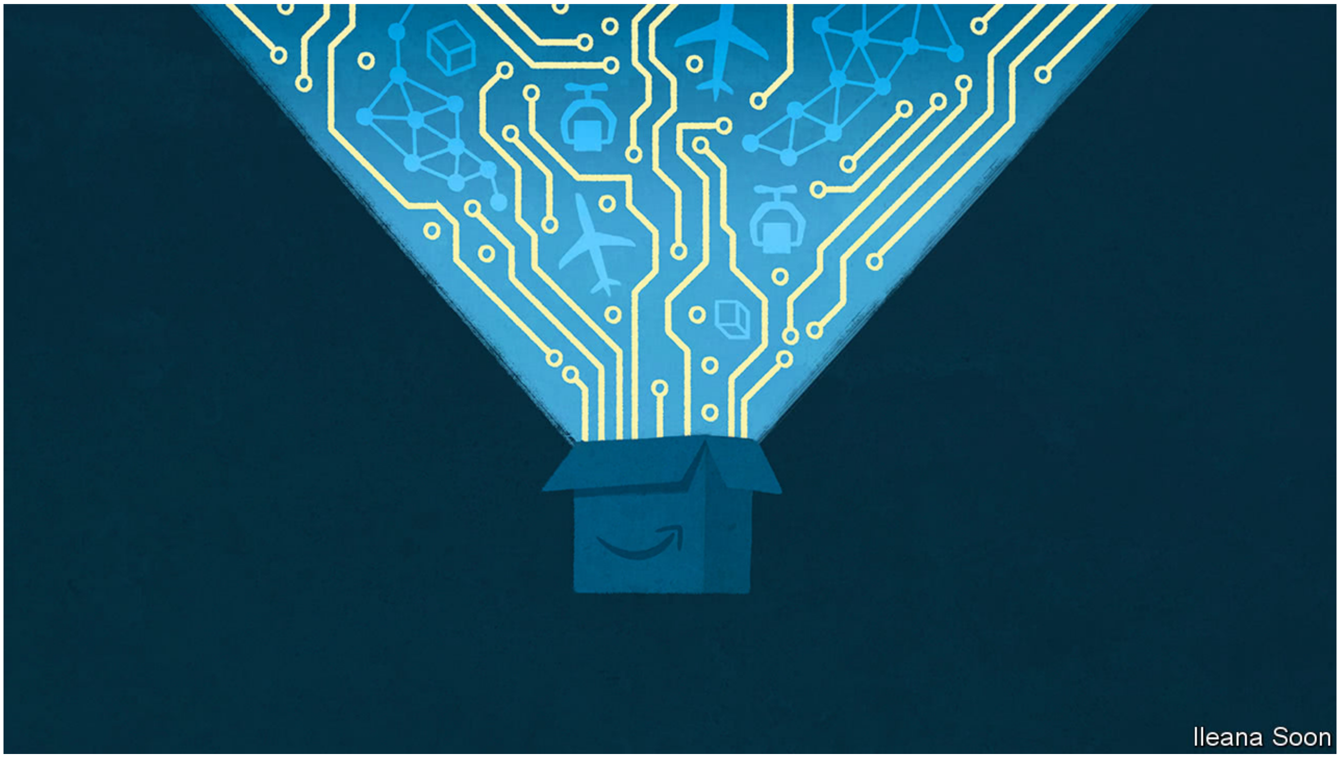
These developments should increase the total volume of goods shipped around the world yet further. But Rob Wolleswinkel of BCG counsels against seeing this as a rising tide for all boats. Amazon's logistics division, he suspects, will seek to "cherry pick" profitable undertakings such as managing the system, leaving only low-margin activities, such as basic transport services, to the likes of Maersk and DHL. The newcomers, he notes, have two things on their side that previous would-be disrupters did not. One is that the company that owns the data owns the consumer. Amazon knows a great deal about the people who use its platform, which is a lot of people; logistics firms know next to nothing about anyone. Second is the size of the tech giants. DHL, FedEx and UPS have been big enough to bat away competition from startups. The e-commerce titans are another matter.

Some have woken up to the threat. Soren Skou, chief executive of Maersk, argues that it was a mistake for his firm to spend the past decade focusing so much on no-frills container freight between China and Europe. That allowed freight forwarders to scoop out the profit that Amazon and Alibaba now covet. Maersk must become more integrated to compete against Amazon, he says: he wants to make it "the DHL of the sea," offering worldwide door-to-door delivery. He plans to replace paper bills of lading with digital ones secured using blockchain technology. The firm is already rolling out a digital "Maersk Line Operating System" to put shipping data into a common format. This promises to be hugely influential. As an executive at a smaller rival admits: "We just watch what Maersk does and copy it."

Et TEU, Brute

In the past, the unreliability of container delivery has made it unsuitable for e-commerce; that has been good for other retailers, who can turn a profit importing items from China in bulk to Europe and America and selling them on. If Maersk, or anyone else, can make containerised shipping truly responsive and flexible it will have implications well beyond logistics.

It might seem fanciful to think of shipments on a behemoth like *Munich Maersk* being flexible in the way that vans tootling round suburbs with packages can be. But smart data management and good data analytics might get you a long way towards the goal. If you really know where all the goods are and have control over where they will go, you do not necessarily need to wait for an order before you ship something. If you know roughly how many of the items in question the market is interested in, they can be shipped ahead of time, their e-ticket-like labels left deliberately vague. When an order is actually placed, the relevant label will be updated with a precise destination in transit. The ship takes on part of the job of the warehouse. Alibaba and Amazon are already pursuing this approach.



To the extent that it can be made to work, such magic will eat into retail and wholesale margins—which for books and toys can be over 50% of the price. This is already happening to some extent. In 2012 Amazon began to allow Chinese businesses to start selling through its marketplace programme, which fulfils third-party orders; they now outnumber American firms. And Amazon has slashed the cost of delivering small items ordered from China to America. It is now lower than the cost of shipping within the United States (though delivery is slower). Other American retailers, online and off, are angry at what they see as a subsidy to their competitors.

Some estimate that as many as 7.5m retail jobs will disappear in America over the next decade, in part because of the increased possibilities for e-commerce that better logistics will bring. Others are more optimistic. Michael Mandel of the Progressive Policy Institute, a think-tank in Washington, DC, has pointed out that in America jobs in logistics are increasing faster than retail employment is falling. Those new workers, though, are unlikely to be employed by old firms. As Mr Stopford notes, incumbents did badly last time technological change swept logistics. “Who today has heard of Blue Funnel Line?” he asks of the British firm which was one of the largest cargo lines in the world—before containers and Maersk came along.

This article appeared in the Briefing section of the print edition under the headline ”Thinking outside the box”

Environmental protection
Swamp science

Swamp science

Scott Pruitt embarks on a campaign to stifle science at the EPA

New policies would hamstring clean-air and pesticide standards

Print edition | United States Apr 26th 2018

SCOTT PRUITT, the administrator of the Environmental Protection Agency (EPA), is still standing after a fusillade of scandals that would have felled a lesser cabinet member. As soon as he took up his post, Mr Pruitt lodged in a luxury flat owned by a lobbyist, paying $50 per night only on the evenings he slept there—a remarkable bargain for Capitol Hill. Mr Pruitt denied any impropriety, but it emerged this week that he had met his landlord's husband, also a lobbyist representing a pork manufacturer before the agency, contradicting his earlier claims. Mr Pruitt struck similar sweetheart deals in his previous job as attorney-general of Oklahoma. But since coming to Washington, other furores show that Mr Pruitt has let his newfound prominence get to his head.

He spent lots of taxpayer cash on first-class airline tickets, tripled the size of his security detail (which accompanied him on holiday to Disneyland) and installed a soundproof phone booth in his office, costing $43,000—which the Government Accountability Office says violated federal spending laws. At one point, Mr Pruitt reportedly tried using his motorcade's flashing lights and sirens to expedite a trip to dinner at Le Diplomate, a once-trendy French restaurant in Washington. There are at least six current investigations into his conduct, and four Republican congressmen have called for his resignation.

Given all that, it is easy to overlook what Mr Pruitt is actually doing at the helm of the EPA. On April 24th he unveiled a new policy which would prohibit the agency from using studies backed by confidential data, like medical records, when drafting environmental regulations. He has removed scientists affiliated with universities from the department's scientific advisory committees. Staff morale has plunged.

This is the culmination of a decades-long campaign against the "secret science" underpinning environmental regulation. In 1993 researchers at Harvard published the "Six Cities study", which definitively linked air quality to premature death using confidential medical records from 8,000 people. The study prompted the first regulations on fine particulate matter issued under the Clean Air Act in 1997. Manufacturers spent millions in an effort to dispute the science and called for release of the raw data, which the researchers, bound by a confidentiality agreement, refused. Today the findings are established science—and the rules they inspired will prevent more than 230,000 early deaths by 2020. Nevertheless, Lamar Smith, a Republican congressman who chairs the science committee, has subpoenaed the EPA for the underlying Six Cities data. He has also unsuccessfully sponsored a bill, dubbed the Honest Act, which would bar the EPA from issuing any new rules based on such studies. Mr Pruitt's recently announced proposal would sidestep Congress and impose such a policy anyway.

The consequences could be severe. The EPA cites 50,000 studies each year. The costs of redacting data that might identify people before publication could amount to $100m per year, according to an estimate by the Congressional Budget Office, crowding out an already squeezed research budget. Air-quality rules and pesticide limits rely on analyses of confidential medical records—which Mr Pruitt may now label as suspect and try to undo.

The new policy is a costly solution in search of a problem. It is outlandish to think that scientists are engaged in a vast conspiracy to exaggerate the health consequences of water and air pollution using fabricated data. It is less likely still that a member of the public browsing through the agency's website would discover the fraud that had eluded peer reviewers. Some critics have credibly claimed that the EPA inflates the benefits of environment rules and downplays the costs. But the agency already publishes the details of its maths in the form of regulatory impact analyses, often hundreds of pages long, which are available for public scrutiny. Replicability and transparency are vital to science. But, as 985 scientists wrote in a letter to Mr Pruitt, the proposed restrictions are "phoney issues that weaponise 'transparency' to facilitate political interference in science-based decision-making, rather than genuinely address either."

Mr Pruitt has already barred university scientists who receive federal grants from the EPA, as many leading researchers do, from sitting on boards advising the agency, on the ground of conflict of interest. He has no such qualms about scientists who work for industries regulated by the EPA, such as chemical manufacturers and coal producers. The result is that the number of university scientists on the boards has fallen by half, while the number from regulated industries or consulting companies has increased threefold. Michael Honeycutt, the new chief science adviser, has claimed that the dangers of mercury and ozone are exaggerated, and that "some studies even suggest that PM [particulate matter] makes you live longer". Deborah Swackhamer, a professor of environmental policy, was demoted as head of the Board of Scientific Counsellors in favour of Paul Gilman, an executive at Covanta, a large waste-management firm.

Career staffers, usually do-gooder types, are dejected about Mr Pruitt, who has steadfastly committed himself to undoing as many Obama-era environmental regulations as he can. He has also proposed punishing budget cuts to the EPA, lopping off a quarter of its funding, though Congress has not yet agreed. More than 200 scientists left the agency in 2017; seven were hired. Three scientists were barred from speaking at a conference in October, and references to "global warming", "fossil fuels" and "climate change" have been buried on the agency's website. As a result of all this, the number of EPA employees has shrunk to the lowest level in decades. Other staffers are content to wait and outlast Mr Pruitt. "Career staff continue to keep our nose to the grindstone—with proper personal protective equipment and particulate controls," jokes one bureaucrat.

This article appeared in the United States section of the print edition under the headline "Swamp science"

The ballad of Mike and Ronny

The unusual process for staffing the White House

Where's the extreme vetting when you need it?

Print edition | United States Apr 26th 2018

THE drama in the average congressional committee hearing makes Samuel Beckett's plays look like fast-paced thrillers. But the afternoon session of the Senate Foreign Relations Committee on April 23rd contained a genuinely exciting reversal. Reporters were prepared for the committee to deliver a historic rebuke and vote to recommend that Mike Pompeo should not be confirmed as secretary of state, something that has never happened before. Republicans hold a one-seat majority on the committee; Rand Paul, a Republican from Kentucky, was expected to side with Democrats to protest against Mr Pompeo's hawkishness. Moments before the committee convened, Mr Paul changed his mind, tweeting that he had "received assurances" the Mr Pompeo agrees that the Iraq war "was a mistake, that regime change has destabilised the region and that we must end our involvement with Afghanistan". That cleared a path for his confirmation by the full Senate, filling a vacancy in the administration that was opened when President Donald Trump tweet-sacked Rex Tillerson on March 13th.

Mr Pompeo has held some undiplomatic positions: against the Iran deal and in favour of regime change in North Korea, for instance. Since being nominated he has modified both those views. But he has a personal rapport with Mr Trump, so up he rises. In office, his first task will be to rebuild. When Mr Tillerson left, around 40% of all Senate-confirmed positions at State lacked even a nominee; several top undersecretary posts sit vacant.

Elsewhere, though, Mr Trump's administration is beset by the same old problems: lazy vetting and underpopulation. The Veterans Affairs department (VA) has been leaderless since Mr Trump fired David Shulkin on March 28th(the White House claims he resigned). Like several other top Trump administration officials, Mr Shulkin faced accusations of improperly billing the government for personal travel. He also clashed with the White House over plans to privatise veterans' health care.

The Senate Veterans Affairs Committee was due to hold hearings on Ronny Jackson, whom Mr Trump nominated to replace Mr Shulkin, on April 25th. They have been delayed. Two days before the scheduled hearing, the committee received allegations that Mr Jackson drank excessively, overprescribed drugs and verbally abused colleagues. Many have defended him against the charges; one senator said Mr Jackson told him he never drank on duty.

Mr Jackson was a strange choice from the start. A navy admiral and Mr Trump's personal doctor in the White House, he has never run a large organisation. His main qualifications seem to be his film-star looks and willingness to say nice things about Mr Trump on television. After the president's physical in January, Mr Jackson said the president had "incredible genes", "might live to be 200 years old…if he had a healthier diet" and "has a very unique ability to just get up in the morning and reset."

Mr Trump's very unique method for choosing nominees has already caused him problems. Andrew Puzder, the head of a restaurant chain, withdrew his nomination for labour secretary after allegations of domestic abuse (which he denies). Jason Miller withdrew from an appointment as communications director after reports that he had an affair with another member of the president's campaign team.

Officially, the White House is standing by Dr Jackson, who says he looks forward to "answering everybody's questions". But as *The Economist* went to press, he appeared to be hanging on by the thinnest of threads. The accusations had grown more detailed and lurid; the White House was said to be preparing for his withdrawal. Mr Trump insists, though, that it is "totally his decision."

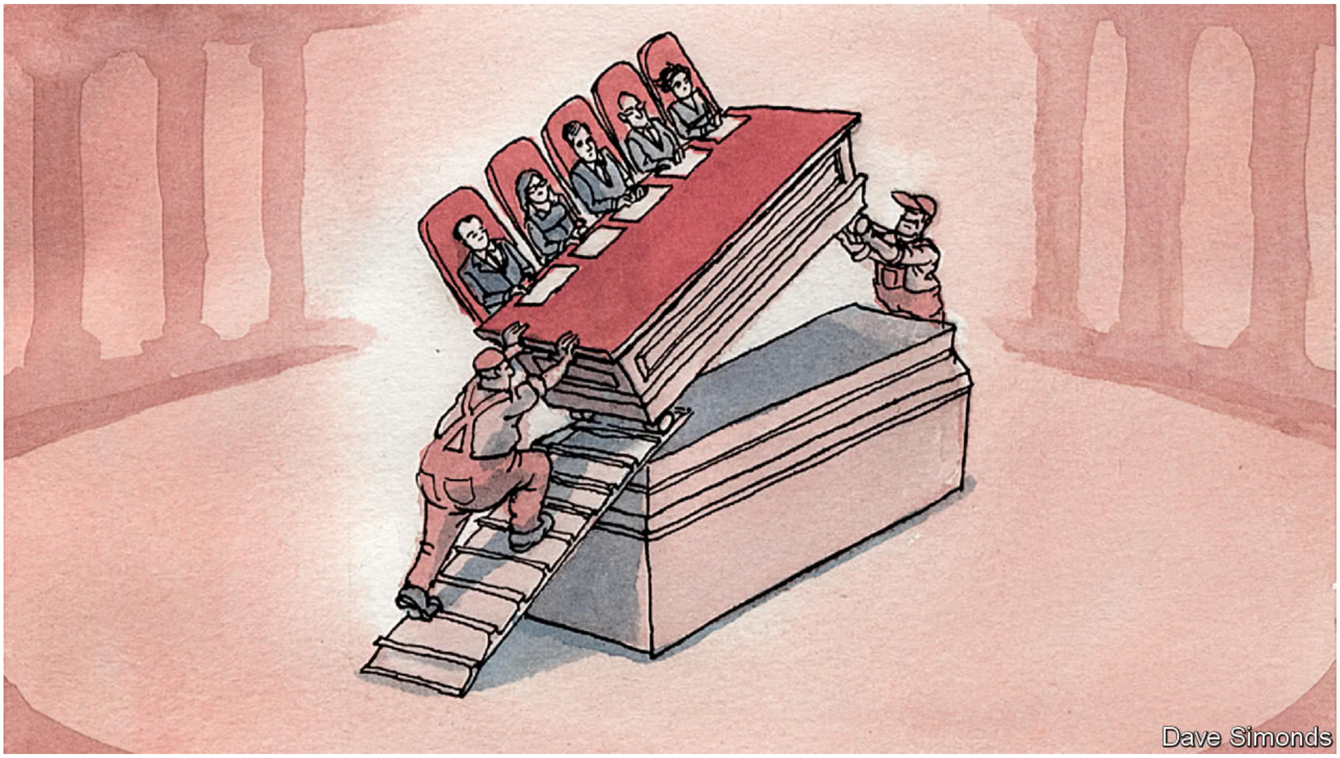
This article appeared in the United States section of the print edition under the headline "The ballad of Mike and Ronny"

The not famous five

America's tech regulator gets five new commissioners in one go

Meet the men and women who have the power to fine Facebook trillions of dollars

Print edition | United States Apr 28th 2018



THE Federal Trade Commission, the agency responsible for data privacy and antitrust enforcement, had a staid 2017. Amazon's $13.7bn acquisition of Whole Foods grocery chain sailed past it after a short review. No acquisitions made by Google or Facebook were examined, despite mounting concerns that tech giants are able to buy up new firms before they ripen into true competition. The FTC was short-staffed for most of the year: thanks to presidential foot dragging and partisan spats, just two out of five commissioners were in place. As *The Economist* went to press, the Senate was due to confirm five new commissioners at once, the first time that has happened.

The interrogation of Mark Zuckerberg, Facebook's CEO, may have proved tepid, but it saw lawmakers grappling with big questions for the first time: what exactly Facebook (and, by extension, its tech firm brethren) is, and what, if anything, should be done about the power it holds? The FTC's new chairman, Joseph Simons, an antitrust lawyer who was chief of the commission's competition bureau in the early 2000s, is well versed in these questions. He addressed them directly in his confirmation hearing, telling the Senate Commerce Committee that while big companies that provide high-quality services are fine, antitrust laws should be vigorously enforced if firms use anticompetitive means to get big or stay big.

If he wants to act upon that sentiment, Mr Simons will find support in the form of Rebecca Slaughter, the fifth and final nominee for commissioner. Ms Slaughter played a role in shaping the Democrats' Better Deal campaign platform, which includes promises to regulate antitrust not solely on the basis of the price and output of firms' products, but also on whether corporate practices "limit access to services, stifle innovation, or hinder the ability of small businesses and entrepreneurs to compete". For firms with free products, such as Facebook and Google, such qualitative regulation could prove problematic.

The other seats will be filled by Rohit Chopra, a Democrat formerly of the Consumer Financial Protection Bureau, and Noah Phillips and Christine Wilson, Republicans. The commissioners start with a backlog of work. The FTC has yet to rule on the gigantic 2017 Equifax data breach, and is investigating whether Facebook's provision of data to Cambridge Analytica violated a settlement agreement the firm made with the agency in 2011. Thomas Struble of R Street, a policy research non-profit, says the settlement required Facebook not to misrepresent either how much information third parties can get hold of, or how it verifies the privacy practices of those parties.

The Cambridge Analytica scandal hinges on these questions. The answers, and any penalties, are for the refurbished FTC to determine. Standard treatment for tech-company violations has merely been further settlement agreements, although Facebook's existing agreement does come with financial penalties for violation that run into the trillions.

This article appeared in the United States section of the print edition under the headline "The not famous five"

Presidential authority

The Supreme Court seems inclined to uphold the president's travel ban

The inhabitants of five Muslim-majority countries will likely remain barred from America

Print edition | United States Apr 26th 2018

ONE year ago, stung by what he termed "ridiculous" judicial defeats for his travel ban and sanctuary city policies, Donald Trump tweeted, "see you in the Supreme Court!" On April 25th, Mr Trump followed through on that promise. *Trump v Hawaii* asks whether the third version of the president's restrictions on travel from primarily Muslim countries is consistent with immigration law and the constitution. After lower courts repeatedly froze Mr Trump's edicts for discriminating against Muslims, the travel ban found a friendlier audience among the nine justices.

First up at the podium was Noel Francisco, the solicitor-general. The latest restrictions, announced in September, were based on a "worldwide, multi-agency review", he told the court, and applied to countries that fail to provide enough information to vet their travellers. The proclamation "omits the vast majority of the world", he said, including the "vast majority of the Muslim world". If the restrictions were a "Muslim ban" in disguise, they were "the most ineffective Muslim ban that one could possibly imagine".

Justice Samuel Alito picked up this theme in a question to Neal Katyal, the lawyer representing the ban's challengers. Would a reasonable observer really read Mr Trump's proclamation, which applies to only 8% of the world's Muslims and only five of 50 majority-Muslim countries, as a "Muslim ban"? Mr Katyal acknowledged that the text alone does not damn the travel rules. But the "circumstances around it", he said, including Mr Trump retweeting missives from an anti-Islam hate group to his tens of millions of followers, show the true motive behind the ban.

The most telling question of the morning came from Justice Elena Kagan, who asked Mr Francisco if there would any legal problem with a vehemently anti-Semitic president who got his staff to draft a travel order banning Israelis from entering America. If his cabinet "honestly" thought there was a threat to national security from Israelis, Mr Francisco said, the president "would be allowed to follow that advice". But it is quite unlikely that a president would do such a thing. Well, Justice Kagan pressed on, tongue almost imperceptibly in cheek, and drawing laughter in the courtroom, "this is a out-of-the-box kind of president in my hypothetical."

Should courts really have the duty to assess "whether or not there is…a national exigency" that would permit a president to limit foreigners' access to America, asked Justice Anthony Kennedy? Is Mr Trump's proclamation really, as Mr Katyal characterised it, "a power no president in 100 years has exercised"?

Justice Neil Gorsuch, Mr Trump's appointee, and Chief Justice John Roberts also voiced scepticism about the challengers' case against the travel rules. On Mr Katyal's theory, the chief intimated, a president who acts on advice to launch an air strike against Syria could be seen as "discriminat[ing] against a majority-Muslim country"—a ludicrous conclusion. And since Congress may not be "prescient enough" to write laws that address "any particular factual situation that might arise", he said, courts should afford presidents a wide berth to curtail travel. A decision in this showdown over presidential power should arrive by the end of June.

This article appeared in the United States section of the print edition under the headline "Travelling banned"

Alohas and goodbyes

The assisted-dying movement gathers momentum in America

Hawaii becomes the sixth states to allow doctors to give lethal medication to some terminally ill patients

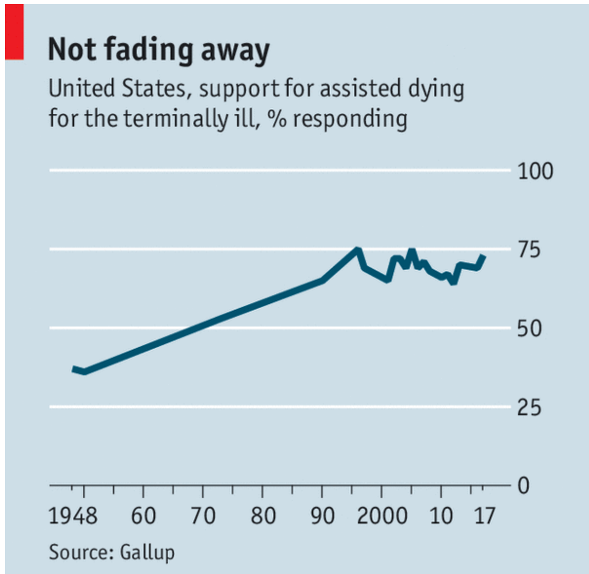
Print edition | United States Apr 26th 2018

THREE years ago John Radcliffe, a jovial retired lobbyist in Hawaii, was diagnosed with terminal stage four colon and liver cancer. He has since undergone 60 rounds of chemotherapy but doctors suspect he has just six more months to live. His illness often leaves him feeling exhausted but, undeterred, he has spent the past few years pushing to pass one last bill: Hawaii's "Our Care, Our Choice Act", which allows doctors to assist terminally ill patients who wish to die. Earlier this month, as Mr Radcliffe beamed behind him in a colourful lei, Hawaii's governor signed the bill into law making Hawaii the seventh American jurisdiction to approve an assisted-dying law.

Like the laws in California, Washington, Vermont, Colorado and Washington, DC, Hawaii's law is modelled on legislation in Oregon, which was the first state to allow assisted dying, in 1997. It permits an adult, who two doctors agree has less than six months to live and is mentally sound, to request lethal medication. The most commonly used drug is secobarbital, a barbiturate that induces sleep and eventually death by slowing the brain and nervous system. It is usually prescribed in the form of about 100 capsules that must be individually opened and mixed into liquid—a process advocates say averts accidental overdoses. The patient must take the medication themselves, without aid, but they can choose when and where to do so. Death with Dignity, an Oregon-based pressure group, estimates that 90% of the recipients of this service end their lives at home.

Legislatures in 24 other states are considering similar bills this year. Most will flounder. In 2017, 27 states debated assisted dying. None approved it. Still, the right-to-die movement seems likely to gather momentum. Between 1997 and 2008, Oregon was the only state that allowed doctors to let some patients hasten their deaths. In the decade since, six other jurisdictions have legalised assisted dying, either through legislation or ballot initiatives. Advocates are hopeful that Nevada, New Jersey and Massachusetts might soon follow.

A few factors make such laws likely to continue spreading. The first is public support. In 1947, when Gallup, a polling group, first began conducting surveys on the issue, 37% of Americans thought a "doctor should be allowed to end a terminally ill patient's life by painless means" if requested by the patient. Since 1990, between 64% and 75% have expressed support for doctor-assisted dying (see chart). The remaining objections are concentrated among the religiously observant, though Gallup finds that a narrow majority of weekly churchgoers support assisted dying.



Economist.com

Doctors have become more accepting of the notion too. An ethics report published by Medscape, a medical news website, in December 2016 found that 57% of doctors surveyed believed doctor-assisted death should be available to the terminally ill, up from 46% who thought so in 2010. While the American Medical Association, America's largest association of physicians, remains opposed to the practice on the grounds that "physician-assisted suicide is fundamentally incompatible with the physician's role as a healer," some state medical groups have dropped their opposition to the procedure.

Kim Callinan of Compassion & Choices, a pressure group, believes there are several reasons for the growth in support. Since the first Death with Dignity Act was implemented in Oregon, there has been no evidence of misuse or abuse. In the past few years several high-profile cases have drawn attention to the issue. Perhaps the best known is that of Brittany Maynard, a young Californian woman with terminal brain cancer, who fervently advocated for right-to-die laws until she ended her life in November 2014 in Oregon. The third factor is the ageing of the baby-boomer generation, which is America's most populous. "They're starting to see their parents experience horrible deaths, and are beginning to contemplate their own ends," Ms Callinan says.

But even in places that have approved assisted-dying laws, accessing it can be problematic. The Washington, DC, Council approved an assisted-dying ordinance in 2016. But since the law was implemented in July 2017, not a single patient has been able to take advantage of it. Peg Sandeen, the executive director of Death with Dignity, the Oregon-based organisation, explains that until recently the law was in jeopardy. A panel of congresspeople sought to include an amendment in the recent omnibus funding bill that would have repealed it. That effort flopped, which advocates hope will assuage DC doctors' worries. Second, the DC law has more stringent administrative requirements than those in other American jurisdictions. The health department there requires that doctors register on a database before providing medical aid-in-dying. Requests remain fairly rare—only 218 people requested prescriptions in Oregon in 2017 and 111 people ended their lives in California in the first six months after the law came into force—so some doctors might not think the extra bureaucracy worth it.

Mary Klein, a retired journalist who lives in Washington, DC, and has terminal ovarian cancer, said she has sought medical aid-in-dying from five different doctors to no avail. A few have told her that they think palliative care is sufficient. Ms Klein, who watched her stepmother die in a hospital while receiving pain medicine that made her incoherent, disagrees. "No one wants to be in intolerable pain – but just as important is self-determination. I want to die peacefully in my home surrounded by loved ones. I want to be lucid when I say goodbye to my wife."

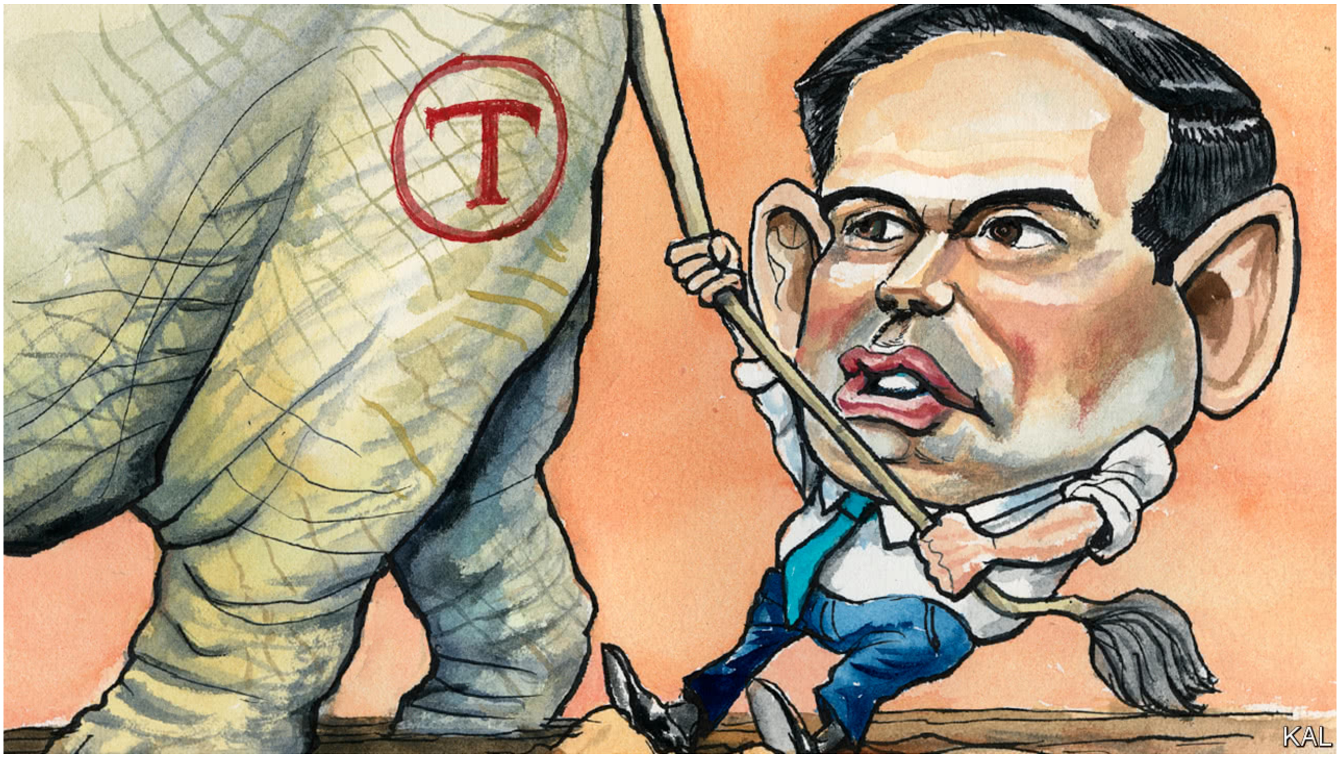
This article appeared in the United States section of the print edition under the headline "Alohas and goodbyes"

Lexington

Marco Rubio offers his Trump-crazed party a glint of hope

The Florida senator thinks that reheating Reaganomics is a dead end

Print edition | United States Apr 26th 2018



THE episode that encapsulated the Republican establishment's capitulation to Donald Trump had been planned as a repudiation of him. It was when Senator Marco Rubio, in a bid to salvage his sinking candidacy in the 2016 Republican primaries, suggested that Mr Trump had a small penis. Formerly known as a high-minded conservative, Mr Rubio also mocked the Republican front-runner's hair and "orange" skin. "Donald Trump likes to sue people," he told a crowd in Virginia, ahead of the round of primaries that more or less sealed Mr Trump's capture of the Republican nomination. "He should sue whoever did that to his face."

Two years on, Mr Rubio is plotting a more elevated response to the earthquake Mr Trump has triggered on the right. In an hour-long interview he describes his plan for a new "reform conservative movement" devoted to addressing the economic disruption and social disaffection that the president vigorously described. In offering himself as an optimistic Reaganite, Mr Rubio acknowledges that he missed the "anxiety and anger" Mr Trump tapped into. "I spent a tremendous amount of time focused on the opportunities I had as the son of a bartender and a maid in the past century," he says. "I didn't spend nearly enough time talking about what the bartender and the maid face today."

The details of Mr Rubio's new programme are unclear, but he suggests they will involve more interventions such as the increased child tax credit he inserted into the tax reform passed last year, and a provision for paid family leave he is working on now. He mulls the need for more public spending on technological research and for education reform, to prioritise vocational skills. He advocates a more flexible benefit system, to help the retraining of disrupted workers. Against the magnitude of America's income inequality, such measures might seem modest. Yet from the lips of an orthodox Republican leader, they imply a serious reconsideration of the pre-eminent conservative ideals: a minimal government role in the economy and a related view of liberty as "freedom from" government interference. "Government has an essential role to play in buffering this transition," he says. "If we basically say everyone is on their own and the market's going to take care of it, we will rip the country apart, because millions of good hardworking people lack the means to adapt." Economic liberty, in this retelling, becomes something the government is required to guarantee. It is the freedom to enjoy "the dignity of work", says Mr Rubio. "There needs to be a conservative movement that addresses these realities."

His implication that Republicans have found no good answer to the problems Mr Trump described is irrefutable. The president's scheme to revive the 1970s economy through protectionism and deregulation is unrealistic, as Mr Rubio—who these days dares not criticise Mr Trump—cannot help but acknowledge. “The future is going to happen,” he says. “I have no problem with bringing back American car-manufacturing facilities, but, whether they’re American robots or Mexican robots, they’re going to be highly automated.” Most Republican congressmen meanwhile remain entranced by the limited-government shibboleths he has shaken off, as his fight over the tax bill revealed. Mr Rubio’s proposal, to double the tax credit to $2,000 per child and pay for it by making a small increase to the corporate rate his party wanted, was decried by some Republicans as socialism. The watered-down version they accepted, as the price of Mr Rubio’s support for the bill, excluded the poorest families. “There is still a lot of thinking on the right that if big corporations are happy, they’re going to take the money they’re saving and reinvest it in American workers,” he says. “In fact they bought back shares, a few gave out bonuses; there’s no evidence whatsoever that the money’s been massively poured back into the American worker.”

That shows how resistant Mr Rubio’s party will be to the changes he wants. “I’m a minority within a minority,” he says. Yet he is well-able to argue for them. Though not as astute as Ben Sasse or articulate as Ted Cruz, he is an engaging communicator with broad appeal. Social conservatives adore him; pro-life and spikily partisan, he is no mushy centrist. Yet he retains a boyish earnestness that even Democrats find endearing. His golden back-story, as a son of poor immigrants, helps with that—and looks more relevant now than ever. “My relatives are firefighters and nurses and teachers and electricians,” he says. “These are people who are not all that excited about the new economy.”

A big moment for Little Marco

The question, as always with Mr Rubio, is: how serious is he? He has a record of taking enlightened positions—in backing intelligent climate-change policy, for example, and in his more recent support for immigration reform—then ditching them when the wind changes. His pitch also carries hints of that flakiness. He claims to have tempered his erstwhile enthusiasm for trade and immigration; in reality, he has little to say about either. That, in turn, raises another familiar question: is Mr Rubio repudiating Mr Trump or capitulating to him? The timing of his pitch is suspicious. He says his rethink reflects the truths he learned on the trail. But that was over two years ago. It might also be seen as a belated realisation, by a bruised but still-ambitious Republican, that the party of Trump will not return to conservative verities soon.

Even so, that underlines how important it is that Mr Rubio sees this through. He is not the only Republican taking a leaf from the president’s playbook. Yet in contrast to Trump acolytes such as Senator Tom Cotton or Mike Pompeo, the incoming secretary of state, he is unlikely to trace the president’s steps from economic populism to ethno-nationalism. That is not only good in itself. It is also why, having no divisive rhetoric to fall back on, he might try hardest to find solutions to the problems Mr Trump highlighted. It is a lot to expect from a gifted politician with a history of disappointing. But he might be the best hope his party has.

This article appeared in the United States section of the print edition under the headline ”Marco’s makeover”

Nicaragua
An autocrat totters

Nicaragua's authoritarian model

The violent end of Daniel Ortega's decade of quiet

Without Venezuelan aid, the president can no longer buy the support of potential adversaries

Print edition | The Americas Apr 26th 2018

RARELY has a political movement so young been blessed with a symbol so potent. In 2013 the Nicaraguan government began installing garishly coloured metal "trees of life" around Managua, the capital. Advertised as a gift to the people from Rosario Murillo, the first lady, the 140 sculptures cost $25,000 each to install. They consume $1m worth of electricity a year. The contract for maintaining them belongs to a company owned by a relative of the president, Daniel Ortega. So when demonstrators began thronging the city's streets on April 18th, they were surrounded by fitting targets for their ire. Banding together, they tugged on chains to uproot Ms Murillo's beloved trees (see picture)—and perhaps the country's political future too.

Days after the protests began, one of the trees was still lying atop a roundabout. Passing cars honked in satisfaction at the subversive sight. Several young Nicaraguans sat on it as though it were a sofa; others scavenged along the ground for light bulbs to take as souvenirs. "It's like [a piece of] the Berlin Wall," said one. A nearby security guard speculated that the government was too afraid of the people's wrath to clean up its own fallen monument.

The protests sprang up across the country after Mr Ortega announced an overhaul of public pensions, in which Nicaraguans would pay more to receive less. The government, along with goons doing its bidding, responded with a brutal show of force: live ammunition was used on unarmed demonstrators. Hundreds of people were injured, and according to a local human-rights group, at least 34 have been killed. It is still unclear whether police were ordered to open fire, and how many of the attacks were committed by uniformed security forces. But the government is doing its best to stop the public from finding out more: several media organisations were taken offline or had their signals scrambled. The dead include a journalist who was shot in the head while broadcasting on Facebook Live.

The ex-Marxist and his missus

The violence was particularly jarring in a country that has been a relative bastion of calm in a volatile region. Mr Ortega is no stranger to unrest: he led a left-wing revolution in the 1970s against the kleptocratic dictatorship of the Somoza family, and spent much of the next decade as president fending off American-backed insurgents. But since his return to power in 2006, both he and Nicaragua have been transformed.

After feuding with businesses, the church and the United States during his first stint in office, Mr Ortega reinvented himself as a conservative Catholic promising stability to his former adversaries. America has found him pleasingly pragmatic on migration and drug-trafficking, even though his anti-imperialist rhetoric and UN voting patterns mimic those of Venezuela and Cuba. To placate the church, he has strictly enforced one of the world's toughest abortion laws. And he has won over business leaders with orthodox macroeconomic policies, even inserting a "permanent consensus-seeking dialogue" between the state and the private sector into the constitution. In practice, this gave big business predictable economic conditions and influence over policy in exchange for staying out of politics.

With his old opponents co-opted, Mr Ortega moved to undermine Nicaragua's democracy and replace it with a mild cult of personality. He seized the electoral authority and supreme court, shut down opposition parties, rigged elections and abolished term limits. In 2016 he installed Ms Murillo as vice-president and put her in charge of most day-to-day governing, establishing a family dynasty reminiscent of the dictatorship he overthrew in 1979. The presidential couple feature on countless billboards, claim responsibility for every government project and seek to play the role of the nation's parents. In Ms Murillo's daily radio address, she not only touts public spending but, as one diplomat recalls, has even told citizens to wear socks when the evening was expected to be cold.

As Nicaraguan institutions shrivelled, Western governments withdrew aid. But rather than buckle to their demands, Mr Ortega sought patronage from a fellow autocrat in Venezuela's Hugo Chávez. Between 2008 and 2015, Nicaragua bought $4.5bn of Venezuelan oil at discount prices. Venezuela then funnelled the money back as a loan to a Nicaraguan bank owned by the ruling party, which spent the cash on social projects for Mr Ortega's supporters, free from legislative oversight.

Mr Ortega's canny strategy has made Nicaragua an inconvenient case for liberal-minded observers. The country is both the least democratic in Central America and has enjoyed economic growth and low crime rates that are the envy of many of its neighbours. His example of authoritarianism has already spawned imitators: Juan Orlando Hernández, the president of Honduras, was re-elected last year in a vote widely believed to have been fraudulent.

In the space of a week, however, the dependence of the Nicaraguan model on an external sponsor has been laid bare, just as Fidel Castro's Cuba was after the fall of the Soviet Union. As Venezuela's economy has collapsed, it can no longer afford to prop up allies. In 2016 Venezuela's oil exports to Nicaragua dropped by two-thirds. In turn, Nicaraguan exports to Venezuela have fallen sharply since their peak in 2012.

Without Venezuela's largesse, Mr Ortega can no longer maintain the public spending that kept dissent at bay. To curb a worsening deficit, he has already increased electricity prices by a double-digit percentage. His programme to hand out free zinc roofs to the poor now merely offers subsidised roofs. And the pension system—whose assets, according to the local newspaper *La Prensa*, have partly been invested in firms with ties to officials in the government and Mr Ortega's party—is projected to run out of money in August. This shortfall forced the government to implement the cuts that set off the protests. After taking personal credit for all of Nicaragua's successes during the past decade, the first couple will now be saddled with the blame for the failures to come.

On April 23rd several hundred thousand Nicaraguans marched through the streets of Managua, shouting "we are not afraid" and "Daniel and Somoza are the same." In the sweltering tropical heat, old women poked their garden hoses through the front gates of their homes to refill the water bottles of passing youths. At one point, several people climbed a 15-metre-high billboard featuring the Ortegas, demolishing it as thousands cheered. According to Félix Maradiaga of the Institute of Strategic Studies and Public Policies, a think-tank, the march was almost certainly the biggest protest in the country's history.

Mr Ortega's initial response only added fuel to the fire. On April 21st he claimed that the protests had been infiltrated by gangs and manipulated by unspecified "minority" forces. But the next day, he seemed to recognise his predicament, and said he would reverse the pension overhaul. Nonetheless, the demonstrations continued, suggesting that the pension fiasco was only one of the public's gripes.

The president has now adopted a more conciliatory stance, pulling the police off the streets and calling for a national dialogue. However, business leaders doubt that he can restore the old status quo. "I don't know what is happening...in three days they lost their minds," one influential executive says of the government.

To restore confidence, the regime would have to include a wide range of social groups in any talks, such as indigenous and women's organisations, farmers and, crucially, students. In less than a week a group of political-science students from the Polytechnic University of Nicaragua have become the country's strongest opposition force. On April 23rd they diverted the planned path of the main march and led demonstrators on a 6km walk to the university, where a candlelit vigil was held for two students killed the previous night.

Inside the campus, protected by roadblocks to keep police away, students walk around in balaclavas to avoid identification and paramedics wear doctors' masks. Some think the call for dialogue is a trap. "They want us to let our guard down," says one student. But one of the leaders insists that the movement is not opposed to dialogue in principle. "We want a democratic solution. We don't want war," he says.

The students have called for Mr Ortega, who is 72, to resign immediately. Some business leaders want him to step aside before his term ends in 2021. However, the flash point in any negotiation is likely to be his choice of successor. If he insists on putting forward his wife—and on using his control of state institutions to ensure she wins—the protests are likely to swell.

For now, Mr Ortega still retains a firm hold on power. His about-face on the pension reform shows that unlike Nicolás Maduro, Chávez's successor in Venezuela, he is willing to beat a tactical retreat when he has overstepped. But now that Nicaragua must live within its means, the president can no longer expect to enjoy near-absolute power without facing forceful opposition. In that sense, the country's second Ortega era has already come to a close.

This article appeared in the The Americas section of the print edition under the headline "An autocrat totters"

The virgin terrorist

An involuntary celibate goes on a killing spree in Canada

A mass murderer draws attention to a woman-hating subculture

Print edition | The Americas Apr 26th 2018

HIS classmates thought he was harmless. But on the afternoon of April 23rd Alek Minassian, a 25-year-old computer programmer from Toronto, drove a van into lunchtime strollers, careering along for more than a kilometre, killing ten and injuring 14 others. His aim, apparently, was to murder women, because women would not have sex with him.

Beforehand, Mr Minassian posted a message on Facebook proclaiming: "The Incel Rebellion has already begun! We will overthrow all Chads and Stacys! All hail Supreme Gentleman Elliot Rodger!" Canadians googled furiously to find out what this might mean.

They found that "incel" is short for involuntarily celibate. Members of this movement are furious that women (sometimes referred to as "Stacys") won't sleep with them. They also resent "Chads" (men who find it easy to get sex). They mostly confine themselves to grumbling in online chat-rooms. Some swap alarming fantasies of "revenge" through rape. A few idolise Elliot Rodger, who slaughtered six people during a misogynistic murder spree near the campus of the University of California, Santa Barbara, before killing himself.

Mr Minassian's victims were predominantly women, of all ages. He was arrested unharmed, after he tried to goad a police officer to shoot him in the head. Within hours, Canada's federal public-safety minister, Ralph Goodale, declared that the attack posed no threat to national security. The Toronto police said they had no previous record of the suspect, who was charged with ten counts of murder and 13 of attempted murder.

Acquaintances of Mr Minassian said he was awkward around women and kept repeating that he was frightened of them. Perhaps because of his emotional disorders, he took seven years to complete a computing degree. He briefly enrolled in the Canadian army last year, but left two weeks into a four-month basic course, before he had been trained in weapons. Unlike the perpetrators of some recent terrorist attacks in Canada, Mr Minassian had no links with jihadism.

He is not Canada's first woman-hating mass killer. Back in 1989, a man called Marc Lépine entered an engineering college in Montreal and shot and killed 14 women, after separating them from men, before killing himself. That prompted the government of the time to set up a national gun registry. In 2012, long guns were removed from the registry. No one knows how to stop homicidal men from hiring vans.

This article appeared in the The Americas section of the print edition under the headline "The virgin terrorist"

Justice in Guatemala

A corruption spat in Russia endangers crime-fighters in Central America

The curious case of Igor and Irina Bitkov goes to Washington

Print edition | The Americas Apr 28th 2018


Eyevine

IN A region where the rule of law is shaky, the International Commission against Impunity in Guatemala (CICIG) has become something of a beacon. Set up in 2006 to aid the country's weak prosecutors, the UN-backed body has aided investigations that led to the removal and jailing of a president, and the dismantling of death squads and drug-trafficking rings. These successes have earned it enemies—including the current president, Jimmy Morales, who tried to get its head fired last year after it accused him of accepting illegal campaign funding. On April 20th, following a public apology by a group of businessmen who made the contributions, the president demanded that CICIG's founding agreement be investigated. Guatemala's "net centres", groups of online trolls paid to smear opponents of the powerful, have raised their output.

With one in five members of congress under investigation, Mr Morales is not the only powerful Guatemalan who would like to see CICIG go. Yet every time its mandate has come up for renewal, the government has approved an extension, partly because the United States, which provides half of CICIG's budget, has advocated its preservation. Now, however, Guatemala has become a pawn in a longstanding battle over corruption on the other side of the world. CICIG's new adversary is Bill Browder, an American-born financier who made his fortune in Russia before falling out with the Kremlin and mounting a global lobbying campaign against Vladimir Putin, Russia's president.

Mr Browder pushed hard to win passage in America of the Magnitsky Act, which originally targeted Russian officials responsible for the death of his tax accountant in a Russian jail. It later morphed into a broader law against human-rights abuses. Mr Browder heard of the case of a Russian family who had sought refuge in Guatemala but ended up jailed there instead. He has accused CICIG of taking money from the Russian government, and persuaded America's Congress to hear his concerns. On April 27th a bicameral commission will hold a session entitled "The Long Arm of Injustice: Did a UN commission founded to fight corruption help the Kremlin destroy a Russian family?"

The family in question is that of Igor and Irina Bitkov, who once owned a timber plant in the north-west of Russia. Their firm was forced into bankruptcy by state banks, and in 2009 they fled to Guatemala, fearing for their safety. Their teenage daughter Anastasia later joined them. In 2015 all three were arrested as part of a CICIG investigation into a passport-forgery network. Earlier this year, they were given harsh sentences for using fake documents and identities. Igor received 19 years in prison, Irina and Anastasia 14.

The Bitkovs say they are innocent victims. They claim they were defrauded of their business in Russia in a way similar to that experienced by Mr Browder. They decided to flee and saw an ad for a law firm offering Guatemalan passports for an "assessment fee" of $50,000 per person. They paid the money, flew to Guatemala and picked up their passports at the migration agency. They say they were shocked to find themselves in handcuffs six years later, unaware that they had committed any crime.

CICIG insists that the Bitkovs were treated the same as every other suspect in the fake-passport case. It started in 2010 and yielded 39 convictions. A raid on the migration agency in 2014 turned up the Bitkovs' names, and a search of their house revealed stashes of cash and that Igor had documents corresponding to three separate identities. Prosecutors pursued maximum sentences for everyone involved. Other suspects received reduced jail time for providing information, but the Bitkovs declined a deal. The family has been represented by inexperienced lawyers, who seem to have served them poorly. The couple did not submit evidence to show that they had been persecuted in Russia, or prove that they bought their passports from a private company.

The Bitkovs suspect something more sinister. Over a year before their arrest, VTB—a state-owned Russian bank, which was the largest creditor of the Bitkovs' firm—filed a legal claim in Guatemala, accusing them of committing fraud and laundering money to avoid repaying their loans. At the Bitkovs' first court date, they say they were astonished to see VTB's representatives in the courtroom. The couple concluded that their tormentors had followed them to Central America. They soon got in touch with Mr Browder, who believes that VTB's involvement shows that CICIG, a body intended to fight the corruption of state institutions, has itself been infiltrated by Russia.

No evidence has emerged demonstrating Russian meddling. Although the claims brought by VTB and state prosecutors were merged at the outset—a standard procedure—a judge later dismissed VTB's filing, ending its involvement. Moreover, CICIG does not control the case: it is the Guatemalan courts that sentenced the Bitkovs and will hear their appeals. The only witnesses on the schedule for the congressional hearing are the Bitkovs' lawyers and Mr Browder, who says he will demand that American funding for CICIG be suspended until the Bitkovs are released.

Mr Browder admits that he is unfamiliar with the Guatemalan justice system, and that "anti-CICIG people...have been looking for a case like this." CICIG and its defenders hope that his crusade to save the Bitkovs from dark elements of one corrupt country does not enable those in another to exploit his efforts.

This article appeared in the The Americas section of the print edition under the headline "Collateral damage"

New man, old party

The son of an ex-dictator's secretary is elected president of Paraguay

Mario Abdo Benítez vows to spend more on infrastructure without raising taxes

Print edition | The Americas Apr 28th 2018

OPINION polls gave Mario Abdo Benítez a lead of 10-25 percentage points ahead of Paraguay's presidential election on April 22nd. So it was no surprise when Mr Abdo Benítez, the son of the private secretary to Alfredo Stroessner, Paraguay's dictator from 1954-89, was declared the winner. However, his margin of victory was much smaller than predicted: under 4% on a turnout of 61%. Both figures were the lowest since the return to democracy in 1989.

The president-elect's Colorado Party has now won six of the seven elections since Stroessner's fall. By 2023, it will have ruled for 70 of the past 75 years. The party closed ranks after a bitter primary in December, when Mr Abdo Benítez defeated Santiago Peña, the dauphin of the outgoing president, Horacio Cartes.

The main opposition, an awkward coalition of the conservative Liberal Party and the left-wing Frente Guasú, ran a ragged campaign. Its presidential candidate, Efraín Alegre, proposed slashing energy prices, making taxes more progressive and revamping a judiciary "compromised by corruption and the mafia". However, he did not unveil his full manifesto until five days before the vote. Mr Alegre is yet to concede and has made claims of electoral fraud, though foreign observers say the election was well-run.

Mr Alegre failed to draw blood by deriding Mr Abdo Benítez as a puppet of Mr Cartes or a would-be Stroessner. The victor had proven his independent streak by opposing Mr Cartes in the senate. "He was more of an opposition than the opposition itself," says Nelson Zamudio, a Colorado-voting shopkeeper.

The new man has said he will keep Mr Cartes's finance minister, Lea Giménez. He will not touch Paraguay's "10-10-10" formula for corporate, income and value-added tax, nor more heavily tax the weighty soya-bean sector, says Daniel Correa, a chief adviser. He does plan to raise spending on infrastructure. With sufficient public investment, Mr Correa says, Paraguay could become an international logistics and manufacturing hub, and a major trading portal for Brazil.

Some big issues barely surfaced in the campaign. A 50-year treaty with Brazil over the lucrative Itaipú hydroelectric dam must be revisited by 2023. A guerrilla group is troubling the north. Drug gangs menace the border with Brazil. And one in four Paraguayans, including nearly three-quarters of the country's indigenous people, are still poor.

This article appeared in the The Americas section of the print edition under the headline "New man, old party"

Bello

Mario Vargas Llosa explains why his politics changed

A Latin American liberal's testament

Print edition | The Americas Apr 26th 2018

IT IS not every novelist who sits down to write a serious work of political philosophy. But Mario Vargas Llosa has always been as much a political as a literary animal. He describes "La Llamada de la Tribu" ("The Call of the Tribe"), published in February as its author turned 82, as an account of his own intellectual history. That is a journey from youthful flirtation with communism and existentialism; enthusiasm for and then disenchantment with the Cuban revolution; followed by a conversion to liberalism in the British sense. This stance makes him exceptional among Latin American intellectuals, many of whom are still bewitched by anti-imperialism and socialism.

The book is an account of the lives and thought of seven liberal philosophers. Apart from Adam Smith, they include Karl Popper and Isaiah Berlin, both of whom the author met (as he did Margaret Thatcher, who impressed him too) while living in London in the 1970s. Also on the list are France's Raymond Aron and José Ortega y Gasset of Spain. Some readers might query the absence of John Stuart Mill or John Rawls. The book is not "a history of liberalism" but rather a "personal account of writers who made the biggest impression on me", he explains in an interview at his home in Madrid.

For the reader, it all makes for an enjoyable return to university. Mr Vargas Llosa has read nearly everything his heroes wrote, and his exposition of their thought is lucid and balanced. He says what he thinks they got wrong, such as Friedrich von Hayek's praise for Chile's dictator, Augusto Pinochet, Popper's disregard for clear writing and Ortega's elitist view of culture. The book's title comes from Popper, who saw the "spirit of the tribe"—a longing for a collective world free from individual responsibilities—as the source of nationalism and religious fanaticism.

Mr Vargas Llosa's liberalism is not without inner tensions. Some of his newspaper columns seem to espouse anti-state libertarianism, others liberal social democracy. In the book he stresses core liberal beliefs: economic, political and cultural freedom, which he sees as indivisible, but also tolerance of disagreement and equality of opportunity—and thus the importance of education. He is particularly critical of those who would reduce liberalism simply to the free market, though that is an integral element of it. Liberalism has been traduced and distorted, he says, by being presented as identical to reactionary conservatism when it is, rather "the most advanced, progressive, form of democracy".

This "ignorance" of liberalism is one reason the liberal tradition is so weak in Latin America, says Mr Vargas Llosa, who is Peruvian. Others are the region's deep inequality, the fact that its 19th-century liberals "did not believe in the free market" and the more recent misappropriation of the term by dictatorships such as Pinochet's.

He spies today “a big opportunity” for liberalism in Latin America because its rivals, from military dictatorships to Cuban and Venezuelan socialism, have failed so completely. That has destroyed “the Utopian, socialist, collectivist model”, he says. “Who wants their country to be a second Venezuela? Nobody in their right mind.” He thinks that the corruption scandals linked to Odebrecht, a Brazilian construction firm, have “rendered a great service” and will help cleanse the region’s democracies of corruption by exposing it.

“La Llamada de la Tribu” is a reminder that ideas matter. Its author has put that belief into practice. In 1990 he ran for president in Peru. It was a quixotic venture that ended in defeat at the hands of Alberto Fujimori, who went on to rule as an autocrat for ten years (and who is a particular bête noire for Mr Vargas Llosa). But he writes that “many of the ideas we defended…and which are in this book, far from disappearing…constitute part of today’s political agenda in Peru.” Recently Mr Vargas Llosa spoke at mass rallies in Barcelona against Catalan separatism. He did so, he says, because “the great danger in our time is nationalism.” While fascism and communism are outdated, nationalism is still alive, “available at times of crisis for exploitation by demagogues”.

Many Latin Americans who call themselves liberals are in fact conservatives or libertarians. They either bless a status quo that embodies inherited injustice or oppose state action to remedy it. Too many other Latin Americans remain in thrall to populism or archaic versions of socialism. That makes Mr Vargas Llosa’s book relevant. The challenge is to make its ideas attractive to the Latin American masses.

Read the full interview with Mario Vargas Llosa

This article appeared in the The Americas section of the print edition under the headline ”A Latin American liberal’s testament”

China and India
Prickly peers

Prickly peers

China and India are trying to get along better

Xi Jinping and Narendra Modi are meeting this week for an "informal" summit

Print edition | Asia Apr 26th 2018

DRAGONS are lithe and prickly and cunning. When excited they breathe fire. Elephants are tubby, lumbering and shy. They never forget a slight, and when angered grow fierce and implacable. If the metaphorical animals typically used to depict them are anything to judge by, it is not surprising that China and India, the world's two most populous countries, tend to compete more than co-operate.

For decades each has claimed bits of the other's territory. Each nurses a long list of irritants; each dislikes the other's friends; each suspects the other is up to no good. Sometimes, as in a brief border war in 1962, India and China have clashed. At other times they have professed a fickle friendship. But most of the time the two giants just peer warily at each other over the Himalayas—which is why the two-day "informal" summit between their leaders, to be held in the Chinese city of Wuhan on April 27th-28th, marks a striking departure from the norm.

Both countries are billing the meeting between Prime Minister Narendra Modi and President Xi Jinping, which follows four years of rising tensions, as a historic chance to "reset" relations on a friendlier footing. If the optimistic words of Wang Yi, China's foreign minister, are to be believed, the Chinese dragon and Indian elephant "will no longer fight with each other, but dance".

That would be nice. The two countries are home to a third of the world's people. Both have done well economically in recent years, China spectacularly so. Its economy is now nearly five times India's, but the laggard is slowly catching up, even as its population is set to overtake China's some time in the next decade. Yet, although their mostly peaceful rivalry has lacked drama, it does carry costs, not only for the principals but for the wider region.

Instead of using its clout to help calm the chronic and debilitating enmity between India and Pakistan, for instance, China has chosen to sustain an "all-weather alliance" with Pakistan—including generous military, economic and diplomatic backing—as a means to apply pressure on India. And so, instead of welcoming China's ambitious Belt and Road Initiative as a source of much-needed capital and infrastructure for itself and smaller neighbours, India has kept aloof, condemning it as a sneaky Chinese scheme to entrap unsuspecting client states in debt.

Rather than profit by opening its own territory as an obvious passage between China and the West, India has instead pushed China to seek alternative routes. And so China has intruded with growing assertiveness into places that India regards as its own natural zone of influence—with aid and trade into countries such as Nepal, the Maldives, Bangladesh and Sri Lanka, and with its navy into the Indian Ocean. This, in turn, has encouraged India to bolster its position by edging away from its historical posture of non-alignment and seeking deeper defence ties with other strategic rivals to China such as America, Australia and Japan. China, obviously, finds this threatening, and so the cycle of mistrust deepens.

The summit of love

No one in Delhi or Beijing thinks that one summit meeting can resolve all this. "The changes of India's China policy are only tactical, not strategic, as India's traditional hegemonic and cold-war mentality has not changed," sniffs Liu Zongyi, a Chinese academic, in the *Global Times*, a nationalist newspaper. "This is more like pressing a pause button than a reset," chimes Dhruva Jaishankar, a Delhi-based analyst at the Brookings Institution, a think-tank. "For things to really change, China has to reconceive how to play its role as a major power." In other words, it has to be less of a bully, and treat its neighbour as an equal.

Yet both recognise that the drift in recent years towards escalating friction has not helped anyone, either. The biggest wake-up call came last year, when Indian troops moved to block a Chinese army road-building crew at Doklam, a high plateau where the borders of China, India and its small ally, Bhutan, meet. India, alarmed by the proximity of the area to the Siliguri Corridor, a narrow territorial isthmus linking the body of India to its eight easternmost states (see map), backed Bhutan's claim to the disputed territory. Its forces held firm for 73 days before China backed off. Mr Modi's government claimed victory, but China has since beefed up its garrison in the region.

Economist.com

The stand-off revealed more than the two countries' relative strength at a remote frontier. The rapid escalation showed how dangerous the lack of resolution to border problems can be, and highlighted the fact that, North Korea aside, the disputes with India and Bhutan remain China's only outstanding land-border issues. In the past both big neighbours have hinted that they would accept the simplest solution: recognising the "line of actual control" that has prevailed since 1962 as a permanent border. It may be that establishing personal trust between Mr Modi and Mr Xi is enough to make that happen.

Economist.com

But this will not be the only issue on the leaders' agenda. Indian concerns with China include, among other things, its blocking of Indian membership of the Nuclear Suppliers' Group, which "licenses" trade among nuclear powers, its refusal to allow the designation of Pakistan-based Islamist fugitives as international terrorists, and what India sees as China's failure to reduce its gigantic trade surplus with India. For its part, China has long chafed at India's hosting of the exiled Tibetan spiritual leader, the Dalai Lama, as well as its resistance to the Belt and Road Initiative.

Quietly and obliquely, many of these issues have already been discussed in the months of careful diplomacy leading up to the summit. It helps, to an extent, that President Donald Trump has concentrated minds in both countries through his aggressive stance on trade. Mr Xi and Mr Modi, speaking at the World Economic Forum jamborees in Davos this year and last, respectively, sounded strikingly similar tones about the importance of upholding the global economic order. If a growing realisation of their shared interests causes the pair to stop treading on each others' feet, perhaps India and China really will learn to dance.

This article appeared in the Asia section of the print edition under the headline "Prickly peers"

Almost getting away with it

A series of grotesque rapes infuriates Indians—again

The government promises more severe punishments—again

Print edition | Asia Apr 26th 2018

ON APRIL 25th a court in the city of Jodhpur sentenced a 77-year-old religious leader known as Asaram Bapu to life imprisonment for the rape of a 16-year-old girl. That, after a five-year trial, a judge should uphold the word of a poor, provincial woman against a bearded Hindu holy man who is not only venerated by millions, but cultivated by powerful politicians, including at one time Narendra Modi, the prime minister, seems to suggest that in India justice can, after all, prevail.

Yet the public mood remains grim, and for good reason. In recent weeks the country has been battered by a particularly ugly sequence of crimes, as well as by what appear to be glaring cases of miscarried justice. The most shocking involves the kidnap, gang rape and brutal murder of an eight-year-old girl from a community of nomadic herders who migrate seasonally from the highlands of Kashmir to the plains of Jammu. As disturbing as the crime itself was its motive—an apparent attempt to humiliate and terrorise the Muslim tribesmen into leaving the district. Disturbing, too, was the initially successful effort of the rapists to rally local Hindus, including politicians and police, in defence of their claims of innocence. Hindu extremist groups, local lawyers and politicians from Mr Modi's Bharatiya Janata party (BJP) joined public protests against the arrest of the alleged culprits.

Many in the district still insist it is all a Muslim plot, despite police claims to have obtained both clear forensic proof and detailed confessions, including from policemen who said the offenders had attempted to bribe them to suppress evidence. On social media some have suggested that the girl deserved her fate; for several days her name (which a court belatedly ruled should not be made public) trended as the most popular search term on porn sites.

On April 23rd villagers in Unnao, a small town in the state of Uttar Pradesh, similarly rallied in defence of a local politician who also stands accused of rape. His 17-year-old accuser claims the incident took place last summer when she went to his house seeking employment, but that police refused her family's attempts to file charges. The politician's henchmen allegedly continued to intimidate her family into silence, and earlier this month badly beat her father. When, instead of arresting the attackers, police detained her injured father, the victim travelled to the state capital, Lucknow, sat down in front of the chief minister's official residence and tried to set herself on fire. She was rescued, but her father died soon after in hospital. Only after the ensuing outcry did police accept charges and arrest the alleged rapist.

In this case there was no sectarian element to the story. The accused politician, who also belongs to the BJP, has variously claimed that he is being framed due to a land dispute or is the victim of a plot by political opponents. But provincial India abounds with strongmen who believe that they are powerful enough to get away with crimes against lowlier locals, and often do.

Critics of Mr Modi blame the prime minister for being slow to respond, and even then with bland statements about the need to protect women and teach youth to respect them. Chastened, his government hastily issued an ordinance that allows capital punishment for the rape of girls under the age of 12. Lawmakers and social workers point out that laws regarding rape are already stringent. They were tightened five years ago, by the previous government, in response to a similar wave of outrage provoked by the fatal gang rape of woman on a bus in the capital, Delhi. They have also failed to work. An estimated 99% of sexual assaults still go unreported, largely because most occur within families.

Worse, fear of the death penalty may simply encourage rapists to murder the victims so they can never tell. Writing in the *Indian Express* P. Chidambaram, a former minister, suggested that the deeper underlying problem is not one of laws, but of a society that in many ways encourages the powerful to believe they can act without fear of punishment. "The duty of this generation," he concluded, "is to stop the drift towards the Republic of Impunity."

This article appeared in the Asia section of the print edition under the headline "Almost getting away with it"

#NotUs

A rare victory for #MeToo in Japan

Activists see a turning point in the resignation of a senior official

Print edition | Asia Apr 26th 2018

WHEN a female reporter for TV Asahi told *Shukan Shincho*, a magazine, that Junichi Fukuda, the finance ministry's top bureaucrat, had repeatedly sexually harassed her, the reaction was galling. Taro Aso, the finance minister, said he had no plans to investigate Mr Fukuda. When the reporter provided audio recordings as evidence, Mr Fukuda said he couldn't be sure the voice was his. "I only hear my voice through my own body," he explained. For its part, TV Asahi apologised for the fact the reporter had told her story to the magazine—failing to note that she had done so only after she had come to one of her own managers and he had advised her to keep quiet. (The company did eventually lodge a formal complaint with the ministry.)

The #MeToo movement has barely touched Japan. "This is a land of men," says a (male) former official, who says there are "many, many" such cases. The imbalance between men and women in society and the workplace is more lopsided than in other rich countries, leaving women both prey to abuse and reluctant to speak out. Most women work, but almost all bosses and top officials are men, says Kazue Muta of Osaka University. Some women, especially female reporters who are expected to drink with (usually male) sources, see enduring sexual harassment as part of the job.

The imported term for sexual harassment, *seku-hara*, was coined only in 1989. The law obliging employers to take action against it took force in 1999. "Many just see it as unrequited or complicated love in the workplace," says Mieko Takenobu, a former reporter who heads the Asia-Japan Women's Resource Centre, an NGO. The culture of respect for elites does not help. Victims tend to be blamed and ostracised, not sympathised with. TV Asahi's reporter has not revealed her identity.

Yet some hope this is a pivotal moment. Mr Fukuda, who is alleged to have said things like "Can I touch your breasts?" and suggested that he and the reporter have an affair, has resigned (without admitting wrongdoing). It is the first time in 20 years that a senior finance-ministry official has stepped down over misconduct. The incident follows two similar cases in the business world. In one, a CEO resigned as head of a company he had founded after admitting harassing women in his previous role as an executive at Dentsu, Japan's biggest advertising agency. And both the president and a junior executive of NH Foods stepped down over remarks the latter had made to an airline employee during a business trip.

Other ways in which women are discriminated against are also drawing attention. This month sexist rules in sumo came under fire when female first-aiders attending a sick man were ordered to leave the ring. Some female politicians are encouraging more women, who are only 10% of the Diet, to run for office. And this year a court will reconsider the rule that married couples must share a surname, which in practice forces women to change theirs.

Opposition parties are pushing for Mr Fukuda to be investigated and denied his full retirement benefits. Some are calling for Mr Aso to resign. Seiko Noda, the internal affairs and communications minister, and one of only two women in the 20-person cabinet, has criticised the finance ministry's handling of the case.

Whether the momentum continues is up to women more broadly, says Ms Takenobu. Japan lacks a strong grassroots campaign. As Ms Noda observes, rights in Japan tend to be "given, not won". Those pushing for change see most hope in Japan's current labour shortage. Companies are desperate for workers, and are trying to woo women with promises of good conditions. While they speak mainly about flexible working hours, workplaces where women are not groped or propositioned would presumably also be a draw.

This article appeared in the Asia section of the print edition under the headline "#NotUs"

Not much leeway

Singaporeans are in the dark about their next prime minister

Not that their views count for much

Print edition | Asia Apr 25th 2018

A PILLAR of stability, Lee Hsien Loong, son of Singapore's independence leader, Lee Kuan Yew, has run the country since 2004. Despite a decline in his party's popularity, the manicured electoral system has returned him to office time and again, most recently in 2015. The country is now more than halfway to the next election, which must be held in 2021 at the latest. As it nears, a tricky subject looms: who will replace Mr Lee? He plans to step down as prime minister ahead of his 70th birthday in 2022. The question has the government on edge.

Mr Lee will almost certainly win the next election. The ruling People's Action Party has held power since before independence in 1965. It holds 83 of the 89 elected seats in Singapore's parliament. Predicting the identity of the next prime minister is trickier. But a cabinet reshuffle this week provided clues. Three older ministers, all in their 60s, stepped down. Younger ones won more responsibility.

Mr Lee's possible successors include Heng Swee Keat, the finance minister, Ong Ye Kung, the education minister and Chan Chun Sing, newly promoted from the prime minister's office to the Ministry of Trade and Industry. Mr Heng, who has led the education ministry and the Monetary Authority of Singapore, as well as serving as an aide to Mr Lee's father, is regarded as the frontrunner. One former official praises him for his growing ease in the public eye, despite not being "a natural politician". Wonkishness does not tend to hold Singaporean politicians back. His health, however, might: he suffered a stroke in 2016.

Public opinion is unlikely to play much part in the decision. In fact, the government is further crimping freedom of speech in a country not exactly known for it. In March parliament passed a law that allows police to ban the dissemination of videos or pictures of certain events. The sorts of incidents that qualify range from terrorist attacks to demonstrations that block pavements or disrupt business. Plans to put cameras linked to facial-recognition software on more than 100,000 lampposts will further discourage even the most respectable protests. Social media are also being scrutinised by a parliamentary committee which wants to fight "deliberate online falsehoods". Whoever ends up in charge, the government will be well defended against unruly critics.

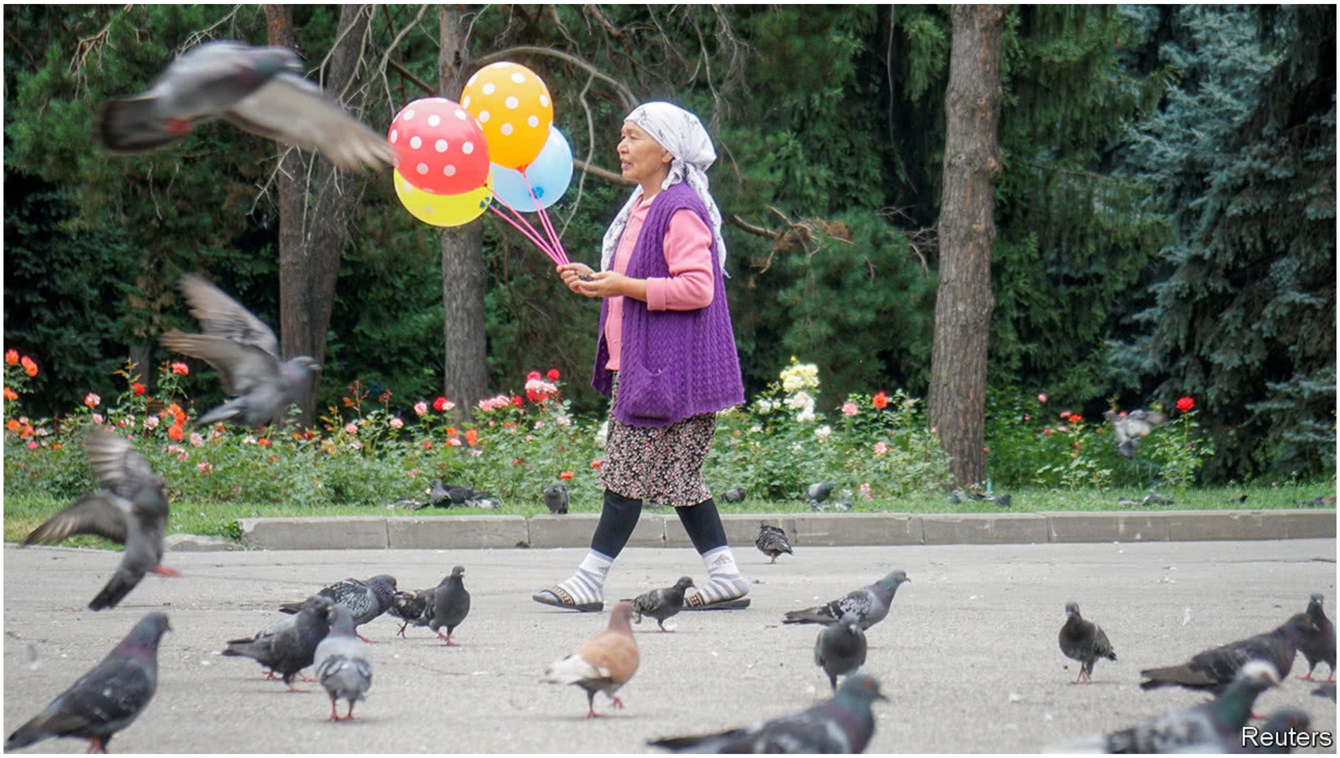
This article appeared in the Asia section of the print edition under the headline "Not much leeway"

Tilting at balloons

Kazakhstan's government squelches the least hint of dissent

But also insists that the 77-year-old president is universally adored

Print edition | Asia Apr 26th 2018



TO THE untrained eye, the activity looked innocent enough. Patriotic Kazakhs marked a public holiday in March by displaying balloons of the same turquoise colour as the national flag. The hitch was that Mukhtar Ablyazov, an exiled oligarch, had urged citizens to display turquoise balloons to demonstrate their support for his political movement, Democratic Choice of Kazakhstan (DVK by its Russian acronym), which a Kazakh court had banned days before as "extremist". It was unclear how many of the balloon-flaunters even knew about Mr Ablyazov's call. But the police concluded that it was safest to haul them in for interrogation, just the same. After all, Nursultan Nazarbayev, the 77-year-old strongman who has ruled this oil-rich Central Asian state for nearly three decades, tolerates no challenge, however trifling, to his autocratic rule.

Mr Ablyazov first angered Mr Nazarbayev in 2001 by founding a reform movement. He was soon jailed on corruption charges, then pardoned and released. In 2009 he ran into trouble again, fleeing Kazakhstan for London as the state seized his bank, BTA. Mr Ablyazov, who was accused of massive embezzlement by the new management of BTA, suffered several adverse rulings in British courts before going on the run after a judge ordered him jailed for contempt of court. He was captured in 2013 in a dramatic swoop on a mansion on the French Riviera, and spent over two years in a prison in Paris battling extradition to Russia to face corruption charges. Mr Ablyazov won a triumphant victory in 2016, when a French court ruled that Russia's request was made on Kazakhstan's behalf, for political reasons. The gleeful oligarch emerged from jail pledging to overthrow Mr Nazarbayev.

Mr Ablyazov's political battle is waged mainly virtually—hence the Kazakh government's occasional threats to block popular social networks and messaging apps including Facebook, Twitter, Instagram and Telegram. The Kazakh authorities hunt relentlessly for DVK supporters inside Kazakhstan. Amnesty International has declared one young woman, Akmaral Tobylova, a prisoner of conscience. Ms Tobylova, who is pregnant, was held under house arrest for a month after looking at DVK's website, and now faces charges of financing an extremist group.

Mr Ablyazov's appeal in Kazakhstan appears limited, though he enjoys notoriety at home because of the government's constant denunciations. He has been accused, among other things, of inciting unrest among oil workers in 2011 (when 15 civilians were shot dead by security forces) and ordering the killing of a business partner. Mr Ablyazov rejects all the accusations as politically motivated smears.

In theory, Kazakhstan has legal opposition parties, but they are only for show. One of them, Ak Zhol, is led by a former member of the ruling party, Nur Otan. One of Mr Nazarbayev's opponents in the presidential election of 2011 admitted that he was not planning to vote for himself, but for the "Leader of the Nation", as Mr Nazarbayev is known. Alga!, another Ablyazov-backed movement, was banned in 2012, when its leader Vladimir Kozlov was jailed on spurious charges of seeking to overthrow Mr Nazarbayev.

At the most recent presidential election, in 2015, Mr Nazarbayev won 97.75% of the vote, in a three-way race. The election had originally been scheduled for 2016, but parliament pulled it forward by a year. In the initial vote on the rescheduling, one member of the upper house appeared to vote against. But officials later explained that he had simply pressed the wrong button. They re-held the vote, which was unanimously in favour. Whether the briefly dissenting senator possessed any turquoise balloons is not clear.

This article appeared in the Asia section of the print edition under the headline "Tilting at balloons"

The sky's the limit

Women could make Asia rich

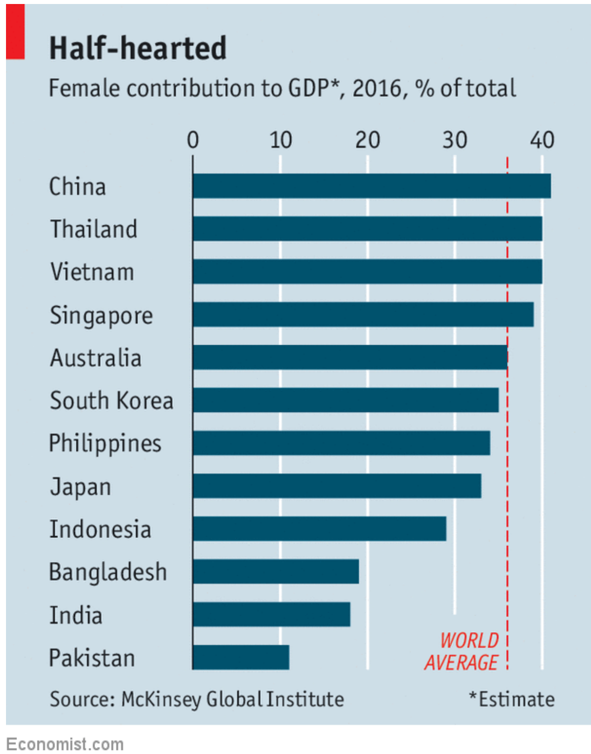
Getting more of them into paid work would hugely boost GDP

Print edition | Asia Apr 28th 2018

"WOMEN hold up half the sky," Mao Zedong used to say, when not harassing peasant girls. They also hold up 41% of China's GDP, the biggest share in the Asia-Pacific (see chart), says a new report by the McKinsey Global Institute, the consultancy's think-tank.

In fact, Mao was subtly mistranslated, points out Perry Link, a China scholar. He actually said that women "can" hold up half the sky. McKinsey also thinks Asian women can make a bigger economic contribution. It finds "quite impressive" signs of progress in many countries, says Anu Madgavkar, one of the report's authors. In Japan the percentage of women in the labour force has increased quickly in the past ten years; in the Philippines 142 women hold professional or technical jobs for every 100 men; China boasts 114 of the world's 147 female, self-made billionaires (America has 14).

But China could add 13% to its GDP by 2025, relative to a baseline, if it increased women's employment, hours and productivity as quickly as the leading countries in its region or peer group, McKinsey says. That would translate into an extra $2.6trn by 2025 (an economy the size of France). In India the relative gain could be even greater (18%), because it has far more room for improvement. McKinsey's scenario would require 37% of Indian women to be in the workforce, up from 27% now.



But economic progress and female employment do not necessarily move in tandem. In India, as households have grown richer, women who might once have toiled in the fields have instead stayed in school or lived off the improved earnings of their male relatives. The most egalitarian employment rates in the region are found in two of its poorest countries: Myanmar and Nepal, where many women have no choice but to work as farmers.

McKinsey notes that GDP statistics understate women's contributions. In China women did 73% of unpaid work (including child care, shopping and housework), according to the OECD. Women's share is even higher in South Korea (83%), Japan (84%) and India (85%). What will happen to those unpaid hours if women's paid work increases? McKinsey leaves the question open. Some of their chores may be left undone or be left to men (which is often the same thing). Some may be "outsourced" to professional cleaners, cooks and childminders, thereby becoming part of the increased GDP that McKinsey foresees. If women hold up half the sky, perhaps more of them should be paid for their exertions.

This article appeared in the Asia section of the print edition under the headline "The sky's the limit"

Banyan

North Korea's despot has one goal: survival

Kim Jong Un wants a long, happy life, unlike those of his subjects

Print edition | Asia Apr 26th 2018

ADMIT it. The world's commentators, Banyan included, have underestimated North Korea's leader. Kim Jong Un was preparing this week to meet South Korea's president, Moon Jae-in, on the southern side of the demilitarised zone between their two countries, on April 27th, just after *The Economist* went to press. Even six months ago, no one imagined Mr Kim capable of leading a diplomatic dance that has drawn in not just South Korea but America and China. He is proving to be an adept young dictator.

This week's summit is due to discuss a formal peace treaty that has eluded leaders of North and South Korea since the Korean war ended in an armistice in 1953, entrenching the bitter division of the peninsula. It is also meant to pave the way for a summit between Mr Kim and President Donald Trump, in late May or early June at a venue that has yet to be announced.

Some still rub their eyes at the prospect of the first-ever meeting between a North Korean leader and a sitting American president. At the end of last year the two countries appeared on the brink of conflict. But Xi Jinping, China's president, took the prospect of a Kim-Trump love-in seriously enough to roll out the red carpet for Mr Kim when his armoured train made an unexpected visit to Beijing in late March. It was Mr Kim's first trip abroad as leader. Until that point, his nuclear shenanigans had so angered China that its relations with North Korea, a supposed ally since China came to the North's rescue during the Korean war, were at their worst in memory.

Never gonna give you up

The surprises continue. Mike Pompeo, Mr Trump's hawkish CIA director (and next secretary of state), called secretly on Mr Kim over Easter, suggesting that the administration and the North Korean regime are now talking at the highest levels after years of next to no communication. More strikingly, on April 20th Mr Kim declared an end to all nuclear and long-range missile tests.

Never mind that there had been no test activity for a while. The declaration wowed the one audience it was intended to impress, when Mr Trump declared on Twitter that this was "big progress!" The outlines of the kind of deal Mr Trump hopes for are becoming clearer. A peace treaty—to which the United States and China, as signatories to the armistice, would have to agree—might provide the reassurances the North Korean regime wants over its security. In return, Mr Kim would take (as yet unspecified) steps towards denuclearisation. And America would secure a loosening of the international sanctions on the North.

The trap for Mr Trump, in all likelihood, is that Mr Kim probably has no intention of giving up his (growing) nuclear arsenal. If that is so, the scheme was hatched months ago. November marked the height of tensions on the peninsula. That was when North Korea conducted its third test of an intercontinental ballistic missile, and when talk in Washington was of giving Mr Kim a bloody nose. Perhaps, observers murmured, Mr Trump really was reckless enough to risk a second Korean war.

Yet right after the test, and little remarked, Mr Kim declared the fulfilment of a sacred national goal, the completion of a “state nuclear force”. The flurry of launches suddenly ceased. Mr Trump claims that his sanctions and threats brought Mr Kim to the table. But since that declaration it is Mr Kim who has set the diplomatic tempo and selected the mood music—literally so, when he invited K-pop bands from South Korea to Pyongyang, his capital.

Given such canniness, a reassessment of the rest of Mr Kim’s rule is overdue. He took power at the age of 29, 28 or 27, depending on whether you believe the North, the South or America, after his father, Kim Jong Il, died of a heart attack in late 2011. The Swiss-educated brat hardly seemed cut out to be a dictator. *The Economist* described him as callow. Prominent figures from his father’s inner circle appeared to hold much power. Mr Kim enjoys a cushy life, living in palaces and having a whole nation goose-stepping at his command. But he cannot sleep easy. If he were ever to lose power, he would doubtless meet the same fate as Muammar Qadaffi. He will do anything to avoid that. Both his grandfather, Kim Il Sung, and his father acquired senior posts when they were young, and both died of natural causes.

The lineaments of Mr Kim’s rule appear consistent: purges and repression at the highest level, economic liberalisation at the grassroots and the pursuit of nuclear weapons. From the start he set out to eliminate threats, not least by executing his uncle, Jang Song Thaek, in 2013 and having his elder brother, Kim Jong Nam, assassinated in a Malaysian airport last year. Constant purges of the army’s upper ranks seem designed to forestall hostile factions. Mr Kim, says Andrei Lankov of Kookmin University in Seoul, is a deft dictator: “smart, calculating and cruel—yet not sadistic for the hell of it.” (That must be scant comfort for all the innocent prisoners being beaten with hammers in his gulag.)

His strategy, as Mr Lankov puts it, is to fill hearts with fear and bellies with food. From the start Mr Kim has encouraged petty capitalism, in contrast to his father. Private trade is rarely persecuted these days. State enterprises have won autonomy, or in effect been privatised. From a low base, the scope for a decrepit economy to grow is considerable.

Don’t underestimate the importance at home of Mr Kim’s third plank, his nuclear capability. It is the crux of his domestic propaganda, and the army’s prestige rests on it. Since he probably fears his own generals more than America’s, there is reason to doubt that Mr Kim would ever trade his nukes away. Yet sanctions are starting to bite. Mr Kim seems to intend to switch emphasis, from acquiring nuclear arms to developing the economy. For that he needs the summits, and to keep Mr Moon, Mr Trump and Mr Xi dancing. It is unclear how the dance will end. But what is certain is that he will have rehearsed the steps more carefully than they have. After all, Mr Kim has more at stake.

This article appeared in the Asia section of the print edition under the headline ”Misunderstood youth”

Catholics
Love thine enemy

Love thine enemy

The pope and China may be close to a deal on appointing bishops

Some Catholics will find this hard to swallow

Print edition | China Apr 26th 2018

IN 2011 the Vatican said, without giving details, that there were "proven and very grave reasons" why Lei Shiyin could not be made a bishop. On Easter Sunday he was nevertheless sporting a crosier and mitre, sprinkling holy water onto 300 or so worshippers at a cathedral in the south-western city of Leshan. Bishop Lei is one of several Catholic prelates who have been appointed by China's state religious authorities without the blessing of the pope. To forestall protests by Vatican loyalists, officials mount tight security at churches where he helps ordain other bishops.

Bishop Lei is a senior official in the government-backed Chinese Patriotic Catholic Association. He is also an adviser to the national parliament. The cathedral in Leshan appears to reflect the favour he enjoys with the Communist Party. It was completed in 2015, four years after he was declared by Rome to have been automatically excommunicated for accepting his post as bishop. The building has big chandeliers, Ionic columns and huge video screens on either side of the nave (see picture). Many congregants there know little of the controversy. One person who does gestures around the building and says that the bishop's links to the government have brought blessings.

Relations between China and the Vatican are closely watched, not only by the country's 10m or so Catholics. The two sides have not had formal relations since 1951, when the newly established Communist government in China kicked out the pope's representative. Months later the Vatican forged diplomatic ties with Taiwan, the seat of a rival government.

Taiwanese officials fear that any rapprochement between the pope and the Communists could result in a huge diplomatic setback for the island. The Vatican is by far the most influential member of its tiny band of diplomatic partners. The Holy See may still be a long way from switching diplomatic recognition to China. But in recent months there has been mounting speculation that it is close to a deal with the party on the appointment of bishops, the biggest bone of contention between them.

This turbulent priest

What to do about people such as Bishop Lei has been a part of this debate. The party requires Catholics to worship in closely watched, officially registered churches, supervised by bishops chosen by the government. Devout Catholics bridle at the notion that an atheist ruling party should pick their clergy. Nonetheless, the Vatican has compromised. All but seven of the present crop of government-backed bishops serve with the pope's endorsement. However, the Vatican has also appointed priests and bishops of its own (though few of them in the same places as government ones). Perhaps half of all Chinese Catholics attend masses celebrated by these "underground" clergy. Participants risk arrest and many other flavours of persecution.

Since Pope Francis became pontiff in 2013 emissaries have shuttled between Beijing and Rome, hoping to devise a mechanism to ensure that no future bishop can be appointed without the blessing of both the pope and the Chinese government. There were periods earlier this century during which the two sides managed to achieve this, only to end up squabbling again. The plan this time is to enter into a formal agreement.

Both sides are secretive about what is going on. But to enable such a pact the Vatican is rumoured to have already granted forgiveness to Bishop Lei and the six other government-approved prelates it had refused to recognise. The party had apparently insisted on this. In January the Holy See was reported to have warned underground bishops in two dioceses that they would have to make way for officially approved clergy. In effect, this would mean herding their flocks into the state-sanctioned church system.

The Vatican is probably hoping that members of a more unified church will no longer be persecuted for their loyalty to the pope, and that greater freedom would be given to the church to seek new converts. The number of Protestants in China is growing rapidly, and could be several times greater than that of Catholics. Meanwhile the number of Catholics is thought to be shrinking as people leave the scattered villages where the church has strong roots, and head into cities.

The Vatican may also calculate that growing intolerance among party officials towards what they see as foreign-controlled religions makes it more urgent to reach a deal now. A pact may only become more difficult to achieve if they wait. The Vatican is worried that, without an agreement, the party may decide to go ahead unilaterally with clearing a backlog of unfilled church jobs by appointing people disliked by Rome, writes Gerard O'Connell in *America*, a Jesuit magazine.

The party has good reason to want a deal. It would buff the diplomatic credentials of Xi Jinping, the president (who is trying to establish himself as a globally admired statesman, see article). Francesco Sisci, a Beijing-based Vatican-watcher, says China was impressed by how much publicity the pope attracted during a tour of America in 2015 (Mr Xi was there at the same time). The party would also welcome any shrinking in the size of unregistered churches: it abhors social activity beyond its control. Then there is the allure of formal recognition by the Vatican, the only European state that still has an embassy in Taiwan. A formal accord on bishops would be a big step towards that.

Pope Francis may face criticism from Catholics for reaching accommodation with a repressive regime. (The Chinese government has recently stepped up efforts to block the sale of Bibles online and to stop children from attending churches.) Cardinal Joseph Zen, a former bishop of Hong Kong, has lambasted talk of an agreement as "selling out" and "surrender". It is possible that some underground Catholics would rather form a schismatic church than co-operate with party-approved clerics. For the Vatican, dealmaking with China will be fraught indeed.

This article appeared in the China section of the print edition under the headline "Love thine enemy"

The big beige book

Xi Jinping’s new blockbuster is getting a hard sell

But how many people have actually read it?

Print edition | China Apr 26th 2018

THE degree of pomp that greeted the recent release of the nine foreign-language editions of “The Governance of China II” by Xi Jinping, China’s president, may have set a new record in the West for the launch of any translation of a Chinese work. In London the unveiling ceremony was held in a grand Edwardian building just a few steps away from Parliament. It had the air of a coronation.

An immaculately airbrushed image of Mr Xi, displayed on stage, smiled down on the 300-odd guests. A procession of Chinese and British bigwigs took to the stage, trying to outbid each other in their proffers of praise for Mr Xi’s book. One of them was Queen Elizabeth’s son, Prince Andrew, who called the work a “milestone”. China’s ambassador to Britain, Liu Xiaoming, likened its release to that of the much slimmer “Communist Manifesto”, which had been published in London 170 years earlier. As guests made their way out, each was given a free hardback copy of the pale beige-coloured work wrapped in red cloth tied with gold brocade, together with a bookmark made of card with Mr Xi’s smiling portrait on it.

Mr Xi’s books have been distributed in greater quantity abroad than those of any Chinese leader since Mao Zedong. More than 6.6m copies were published globally of his first one, “The Governance of China”, a collection of his speeches and essays from 2012, when he assumed power, until mid-2014. Cambodia’s ruler, Hun Sen, has urged compatriots to buy it. Prayuth Chan-ocha, Thailand’s junta leader, has asked his cabinet to study it. Mark Zuckerberg, the boss of Facebook, has been quoted by Chinese media as saying that he has bought copies for colleagues to help them “understand socialism with Chinese characteristics”. A copy has even been photographed on Mr Zuckerberg’s desk. (Nonetheless, Facebook remains blocked in China.)

The sequel is a compilation of Mr Xi’s speeches and writings from August 2014 to September 2017, many of them previously unpublished in English. It has 17 chapters, each exploring a major theme in domestic or foreign policy. “Every single comment we’ve received from foreign readers has been overwhelmingly positive,” says an employee from China International Publishing Group, the overseas distributor.

There may not be very many readers outside China. The publisher claims the second volume has a global circulation of 13m. But, according to Scott Morton of Nielsen Bookscan, a data provider, fewer than 100 copies of the English-language version of the second volume have actually been sold in Britain since it was published in November. Sales are slightly higher in Australia, at 124. The first volume has not performed much better: 588 copies in Britain and 430 in Australia. It is likely that freebies of both volumes hugely exceed the number of copies sold to individuals. Finding foreigners who have actually read Xi's magnum opus is about as easy as finding thigh-slapping jokes in it.

In China the Communist Party's 90m members have had little choice. Many of them have been given copies. The party's ruling Central Committee has ordered members to read them. Soldiers have been urged to peruse it, too. Those who do so will draw two clear conclusions. The first is that Mr Xi has no interest in political reform. It is striking how much he gripes about Western values. Copying the political systems of other countries "could spell an end to the independent destiny of our country", he warns in volume two.

The second lesson is that Mr Xi cares about public opinion. As he writes, the future of any political party and government depends on "popular support". In parts, volume two reads almost like a manifesto. He may have been studying Mao's little red book, which tells readers that "to link oneself with the masses, one must act in accordance with the needs and wishes of the masses." Unless, that is, they demand a vote on who should lead them.

This article appeared in the China section of the print edition under the headline "The big beige book"

Slumping Jordan
An economy under siege

Jordan's economy is under siege

Unstable neighbours and bad policy are just two of Jordan's problems

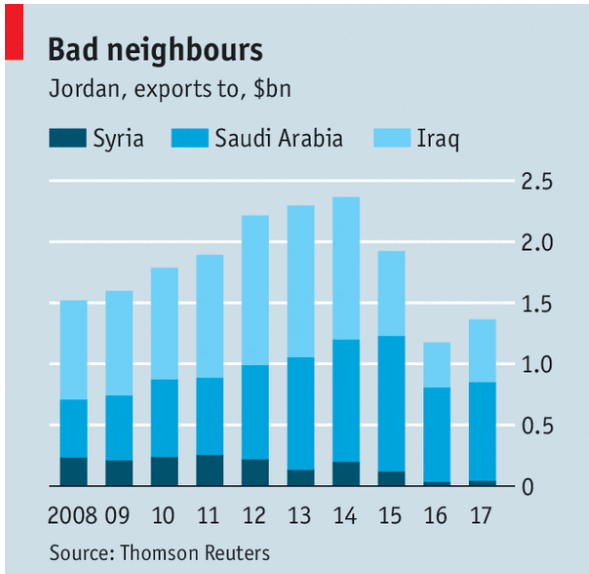
The government is struggling to find solutions

Print edition | Middle East and Africa Apr 28th 2018


Eyevine

PERCHED on a hill beneath a ruined Crusader castle, Karak feels a world away from Amman, Jordan's crowded and expensive capital. The sleepy city is surrounded by lush farms and sits astride the tourist trail, both of which should provide jobs. Yet it has been buffeted by the problems that afflict the rest of the kingdom. Mayhem in Syria and Iraq has hurt farm exports. A terrorist attack by Islamic State (IS) in 2016 sent tourists fleeing. Earlier this year protests broke out in Karak and other cities over the perpetually troubled state of Jordan's economy.

The spark was a package of price rises announced in January as part of an IMF-backed reform programme. Bread prices nearly doubled and fuel taxes climbed from 24% to 30%. Such measures are necessary: Jordan spends $1.2bn a year (9% of its budget) to subsidise food, fuel and water. The debt-to-GDP ratio hit 95% last year, in part because just 3% of Jordanians pay income tax. But austerity is compounding their pain. The unemployment rate is 18%.



Economist.com

At the crossroads between the Levant and the Gulf, Jordan would seem to be in an enviable place. But geography has been a curse rather than a blessing. "We're an economy under siege," says Jafar Hassan, the deputy prime minister for economic affairs. In 2010 Syria and Iraq took nearly 20% of Jordan's exports. But after IS seized a swathe of Iraq in 2014, Jordan had to shut its border. Exports fell by 68% in the following two years (see chart). Those to Syria dropped from 169m dinars ($239m) in 2010, before the civil war there, to just 31m dinars last year.

The one bright spot was Saudi Arabia, an oil-rich neighbour that imports almost everything. In 2015, for the first time, Jordan's exports to the kingdom exceeded $1bn. Then oil prices crashed and the Saudi economy tipped into recession. Last year exports were down 27% from their peak in 2015. All this feeds what one minister calls "an atmosphere of despair".

In the past Jordan's government dealt with hardship by spending more. As the Arab Spring swept the region in 2011, the king increased subsidies and raised the pay of public workers. One in three Jordanians works for the state (though "work" is often too generous a term). Many start these jobs at 18 and keep them for life. Efforts to trim the public payroll, or even impose performance reviews, meet fierce opposition. "You have to pay them for 60 years," says Oraib al-Rantawi, an analyst.

Foreign aid has bankrolled bad policy. Though it has few resources, Jordan extracts "strategic rents" from the West and Gulf states, which consider its stability essential to the region. In 2011 the six-member Gulf Co-operation Council (GCC) handed over $5bn to help the king weather the Arab Spring. In 2016 Jordan collected $290 per person in development aid, more than twice as much as impoverished Haiti or war-torn Afghanistan. In February America pledged $6.4bn in aid over the next five years, a 28% increase compared with their previous agreement.

Much of this money has been soaked up by refugees. Jordan gives shelter to 656,000 Syrians who have fled the war. Mr Hassan estimates that the government has spent $10bn to cope with the influx. Meanwhile, aid from Gulf states, which face their own economic challenges, has dried up. King Abdullah annoyed the Saudis when he sent only a small contingent to join their fight against Houthi rebels in Yemen. And whereas Jordan used to be an interlocutor with Israel, Gulf states now talk directly (if discreetly) to their former foe. All this has eroded Jordan's strategic value.

A bigger shock may loom. With oil prices still low, though rising, most GCC members are keen to replace migrant workers with their own citizens (see article). That could affect the 800,000 Jordanians who work in the Gulf. Last year they sent home $2.4bn. Even a modest reduction would be a serious blow.

Jordan is also hoping to free up jobs at home with a $140m scheme to reduce the number of migrant workers by up to 25% over the next five years. But many Jordanians feel menial work is beneath them. An MP complained about the influx of Syrian labourers over coffee in a café where all the waiters had Egyptian accents. More than 600,000 Egyptians live in Jordan, alongside thousands of other foreigners who send $1.5bn (or 4% of GDP) home each year.

It is now more common to see students working as baristas, but Starbucks alone will not dent the unemployment rate. Investment in agriculture and textiles may provide work for both Jordanians and Syrian refugees. The kingdom could also invest more in tourism, which employs only 50,000 Jordanians but could do far better. Jordan boasts stunning ruins, sweeping deserts and the Dead Sea.

The government seems to recognise the scale of the problem. The parliament plans to pass new bankruptcy and tax laws soon. There is talk of a free-trade zone with Kenya in the Red Sea port of Aqaba, part of a push to tap new markets in Africa. A five-year "growth plan" aims to invest billions in new infrastructure, much of it through public-private partnerships (PPPs).

Jordanians have heard much of this before, though. One PPP is building a "new downtown" in Abdali, a run-down district of Amman. Conceived more than a decade ago, the developers hope it will become a services hub. It could turn out to be a miniature Dubai—or an unaffordable prestige project. "There's a lot of scepticism about all this," admits Mr Hassan. "Jordan today doesn't lack plans, so much as the ability to implement them."

This article appeared in the Middle East and Africa section of the print edition under the headline "An economy under siege"

Labour pains

Saudi Arabia is pushing out foreigners to create jobs for locals

But new Saudi hires are not always up to the job

Print edition | Middle East and Africa Apr 28th 2018

EVER since the local laundrette replaced its Asian workers with Saudis, his Parisian silk shirts have come back as nylon cast-offs, says a lawyer in Saudi Arabia. The new hire at his chemist, a bashful Saudi girl, shies from his request to spray colognes on his hand. He himself has hired four Saudi lawyers in order to comply with the kingdom's drive to replace foreigners with Saudis. They are useless, he says.

"Labour pains," tuts Ahmed Kattan, the deputy labour minister. As part of Crown Prince Muhammad bin Salman's "Saudisation" efforts, Mr Kattan has slapped monthly levies on migrants (based on the size of their families) and the Saudis who hire them. He has also barred foreigners from 12 sectors of the economy, including baking and optometry. The scheme, he says, will reduce the kingdom's dependence on about 8m predominantly unskilled foreigners, who far outnumber Saudi workers. He reckons this will cut Saudi Arabia's jobless rate to 10% by 2022 (from around 13% today), get more women into work and encourage automation.

Finding jobs for young Saudis—around half of whom are unemployed—is critical for Prince Muhammad, who is the power behind the throne. Having taken on the kingdom's clerics, by loosening social restrictions, and alienated other princes by consolidating power, he is more reliant on popular support than past Saudi rulers were. Easing dress codes and increasing entertainment has won him praise. Saudisation, it is hoped, will improve his subjects' living standards, too.

But there are drawbacks, admits Mr Kattan. Many of the kingdom's businesses rely on cheap labour. Rather than employ Saudis, who cost more and do less, around a third of firms may close, he says. Across the country, chambers of commerce groan at the potential contraction and beg for a respite, particularly since the economy fell into recession last year. "The government is passing on its political problems to the private sector," gripes a businessman.

Once a tax-free El Dorado, where petrol was cheaper than water, the kingdom is becoming less attractive to foreign workers. Insurance and entry fees have increased. Utility bills are rising. To avoid the monthly levy, which doubles to 200 riyals ($53) per family member in July, many foreign workers are leaving. Officials expect 700,000 will go by 2020. Others reckon the total number leaving may be far higher, not least because the authorities have arrested over 800,000 illegal migrants since November (around 200,000 have been deported).

Saudisation "is probably a painful necessity", says Steffen Hertog of the London School of Economics. If successful, the measures will narrow the pay gap between the bloated public sector, manned by Saudis, and the private sector, which is full of foreigners. Taxes on foreign workers should also raise $16bn in revenues by 2020, reducing the yawning budget deficit, says Mr Kattan.

There are some signs the plan is working. Female Saudi receptionists welcome pilgrims to Mecca's hotels. Though they cannot yet drive, women are running rental-car agencies. Poorer Saudis are even trying their hand at manual labour, hitherto an exclusively foreign domain. Given the chance, many locals defy stereotypes that cast them as slothful and incompetent, some launderers notwithstanding. "Apologies for our shortcomings, we're still new," says a self-deprecating official.

This article appeared in the Middle East and Africa section of the print edition under the headline "Labour pains"

Haftar nears the hereafter

As a Libyan warlord sickens, a power struggle grips his country

With Khalifa Haftar lying in a French hospital, his allies look for a successor

Print edition | Middle East and Africa Apr 28th 2018

THE most important story in Libya this year is unfolding in a Paris hospital. Khalifa Haftar, the general who rules the east of the divided country, checked into the Val-de-Grâce military hospital earlier this month. His condition is a mystery. There are reports that he suffered a stroke and may be in a coma—or even dead. His spokesman insists he merely needed some tests and will return home in a "few days", though he said that weeks ago. The French government is tight-lipped. But reality may now matter less than perception. General Haftar has not been seen since early April. His grip on eastern Libya is faltering and his allies are scrambling to find a successor.

It is a stunning fall for one of Libya's most powerful and polarising figures. General Haftar (pictured above) backed the coup that in 1969 brought Muammar Qaddafi to power, but eventually ran afoul of the dictator and wound up in exile in America. He returned to Libya during the uprising that toppled Qaddafi in 2011. In early 2014, as the country descended into civil war, he set out to seize Benghazi, the country's eastern city, and crush Islamist militias. Three years later his Libyan National Army (LNA) declared victory.

The general claims he brought a measure of stability to the east. His men control Sidra and Ras Lanuf, the country's biggest oil port and refinery. Production rose by over half last year, to more than 1m barrels a day, though it is still well below pre-revolution levels. But his victory was pyrrhic. Benghazi is in ruins. He rules the rubble like an authoritarian. The LNA has looted property from displaced families and tortured critics. And his growing power comes at the expense of the UN-backed government in Tripoli, the capital at the western end of the country. The UN wants Libya to hold elections this year. General Haftar has already hinted that he may not accept the results.

Now it is unclear whether he will live to see them—or who will take his place. Though it styles itself an army, the LNA is really a patchwork of militias. Their leaders are already jockeying to replace the ailing general. Much will depend on his foreign backers. Abdel-Fattah al-Sisi, Egypt's field marshal-turned-president, sees General Haftar as a kindred spirit: another military man eager to pound Islamists. The United Arab Emirates also backs him, with attack aircraft and Chinese-made drones deployed to bases in Libya's eastern desert. But the two countries are thought to disagree on a successor.

So do Libyans, divided as they are along tribal, geographic and ethnic lines. Consider General Abdessalam al-Hassi, a leading contender for the job. He is not a member of General Haftar's Ferjan tribe, which may cost him the support of the LNA's (mostly Ferjan) leadership. Yet installing another member of the Ferjan (ie, someone who does not hail from the east) could cause other tribes to leave the group. Adding to the confusion are General Haftar's two sons, Khalid and Saddam, who have been groomed as successors. But they lack battlefield experience and support.

Meanwhile, there are already signs of a power vacuum in Benghazi. On April 18th Abdel-Razaq al-Nadhouri, the general's chief of staff, another potential successor, survived a car-bomb. Days later clashes broke out between the army and police, who are nominally on the same side. Even if he does return, General Haftar no longer appears invincible. His empire in the east may be short-lived.

This article appeared in the Middle East and Africa section of the print edition under the headline "After Haftar"

Alpha’s bet

Guinea’s President Alpha Condé hints that he may scrap term limits

The country’s first democratically elected president thinks he may be indispensable

Print edition | Middle East and Africa Apr 26th 2018

THE main road from the Sierra Leone border to Guinea’s capital is lined with more than just potholes. Armed men sit in the shade at makeshift checkpoints and take turns to extort money from passers-by. Despite all the correct paperwork, your correspondent was robbed eight times in under an hour. “Your bag looks suspicious,” said one guard, clasping his Kalashnikov. It was just a bag full of dirty laundry, but the guard shook his head. Clearly stinky socks were a threat to national security. Fortunately, he had a solution. “Give me 40,000 francs ($4.50),” he said.

Despite appearances, Guinea has grown less corrupt under Alpha Condé, who has been president since 2010. In the year he was elected the country ranked a woeful 164th out of 178 countries on an index of corruption compiled by Transparency International, a watchdog. Now high-level graft has ebbed a bit. By 2017 Guinea had moved up to 148th, grabby border police notwithstanding.

Cleaning up has not been easy. A graft-busting treasury chief was assassinated by men in military uniform in 2012. And activists complain that high-ranking officials are never prosecuted for taking backhanders. “The only people [in prisons] have stolen chickens,” says Frédéric Loua, founder of Same Rights for All, a human-rights group.

Surrounded by ornate swords in his palace, Mr Condé says his country is a better place. The former dissident and political prisoner has a point. Guinea’s previous leaders were a brutal bunch. They included Ahmed Sékou Touré, a deranged despot who ruled for 26 years, and a string of grotesquely corrupt military juntas whose soldiers raped and massacred opposition supporters. Civilian rule under Mr Condé has been more peaceful.

Economist.com

Economic growth is picking up, too. It hit 6.7% last year, helped by a boom in mining as well as the government's genuine efforts to attract investment. Even so, despite vast mineral wealth, Guinea is desperately poor, with a GDP of little more than $800 per person, about half the region's average.

People are losing patience. Thousands have taken to the streets to complain about poor pay, a lack of electricity, police brutality and allegations of voter fraud in the recent local elections. At least 15 people have died in clashes in the past two months.

Given Guinea's ethnic tensions, this is ominous. The president's party, the Rally of the Guinean People (RPG), is dominated by the Malinké group, who are about 35% of the population. The largest opposition party, the Union of Democratic Forces of Guinea (UFDG), mainly come from the Peul group, roughly 40% of the country. Many Peul feel they have been discriminated against by the Condé government. The UFDG says that dozens of Peul have been killed by the security forces. Instead of calming tensions, some politicians are encouraging their supporters to "break the mouths" of the opposition.

Mr Condé dismisses such concerns: "Flemings and Walloons in Belgium…find it hard to live together but nobody talks about it. They talk about ethnicity only for Africa." Some worry that Mr Condé will try to change the constitution so that he can run for a third term in 2020. That would surely provoke violence in the street. Yet Mr Condé refuses to scotch the rumour. It is "the Guinean population's decision, not mine", he tells *The Economist*. He also argues that African presidents should not have term limits, because these get in the way of them carrying out ambitious long-term projects. Ordinary Africans have heard this line before.

Outside the palace, a car trundles past with loudspeakers singing presidential praise. "Alpha Condé is the father of the nation. Alpha Condé is the husband to all the women." Mr Condé has indeed moved the country on from its dark days. But he should know when to let go.

This article appeared in the Middle East and Africa section of the print edition under the headline "Alpha's bet"

Farming in Africa

Africa has plenty of land. Why is it so hard to make a living from it?

Subsistence farmers cannot compete with commercial farms

Print edition | Middle East and Africa Apr 28th 2018

SURROUNDED by tangled shrubland, Wisdom Mababe's farm in central Zambia seems incongruously neat. "In 2002, when I started, it was bare bush," he says. Each year since, he has bulldozed an area the size of 40 football pitches. Maize grows in ordered rows; cattle graze behind a fence. "The land, the water, it's in abundance," he gushes. Beyond his fields, the tall grass waves.

For most of its history, sub-Saharan Africa has been short of people, not land. In 2011 the World Bank estimated that the region had 200m hectares of suitable land that was not being used for crops—almost half of the world's total, and more than the cultivated area of America. That potential excites many. "Africa is the future breadbasket of the world," says Ephraim Nkonya of the International Food Policy Research Institute, a think-tank in Washington, DC.

Yet such aggregate figures may deceive. Most of Africa's spare land lies in just a few big countries, such as Sudan and the Democratic Republic of Congo. In densely populated places (with more than 100 people per square kilometre of farmland), average farm sizes have shrunk by a third since the 1970s. The continent is already a net importer of food; by 2050 it may have twice as many bellies to fill. In hotspots like central Nigeria, clashes between crop-growing farmers and herders have killed thousands. Doom-mongers see a larger crisis brewing.

From Mr Mababe's tranquil farm, such fears seem distant. Only a fifth of land in his district is being used, reckons the council chairman. A German company has bought 40,000 hectares of private land to grow maize and soya beans. The government is trying to lure other commercial outfits to designated "farm blocks" around a country twice as big as Germany, with fewer people than the Netherlands.

But even here, land is scarcer than it seems. The western half of the district is a national park. Locals complain that heavy-handed rangers on private game ranches stop them fishing and picking mushrooms. "This land we are in here, it's not ours," says one villager, "it's for people who have money." Human Rights Watch says that poor people in other districts are being evicted by commercial farms.

Despite talk of Africa's unused land, few places are truly empty. "On a map it is like that," says Mbumwae Nyambe, a paralegal with the Catholic church. "But when you go in the field you find there are already people there." Uncultivated land is used for grazing, foraging or hunting. Occupiers are often surprised to hear themselves labelled as squatters. In northern Uganda people returning home after being displaced by war found their "empty" fields had been dished out among generals, tycoons and conservationists.

Perhaps a tenth of Africa's cultivated land is now in the hands of big business, which uses most of it for biofuels, timber and other non-food crops. As significant is the rise of mid-size farms (those between five and 100 hectares), often owned by civil servants in the cities. "They have the political connections," says Thomas Jayne of Michigan State University. Many are not serious farmers. Those who own more than 20 hectares often leave most of it idle.

Middling farms now cover more of Zambia than small ones. Meanwhile squeezed smallholders farm their shrinking plots too intensively, degrading already poor soils. This happens even in spacious countries because people are concentrated along roads and in towns.

This presents a conundrum. Better seeds and fertiliser, as well as niftier techniques, could send Africa's farm yields soaring. But mechanised commercial farms do not provide as many jobs as subsistence agriculture. Most Africans still live in the countryside. That life there is so tough is why they are abandoning it faster than people on any other continent.

This article appeared in the Middle East and Africa section of the print edition under the headline "Squeezed out"

Movie motormouths

The DJs in Kenyan cinemas who tell you what is happening on-screen

Since so many films are foreign, many audiences like a live narrator to guide them

Print edition | Middle East and Africa Apr 26th 2018

AS THE lights in the cinema go down and the patrons take their seats, the familiar Warner Brothers logo lights up the room and the soundtrack starts. This, however, is no ordinary cinema. The roof is of corrugated tin; the seats are tree trunks. The viewers watch a flat-screen television. As the movie, "Deep Blue Sea 2", begins, Fred Ndichu, the DJ, starts his work. In a booth with an ancient computer, a wad of *qat* (a mild amphetamine) sticking out of his rapidly moving mouth, he begins to narrate. "Beautiful", he shouts in Swahili, as a great white shark tears apart a flailing fisherman on-screen.

Mr Ndichu's cinema, named the innocuous "Heshima Youth Group" to deter bribe-demanding cops, is in Mathare, a rough neighbourhood of tin shacks in eastern Nairobi. Similar establishments exist across the city, and in some other African countries. At the weekend the shack fills up with men watching English Premier League football. On weekdays it is given over to cinema. But whatever the film, it must have a DJ. The DJ's job is not just to translate English into Swahili. It is to translate—indeed explain—the entire movie.

Mr Ndichu, adds commentary and explains cultural differences. "Only if you have a DJ who knows what he is doing, can you fully understand a movie," he insists. The most popular films are typically bloody action movies. These are easy to explain. A tougher challenge, but worth it, was a film about Edward Snowden. "When I explained to the customers what it meant, they loved the movie, but they hated the CIA," he says.

The business is not lucrative. A viewer typically pays 10 Kenyan shillings ($0.10); at most, the shack can cater for 30. Out of that must come rent plus the cost of DVDs and occasional bribes. Mr Ndichu hopes to make more money by recording his performances and selling them to other budding cinema owners. With ancient video-editing software, he puts together a package and burns it to DVD. The trouble is that pirates quickly copy his work, so he cannot charge much.

In Nigeria, slum cinemas have spawned a film industry. In Kenya, filmmakers are scarce. But that may be changing. In February "Supa Modo", a touching Kenyan film about a terminally ill child's wish to be a superhero, was played at the Berlin film festival. True to Kenyan form, one of its characters was a movie DJ called Magic Mike.

This article appeared in the Middle East and Africa section of the print edition under the headline "X-narrated films"

Turkey
Erdogan’s outsized ambitions

Erdogan’s grand ambition

Turkey’s president hopes to turn huge building projects into votes

Also, the snap election will not be fair

Print edition | Europe Apr 26th 2018

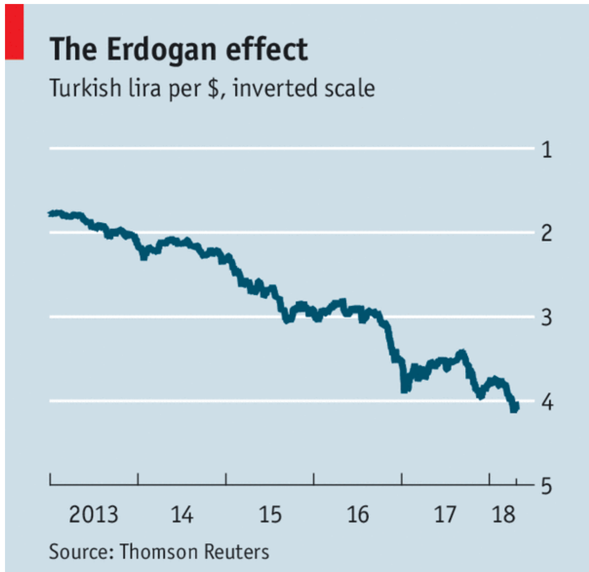
IF SIZE matters, which it does for Turkey’s president, Recep Tayyip Erdogan, then the $12.5bn building site on Istanbul’s northern fringe matters a lot. The construction zone, a sea of concrete and cement, spills over 76.5 square kilometres (29.5 square miles), dotted by dozens of buildings, including an ultra-modern passenger terminal. It already covers an area bigger than Manhattan. A roaring hive of steamrollers, cranes, dredges, lorries loaded with piles of rubble and 35,000 workers completes the scene. By October all this will have turned into a new international airport capable of accommodating 90m passengers a year, says Ahmet Arslan, Turkey’s transport minister. Capacity will rise to 150m in five years, making it the world’s biggest aviation hub. Just to the west, an even more ambitious project, a 45km-long canal, bridging the Black and Marmara Seas, may soon be under way. Mr Erdogan wants to break ground on the project later this year.

Turkey’s megaprojects have been a source of jobs and revenue for builders, and spurred economic growth. For the man who has championed them tirelessly, they have also been a plentiful source of votes. On the campaign trail, when he is not angrily accusing Western powers of plotting to overthrow his government and carve up his country, Mr Erdogan rattles off the number of highways, tunnels and airports (29 of the latter, to be precise) that have been built on his watch.

He will soon have a chance to do so again. On April 18th, hours before his MPs rubber-stamped the extension of a state of emergency for another three months, the Turkish strongman called snap presidential and parliamentary elections. These will take place on June 24th, 18 months earlier than scheduled. Armed with emergency powers, in control of nearly all media outlets and state institutions, and enduringly popular with conservative voters, Mr Erdogan is expected to win easily in a contest that no one expects to be fair.

The new projects do make some sense. Istanbul’s main airport is bursting at the seams. Passenger numbers have nearly tripled in the past decade, reaching 63.7m last year, though they have plateaued since 2015, raising concerns that the city does not need an airport as colossal as the one now being built. Congestion is also a reason for the Kanal Istanbul project. The

Bosporus, currently the only route available to vessels going in and out of the Black Sea, is one of the world's most crowded waterways. With more twists and turns than a Turkish soap opera, and treacherous currents to match, the strait has witnessed scores of accidents over the years. In the most recent, a 225-metre-long tanker rammed into a famous waterside mansion, causing tens of millions of dollars in damage. Mr Erdogan hopes to reroute all shipping through his new canal.



Economist.com

Yet there is only so much development a city of 15m people can take. In the past four decades, Istanbul's population has swollen by an average of about 300,000 every year. The glut of housing expected to spring up near the new airport, along the road connecting it to the Asian side of the city and along the planned route of the canal, will attract millions more. Opening these areas up to construction will threaten the city's remaining freshwater sources and forests, says Tayfun Kahraman of Istanbul's Chamber of Urban Planners. Trees are already a rare sight in the city. According to the World Cities Culture Forum, parks and gardens cover a mere 2% of Istanbul's total area, compared with 33% in London. Among the 34 cities surveyed, only Dubai fares worse.

Turkey plans to invest $325bn in infrastructure over the next five years. Reality, however, may get in the way. The economy, which has grown at breakneck speed since 2017, powered by stimulus measures and cheap credit, may be in for a hard landing. The Turkish lira has been battered since the start of the year, and has lost more than half its value against the euro and the dollar since 2013. Companies that borrowed in foreign currencies are feeling the pinch. Two of Turkey's biggest conglomerates, Yildiz and Dogus, have reportedly entered talks to restructure some $9bn of debt. "If companies like these are facing problems, it would be surprising if others were not," says Inan Demir, an economist at Nomura International, a bank. The mountain of corporate debt, reckoned to have reached 70% of GDP, is starting to wobble. One reason Mr Erdogan called early elections was presumably to get them out of the way before ordinary Turks start feeling the tremors. "Even a minor sign of economic duress could jeopardise his objective of winning in the first round," says Sinan Ulgen of Carnegie Europe, a think-tank.

Even in an uncertain economic climate finance for new bridges, highways and hospitals can be found. But paying for vanity projects like Kanal Istanbul, which may not generate much income, will be harder. It remains to be seen how Turkey plans to persuade ships to pay for using the canal when they can ply the Bosporus free of charge, a right enshrined in a convention of 1936. The project "would be so fraught with international-relations nightmares that foreign banks would be reluctant to touch it," says Refet Gurkaynak, an economist at Bilkent University.

One way out would be for the government to provide guarantees for loans taken out by the contractors, a solution already in place for the new airport. (Finance for it came from Turkish banks after international ones steered clear.) The obvious risk, says Mr Gurkaynak, is that Turkish taxpayers will end up footing the bill if such projects do not turn a profit. That may not bode so well for the elections after next.

This article appeared in the Europe section of the print edition under the headline "Erdogan's outsized ambitions"

Jupiter meets Mercury

Emmanuel Macron tries to win over Donald Trump on Iran

France's president has little in common with America's, but somehow they get along

Print edition | Europe Apr 25th 2018

THE speech was a knock-out, Congressmen swooned, and he made a forceful pitch to be the leader of the liberal world order. But will any of that matter unless Emmanuel Macron can change Donald Trump? The young French president turned up in Washington this week for his state visit keen to make something of the oddly close link he has forged with his American counterpart. Top of his list was an effort to persuade the American leader not to walk away from the Iran nuclear agreement. Even better, though considerably less likely, would be to get America to rejoin the Paris climate-change process.

Mr Trump has threatened to quit the Iran deal on May 12th, and may still do so. Yet, for the first time, the American president hinted this week that he might be interested in a European idea, promoted by the French president, of brokering an add-on deal to cover wider American concerns about Iran. If this can keep Mr Trump on board, it would indeed be a big diplomatic coup for Mr Macron, though he acknowledges that the chances are slim.

The side deal proposed by the Europeans, though very far from accepted by Iran, would cover Iran's ballistic missile programme and its regional interference, as well as extend beyond 2025 Iran's commitment to curb its nuclear activities. Though Mr Trump this week called the existing deal "insane" and "ridiculous", he also hinted that there was some common ground between them. "I think," said Mr Trump, "we will have a great shot at doing a much bigger, maybe, deal."

Given the American president's volatility and his team's hostility to any compromise over Iran, this is a big gamble for Mr Macron. Indeed, since he was elected a year ago, he has invested heavily in trying to use his warm relationship with the American leader to win him round, on matters from climate to trade, tolerating strange moments of public humiliation in the process. At one point in the Oval Office this week, the American president flicked what he called "dandruff" from Mr Macron's collar, declaring: "We have to make him perfect." At another, he appeared to tug Mr Macron along like a dog.

The pair make a decidedly odd couple. It is hard to imagine two Western leaders with more contrasting worldviews. The host, a brash former reality-television star was elected on a promise to shut borders and spurn multilateralism. The guest, a cerebral philosophy graduate, won power by rejecting nationalism and praising Europe and the liberal world order. Yet the pair seem to have found a certain respect for each other, ever since Mr Macron gave Mr Trump a knuckle-crunching handshake when they first met a year ago. Each is a political outsider—a "maverick", in Mr Macron's words—who won power against the odds. For Mr Macron, the summit was a chance to show the world that France still counts. For Mr Trump, it is gratifying to have a clever, dynamic young leader flatteringly wanting to be his friend. Some call Mr Macron the "Trump whisperer".

By staking so much on the Iran deal, Mr Macron has put his credibility as an emerging European leader on the line. He certainly does not seek to align himself unconditionally with Mr Trump, although France took part in—and indeed urged—recent air strikes with America and Britain against Syrian chemical-weapons facilities. Rather, the French president's ambition is, at best, to encourage the American leader to use his country's influence in a more benign way and at least to keep him from inflicting too much damage. His impassioned speech, in English, to a joint sitting of Congress, appealing for multi-lateralism and liberal values, won him a standing ovation.

So far, the French seem happy to let Mr Macron make a go of this relationship. They generally prefer their leaders to project the country's independence, as did de Gaulle, and pillory those who cosy up to Americans, as Nicolas Sarkozy did to George W. Bush. As Mr Macron prepares to mark the first anniversary of his election on May 7th, he is not popular at home. Yet most people like the way he has changed the country's image abroad. His talk of grandeur and prestige goes down well, and the prospect of France acting as Europe's preferred leader in Washington seems to make up for popular distaste for Mr Trump.

At some point, however, there will be domestic pressure on Mr Macron to show something in return for all this Trump-flattery. He has on occasion exaggerated his influence over his American counterpart. But he also knows that their differences are great and, at times, insurmountable. "My view...is that he will get rid of this deal on his own, for domestic reasons", Mr Macron said as he left. If he cannot secure tangible returns for his efforts, he will run the risk of looking naive, or foolish, or both.

This article appeared in the Europe section of the print edition under the headline "Jupiter meets Mercury"

Hear Luxembourg roar

The EU's top judges take on Poland

The European Court of Justice may be itching for a scrap with over-mighty politicians

Print edition | Europe Apr 26th 2018

JUDGES in Europe have often been able to get to the parts that governments cannot reach. It took rulings by the European Court of Justice in Luxembourg to give full force to the four freedoms—movement of goods, services, capital and people—that politicians promised but struggled to deliver. Now, as the EU clashes with governments that undermine the rule of law, the ECJ may be about to help again. Two cases explain why.

The first, brought by a body that represents Portuguese judges, argued that pay cuts imposed on its members during a euro-zone bail-out undermined the rule of law. In February the ECJ dismissed this argument, but couched its verdict in tough language that emphasised the importance of shielding courts from external pressure. One European official says the ECJ is clearly preparing the ground to rule on the independence of national judiciaries elsewhere. The obvious candidate is Poland, where the nationalist Law and Justice (PiS) government has stacked the courts and politicised judicial appointments. The European Commission's attempts to get PiS to change course have so far fallen flat.

Hence the attention on a second case. In March an Irish judge refused a routine request under the European Arrest Warrant (EAW) to surrender Artur Celmer, a suspected drug-trafficker, to authorities in his native Poland, because of what she called PiS's "deliberate, calculated and provocative" assault on judicial independence. She passed the case to the ECJ for review, providing it with an opportunity to rule on the independence of Polish courts. Koen Lenaerts (pictured), the ECJ's president, says his court will probably issue a preliminary judgment by July. It may turn out to be its most important verdict this year.

In the Portuguese case, the ECJ emphasised that national courts form part of a unified continental network, serving not only as national authorities but as tributaries of EU law. This undermines PiS's argument that its judicial reforms are solely a domestic concern. Mr Lenaerts says the ruling was simply the court's response to a particular request for it to opine on judicial independence. But, he adds, "It's always the case that our judgments have relevance way beyond the case in which the pronouncements were made."

The ECJ's next move is hard to predict, notes Franklin Dehousse, one of its former judges, for judicial independence is terrain it has rarely explored. But should it declare Poland's judiciary compromised, the consequences could ultimately extend far beyond the EAW. Agreements that rest on mutual trust between judiciaries, including debt, taxes and family law, could be undermined. Firms could challenge public procurement contracts; investors would frantically call their lawyers. A case could be made for suspending EU subsidies to Poland. A firm ECJ ruling could also provide lawyers elsewhere with grounds to question the independence of their own judiciaries. Hungary and Romania will be watching closely.

The European Commission, despite its role as guardian of the EU treaties, often struggles to balance defence of the rule of law with respect for democratically elected governments. The judges of Luxembourg are not bound by such contraints.

This article appeared in the Europe section of the print edition under the headline ”Luxembourg roars”

Fall of an autocrat

People power pushes out Armenia's boss, who was trying to do a Putin

Ominous news for the Kremlin

Print edition | Europe Apr 26th 2018

"I WAS wrong. The movement on the streets is against my rule. I'm complying with their demands." These are not words often heard from an authoritarian ruler of a former Soviet republic. But thus spake Serzh Sargsyan, who has ruled Armenia for the past decade, as he resigned on April 23rd.

Only a week earlier, he had seemed resolved to face down the protests that broke out after he was installed as prime minister on April 17th. Mr Sargsyan had exploited Armenia's shift from presidential to parliamentary government to keep himself in power after completing his second and final presidential term.

His manoeuvre resembled that of Vladimir Putin, Russia's president, who sat out one term as prime minister in 2008 before returning as president in 2012 against a wave of protests. A similar kind of crowd, incensed by a similar kind of trickery, engulfed Armenia's capital Yerevan. It was led by Nikol Pashinian, a journalist turned lawmaker. When he was briefly arrested, the protests grew larger and were soon joined by unarmed soldiers. Within hours, Mr Sargsyan stepped down, causing jubilation on the streets of Yerevan, and envy among the opposition in Russia.

Armenia, which claims to be the starting-point of the Soviet disintegration in 1991, proved different and separate from Russia. With no censorship, no ban on street protests and a serious opposition in parliament, it is politically freer and more mature than Russia. The ousting of Mr Sargsyan was less of a "colour revolution", and more a defence of constitutional rule against the ruling party's attempt to cling onto power.

Strategically, Armenia will remain allied with Russia, which has a large military base there, preventing it from forming alternative security arrangements with the West. Russia has so far reacted with an uncharacteristic restraint. Yet the sight of a peaceful protest rejecting a corrupt post-Soviet order will worry the Kremlin. There is still a real danger of interference, or violence, or both.

Alexei Navalny, the Russian opposition leader who was barred from contesting his country's presidency, congratulated Armenians in a tweet: "The best way of dealing with politicians wishing to remain in office for life is to come out on the streets. A little bit of courage and determination, and everything falls into place."

This article appeared in the Europe section of the print edition under the headline "People power ousts an autocrat"

The nervous north

How Milan's voters opted for the losers

Italy's most dynamic city is out of step with the country

Print edition | Europe Apr 26th 2018

IN RECENT years, as Italy has struggled economically, Milan has been happily out of step. It enjoyed a revival that reached a peak three years ago when it hosted Expo 2015. The universal exhibition left Milan with a clutch of renewed urban areas and rekindled its spirit of optimism. The city centre, ever stylish, nowadays feels flamboyantly affluent.

Since the general election on March 4th, however, Milan finds itself at odds with the rest of Italy in a rather less positive way. "We voted for the losers," says Francesco Daveri, who heads the MBA programme at the city's Bocconi University. The Milanese cast 36% of their votes for a centre-left alliance that managed to win only 23% of the vote nationally. The anti-establishment Five Star Movement (M5S), took less than a fifth of the vote in Milan (against almost a third in Italy as a whole) and, despite its regional origins, the nativist Northern League fared worse in cosmopolitan Milan than it did nationally.

Since the M5S, the centre-left grouping and a centre-right alliance including the League and Silvio Berlusconi's Forza Italia party all fall short of a majority, the result has been a political deadlock that more than 50 days of talks have failed to resolve. As Italy's banking centre, Milan could be hit hard if the stalemate were to prompt a financial crisis as investors lost faith in the state's ability to repay its huge debts (more than 130% of GDP). Marco Valli, head of European research at UniCredit, says he is surprised the market's reaction has been so benign. The gap between Italian and German government bond yields, which grows when investors fret about Italy, has shrunk since the election and is now less than 120 basis points.

One reason for market insouciance is that a crisis is unlikely to infect other economies: foreigners hold only around 30% of the government's bonds these days. One way this has been achieved has been through the European Central Bank's programme of quantitative easing, which has seen it acquire an additional 15% of Italy's debt. The global economy and EU economies remain strong. And more investors think that the possibility that most terrified them—a coalition between the League and the M5S—is fading. On April 24th, the M5S's political chief, Luigi Di Maio, called a halt to his dealings with the League's leader, Matteo Salvini, as talks began on a possible link-up between the M5S and the centre-left alliance.

Mr Salvini refused to accept Five Star's demands to leave Forza Italia out in the cold. The M5S views Mr Berlusconi as a pariah; someone who embodies the sleazy politics they seek to uproot. Why Mr Salvini has kept faith with him is unclear, but without the rest of the right-wing alliance he would be a weak junior partner in a coalition with the M5S. He may also have feared falling foul of Mr Berlusconi's formidable media power, including three TV channels, had he defected.

Barring a deal between the M5S and the centre-left, which cannot be ruled out, the most obvious alternative would be an all-party government to see the country through to fresh elections, with new rules, in 2019. It could perhaps be led by the capable current prime minister, Paolo Gentiloni. That might reassure investors, at least in the short term. But it is scarcely a recipe for agreement on the painful reforms that Italy urgently needs, such as freeing the labour market by weakening protections for those who already have jobs, which deter firms from creating new ones. Carlo Bonomi, the president of Assolombarda, the bosses' union in the region surrounding Milan, agrees that Italy's outdated employment laws should be the first priority. "What we need is a government with clear ideas on what it wants to do," he says. Good luck with that.

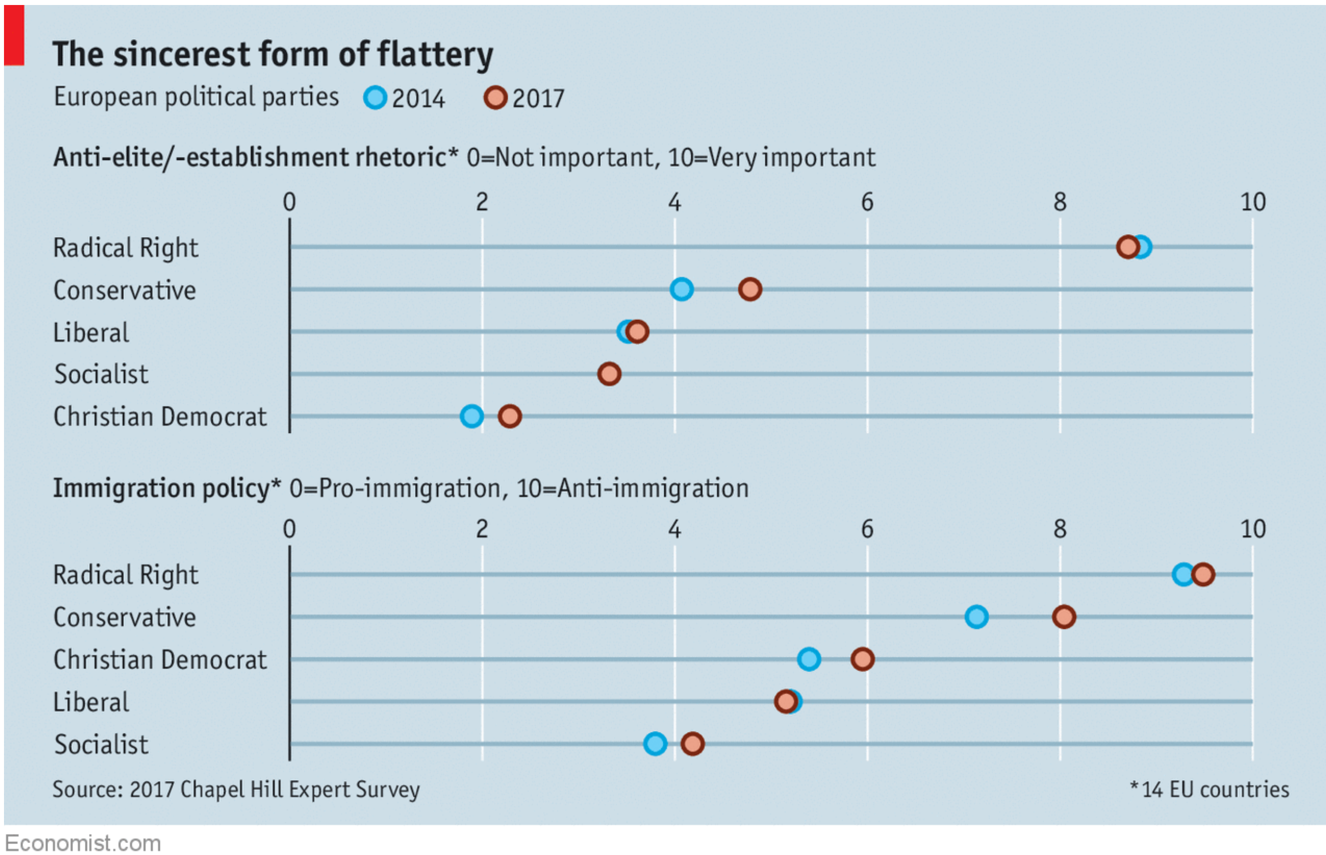
This article appeared in the Europe section of the print edition under the headline "The nervous north"

The sincerest form of flattery

European political parties shift right

According to a new survey

Print edition | Europe Apr 26th 2018



EVERY four years researchers at the University of North Carolina and other institutions ask experts to place Europe's political parties on various spectrums. The latest version of the Chapel Hill Expert Survey reviewed 132 parties in 14 EU countries, including the five biggest. It finds that since 2014, socialist, Christian democrat and conservative parties have as a group moved towards more restrictive immigration policies and that the liberal, Christian democrat and especially conservative ones have increased their tendency to deploy anti-establishment or anti-elite rhetoric. There is still a gap between Europe's mainstream and the fringes—but it seems to be narrowing.

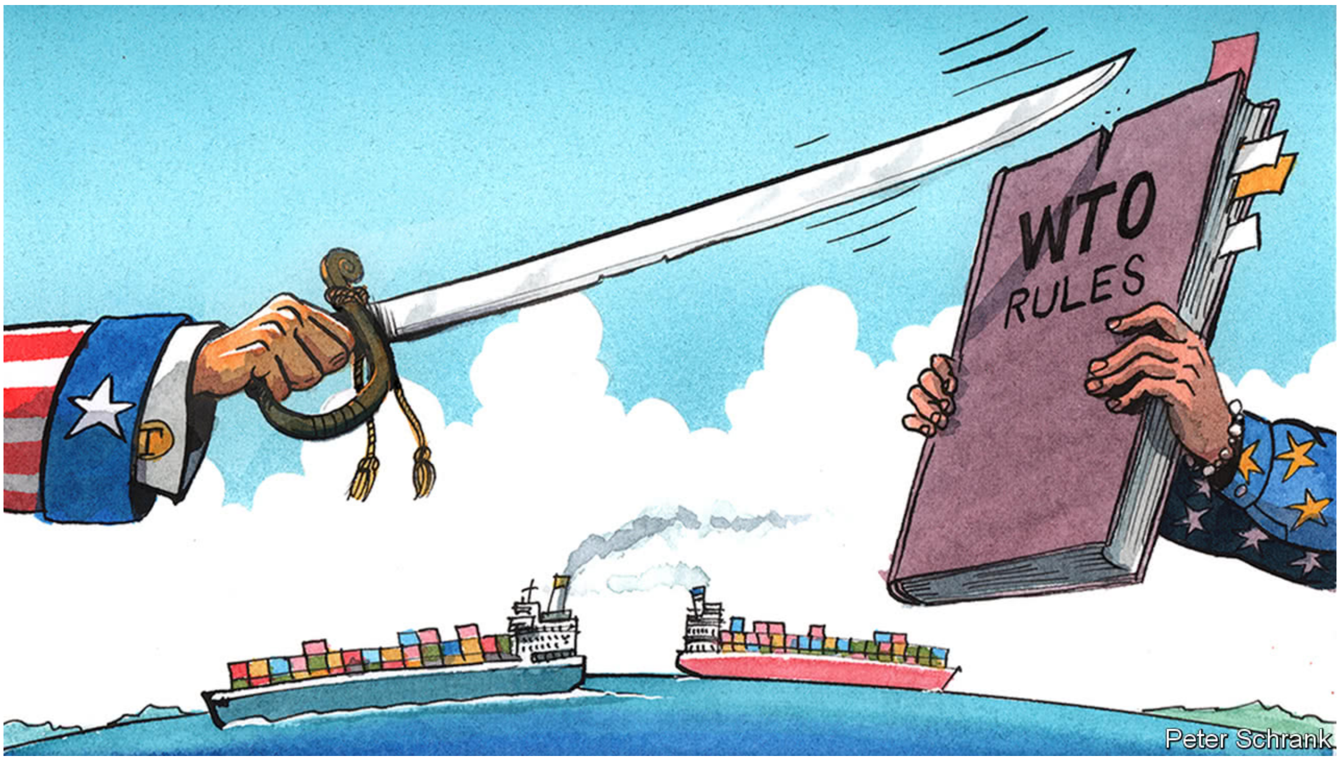
This article appeared in the Europe section of the print edition under the headline "The sincerest form of flattery"

Charlemagne

Europe stands up for global trade rules

Someone has to

Print edition | Europe Apr 26th 2018



FOR anyone seeking to understand what America wants and how it hopes to achieve it, the random early-morning grumbles of a 71-year-old man are rarely the best place to start. Yet Donald Trump's Twitter account has its uses for Europeans frustrated by his administration's trade policy. For while the president is often erratic, on international trade he has been admirably consistent: the rules are stacked against America, deficits are a result of weakness, and previous presidents have been played for fools. And, as Mr Trump frequently tweets (March 10th: "If [the Europeans] drop their horrific barriers & tariffs on US products going in, we will likewise drop ours... If not, we Tax Cars etc. FAIR!"), he will turn to the bluntest of instruments to right these wrongs.

Like a dutiful cop, the European Union is taking down this evidence to use against Mr Trump. In March America slapped tariffs on steel and aluminium from abroad, arguing that cheap imports threatened national security by eroding the domestic industrial base. Mr Trump's tweets plainly show this to be hogwash, argue the Europeans; he is motivated by pure protectionism. That is why, unless the president can be persuaded to exclude the EU from his tariffs, it will retaliate with "rebalancing" measures of its own after its temporary exemptions expire on May 1st. Cranberries, bourbon and snuff are among the all-American products in Brussels's cross-hairs.

Time, then, to hunker down for a transatlantic trade war? Probably not, despite Mr Trump's evident irritation with the BMWs and Volkswagens he sees clogging up American driveways. His administration has its hands full renegotiating NAFTA and managing an escalating scrap with China. "It's too complicated if you make war against everyone," noted Emmanuel Macron as he prepared to visit Mr Trump. For its part, the European Commission has soothed the concerns of jumpy governments by promising not to implement its countermeasures too hastily.

Still, a lot is at stake. In the age of Brexit and Trump, the EU has adopted the pose of free trade's biggest champion. It has struck deals wherever it can find them, most recently upgrading its agreement with Mexico on April 21st, and has several more in the pipeline, notably with Mercosur, a Latin American trade bloc. Even if the EU sometimes oversells its achievements, its tub-thumping for trade is a useful counter to the drumbeat of protectionism emanating from elsewhere in the world.

But the EU also relies on a common understanding of the rules that govern international trade. Ignored in good times and bashed in bad, the World Trade Organisation (WTO) has become a test-bed for Europe's commitment to a Kantian, rules-based order in the face of Hobbesian challenges from abroad. Many fear its rule book is not capable of dealing with China on matters like subsidies to state-owned enterprises or foreign investment. America's antics add to the strain. In optimistic moments the Europeans wonder if the crisis might offer a chance to bind both giants more tightly into the system.

That, though, is a hope, not a policy. And the European strategy for dealing with America also carries risks. The EU says the metals tariffs are protective restrictions in disguise, which means it can retaliate. But like Mr Trump's national security defence, this is a creative interpretation of WTO rules. European officials insist that their case is watertight, and say they would welcome a challenge from the Americans—not least because it would keep them working inside the system. But some analysts fear that such a dispute could test the WTO's rule book to destruction. "No serious trade lawyer buys into this," says David Kleimann, of ECIPE, a think-tank. The EU's tactics are supposed to be a vote of confidence in the WTO. But it is not clear it can bear the burden.

A related European fear is that China and the United States will stretch the rules further with a bilateral deal in which each offers the other market concessions that they do not extend to other partners. Next week Mr Trump will dispatch officials for talks in Beijing. Conversely, a deepening trade war between America and China could reverberate in European countries in global supply chains. That points to the greatest source of European frustration with Mr Trump's actions. Cecilia Malmström, the EU's trade commissioner, wants to work with the Americans (and Japanese) to tackle Chinese dumping, subsidies and intellectual-property theft. Instead, she finds herself duelling with Wilbur Ross, Mr Trump's commerce secretary, over minutiae. Average customs duties between the EU and America are below 2%, and the metals tariffs would apply to a small fraction of European production.

American officials do not want their dispute with Europe to distract from the main event. Despite old differences on such things as agriculture and data, the EU is, after all, supporting an American WTO case against China on intellectual property. But it is an odd sort of partner who fights you one day and urges you to unite against a common foe the next.

Trading places

No one knows if Mr Trump will change his mind on the tariffs. Mr Macron urged him to do so this week, as will Angela Merkel when she visits Washington on April 27th. There are wrinkles in the common EU position: export-dependent Germany fears a tit-for-tat escalation more than France does, and so might be quicker to offer concessions, such as reducing regulatory barriers. There was even brief talk in Berlin of reviving TTIP, the ill-fated trade deal between the EU and America, last seen in 2016, that was supposed to build a Western free-trade bulwark against China.

How long ago that seems. Today the EU is locked in damage-limitation mode, doing its best to stand up to America, respond to China, forge alliances where it can find them and hold itself together—all without scrapping the common rule book that is supposed to keep a lid on disputes. Trade is supposed to be win-win. But for the EU today there are no risk-free options.

This article appeared in the Europe section of the print edition under the headline "Very well then, alone"

Local elections
The West Midlands waltz

The West Midlands waltz

Local elections may show a reconfiguration of British politics

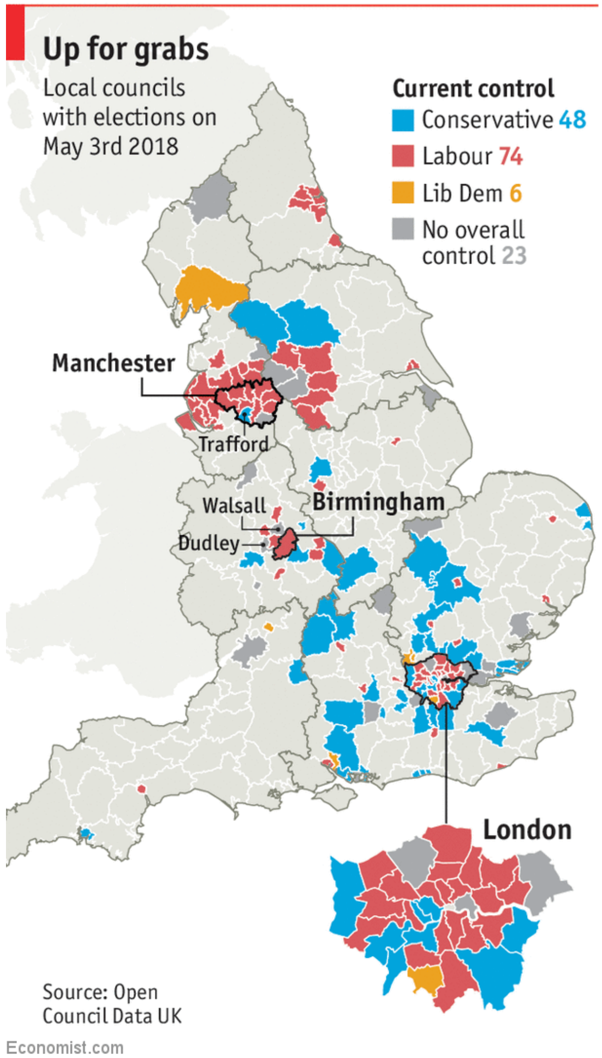
Labour expects to triumph in the cities, but may find it harder going in smaller towns

Print edition | Britain Apr 26th 2018

THE count took place in near silence, it was that close. As ballot boxes were brought into the Barclaycard Arena in Birmingham, the only noise was the flutter of votes being tallied, recalls Andrew Mitchell, a local Conservative MP. In the end Andy Street, the Conservative candidate, was elected mayor of the West Midlands, a Labour heartland. Predictions followed that his triumph augured a Tory landslide in the general election due the following month. A year on from Mr Street's victory, things look rather different. "He wouldn't win it today," says Mr Mitchell, bluntly.

The West Midlands has long been a turning point that failed to turn for the Conservatives. Rather than herald their resurgence in the region, Mr Street's victory was followed by a Tory washout. But ahead of local elections due on May 3rd, the Conservatives hope—once again—that the West Midlands could provide a few bright spots on what is likely to be a dark night for the party. Labour, while expecting to make gains overall, could still lose ground in a few key places. The two parties are locked in an ungainly waltz, gliding into one part of the country while losing their footing in another.

The national picture looks grim for the Conservatives. Nearly half of England's local councils, including its largest cities, are holding elections (see map). Some, such as Manchester, are close to one-party states for Labour, which also looks likely to tighten its grip on London. Local elections are usually tough on the governing party, and after the Tories' eight years in power, in which they have presided over deep cuts to local services and the turbulence of Brexit, next month's vote will be no exception. Austerity has seeped up. The poorest were first to suffer its impact. Now its effects are being felt by those who are more comfortable. Well-off boroughs like Trafford, just outside Manchester, look likely to break for Labour.



Labour, however, faces its own troubles. Although the party will cement its control of Britain's cities, it may slip back in towns. Take Walsall. The marginal council, on the outskirts of Birmingham, may be one of the few sources of solace for the Tories. Last year the northern part of the borough returned a Conservative MP—a keen Brexiteer in an area where 74% voted to leave—for the first time since 1976. Labour's membership has bulged in metropolitan areas, with some local parties trebling in size; in Walsall it has risen by barely a third. Jeremy Corbyn, the party's left-wing leader, is locally "seen as a bit of a buffoon", reckons Mike Bird, the leader of the borough's Conservatives.

Both parties are picking the carcass of the UK Independence Party (UKIP), which won almost a fifth of the vote in Walsall in 2015. Brexit is less of an issue than it was, with Britain's departure from the EU now seen as a matter of when rather than whether, argues Sean Coughlan, Labour's local leader. "People are now looking for a different offer: support, investment and communities," he says. In nearby Dudley, where five seats are held by a deflating UKIP, the Conservatives are confident of taking control (Theresa May paid a visit to the Black Country town this week). But Labour's strategists are optimistic. An assumption that the Tories would be the sole beneficiaries of UKIP's implosion proved wrong in last year's general election. Disaffected Labour voters "hate the Tories far, far more than they might distrust Corbyn," says one former Labour staffer.

In Birmingham, as in most big cities, Labour is expected to extend its already-comfortable lead. This is despite a long-running strike by rubbish collectors that left the city resembling a dump for much of last summer. A small chance of a shock remains. Unlike some other cities going to the polls, Birmingham is not a Labour fief. The Conservatives ran it as part of a coalition as recently as 2012. The number of councillors is being reduced from 120 to 101, creating more uncertainty.

But Tory attempts to woo Brummie voters are chequered. So-called "Erdington Conservatism", which argued that Tory policy should focus on the working-class, such as residents of that deprived area of the city, briefly flourished in the party under the influence of Nick Timothy, a former aide to Mrs May. It did not work. Nine of Birmingham's ten MPs are Labour. "The position for Birmingham is difficult," says Mr Mitchell in his constituency office behind an undertaker's in Sutton Coldfield, a Tory blue dot on Birmingham's otherwise red electoral map.

There is a danger of reading too much into local elections. Labour performed dreadfully in those in May 2017, and shockingly better in the general election one month later, points out Ben Page, head of Ipsos MORI, a pollster. Turnout may be low—it is the fourth vote in three years, after two general elections and a referendum—making results still less predictable.

British politics is in an oddly frozen state, which the local elections are unlikely to thaw. Labour colouring cities a deeper shade of red will do little to improve its prospects of power if it also loses ground in towns. The occasional foray into Labour heartlands will not bring the Conservatives any closer to a majority unless they can maintain a toehold in cities. This dilemma is clearest in Birmingham and its surrounding towns. Whoever can crack the West Midlands is well placed to crack the rest of the country.

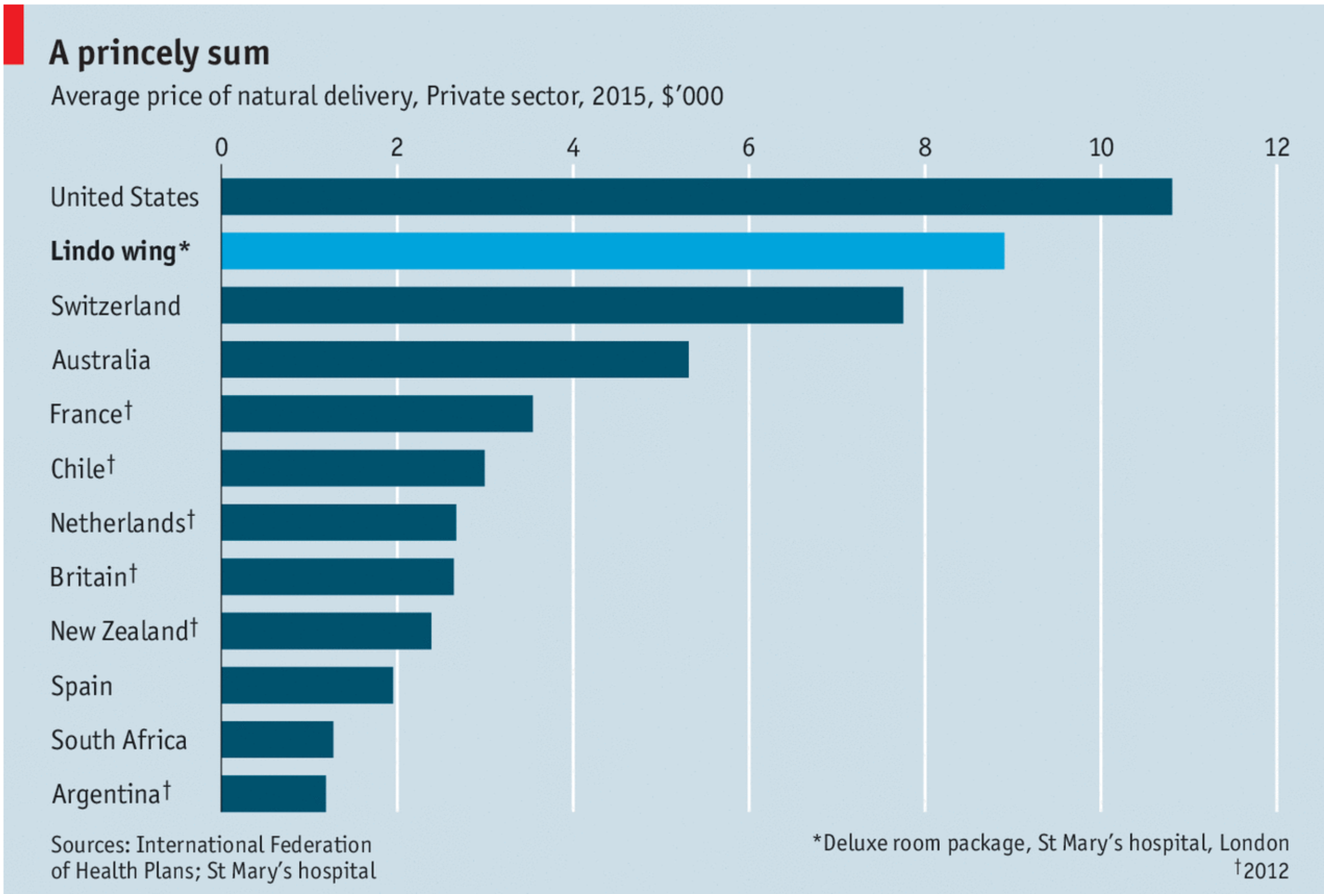
This article appeared in the Britain section of the print edition under the headline ”The West Midlands waltz”

A princely sum

Delivering a prince in Britain costs less than the average American birth

American hospitals charge more than $10,000, enough for a stay in London's swankiest maternity suite

Print edition | Britain Apr 26th 2018



Economist.com

THE fifth in line to the throne arrived in some style on April 23rd. The private Lindo wing of St Mary's hospital in London, where the as-yet-unnamed prince made his entrance, offers luxurious suites, afternoon tea and a comprehensive wine list for celebrating parents. Yet the cost to the Duke and Duchess of Cambridge was probably slightly less than the price of delivering the average baby in America. In 2015 the Lindo wing charged £5,670 ($8,900) for 24 hours in a deluxe room and a natural delivery. A survey in the same year by the International Federation of Health Plans found that the average fee for such a delivery in America was $10,808. Insurers cover most of the cost, but parents are still left with a bill of about $3,000—and perhaps a feeling of being royally ripped off.

Succession battle

Wales, a one-party state, prepares for a transition of power

Carwyn Jones's unexpected resignation leaves Labour looking for a new first minister

Print edition | Britain Apr 26th 2018

THE resignation of Carwyn Jones on April 21st took almost everyone by surprise. Wales's first minister had been in the job for nearly a decade and only last month had told reporters that he had no plans to quit. Even some of his fellow Labour cabinet ministers had not got wind of his plans.

His departure seems to be a belated consequence of the suicide last November of Carl Sargeant, a former Welsh cabinet minister. In the wake of the Harvey Weinstein affair and the subsequent run of allegations of inappropriate behaviour by politicians, unspecified complaints were made against Sargeant. Mr Jones promptly sacked him. Four days later, Sargeant took his own life. His death shook Welsh politics and led some to call for Mr Jones's resignation. One of the three probes set up in light of the death is looking at how he handled the dismissal.

An unfavourable verdict would stain a reasonable record. Mr Jones steered a poor country through a time of biting austerity, which started just after he took office. He won more powers for the devolved Welsh government—though they have not been used to great effect, at least in health and education. He proved to be a successful campaigner. Ahead of last year's general election, the Welsh Conservatives were expected to make gains. Instead, a campaign led by Mr Jones saw Labour increase its tally of seats by three.

His job was made easier by Labour's dominance in Wales. It is in effect a one-party state, says Roger Awan-Scully of Cardiff University. Labour has run the devolved government—most recently with the support of the Liberal Democrats—since it was established in 1999 and won the most seats at every general election since 1922. In parts of Wales the only political competition in the past century has been between Labour candidates. Rival parties complain that Labour poaches their brightest politicians.

There are downsides to this dominance. A lack of external pressure makes Welsh Labour prone to infighting. More seriously, a long period in power unchallenged can cause a "living decay", with little incentive for the incumbent to come up with new ideas, says Richard Wyn Jones, also of Cardiff University.

Labour's next leader is likely to be chosen using a system that weighs the votes of parliamentarians and trade unions more heavily than those of party members (the national Labour Party ditched this system in 2014, paving the way for the election of Jeremy Corbyn, a grassroots favourite). The process is under review, following a close election to the party's deputy leadership. Carolyn Harris beat Julie Morgan despite winning fewer votes among members. Ms Morgan does not dispute the result, but says that if the same thing were to happen in the forthcoming leadership election it would be "unacceptable".

The contest will take place in the autumn. So far only Mark Drakeford, the finance minister, has thrown his hat into the ring. He is to the left of Mr Jones, and the most Corbynite of the potential candidates. Whoever wins will oversee the aftermath of Brexit, which Wales backed despite being a big recipient of EU funds. Perhaps even trickier will be renewing Welsh Labour while it remains in power, with little pressure to change.

This article appeared in the Britain section of the print edition under the headline "Succession battle"

Trade wars

The fight over a customs union is a proxy for a bigger Brexit battle

Brexiteers see a customs union as the first step towards a closer alignment with the Europe

Print edition | Britain Apr 25th 2018

IT WAS hardly discussed during the referendum campaign. Yet the question of whether to seek a customs union with the European Union after Brexit has become an unexpected political flashpoint. Theresa May's government is against the idea, but fears that Parliament is not on its side. Earlier this month the House of Lords voted that Britain should stay in a customs union. With Labour and a clutch of Tory rebels in favour, the Commons may soon follow suit.

The customs union is really a proxy for a bigger question: how closely aligned should Britain stay with the EU after Brexit? Mrs May is in a quandary. She wants to reassure pro-Brexit Tories that she is sticking to her red lines of leaving the single market and customs union, creating scope for regulatory divergence and an independent trade policy. But she also wants a workable deal that satisfies businessfolk and prevents a hard border in Ireland.

It is not hard to see why most businesses and trade unions want a customs union. By eliminating customs and rules-of-origin checks, it would facilitate goods trade between Britain and the market that takes almost half its exports. Promised free-trade deals with third countries like America are uncertain and would not make up for lost EU trade. Even after a transition period, Britain may lack the staff, computer systems and sheer physical space needed for customs controls at its ports.

Then there is the Irish border. The government has promised to avoid infrastructure, checks or controls, either through a "customs partnership", under which it would collect duties on behalf of the EU, or with whizzy and untested new technology. Brexiteers point to the EU's borders with Switzerland or Norway as examples to follow. Yet this ignores that both do in fact have border infrastructure, checks and controls on lorries. The Commons Northern Ireland committee has said there are no examples anywhere of similar borders without physical customs controls.

This may explain why the EU does not believe in the government's solutions. It insists instead on a third, fallback option that keeps Northern Ireland in a customs union and in tight regulatory alignment with Ireland. In the formulation that Mrs May accepted in principle in December, any such answer would have to apply to the whole country, to avoid a border in the Irish Sea. David Davis, the Brexit secretary, calls this idea a reserve parachute that will not be used. He believes the EU's emphatic rejection of Britain's preferred two options is a mere negotiating tactic.

The customs union has disadvantages besides making free-trade deals with third countries harder. As Turkey has found in its customs union with the EU, it does not cover services, which make up some 80% of Britain's economy. And it would mean that any future EU trade deals would open Britain's market to third countries, without giving it reciprocal access. Moreover, a customs union alone would not avert an Irish border. That would also require close alignment with single-market rules for most goods, most notably agrifoods.

The cabinet, like Parliament, remains split over the customs union. Brexiteers are worried. Several fear that Mrs May's customs partnership, which Jacob Rees-Mogg, one Tory MP, calls "cretinous", could evolve into a customs union. Some have taken to labelling the customs union a protectionist racket, wrongly claiming that it means heavy tariffs on African farm exports (most of which are in fact tariff-free). Yet hints from the EU that it might offer Britain some say in future trade deals will keep the customs union option very much alive.

The government will surely put off any binding votes on the matter for as long as it can, perhaps until the autumn. Mr Davis hinted this week that the Irish border question may not be settled before October, or even later. He noted that Leo Varadkar, the Irish prime minister, had said he would prefer a good agreement to an early one. Yet the ultimate Brexit deadline of March 29th 2019 cannot be easily postponed. And there will be many chances for Parliament to force the customs issue before then.

This article appeared in the Britain section of the print edition under the headline "Trade wars"

First-world problems

British professionals revolt as austerity hits the middle class

Barristers, lecturers and doctors are among those feeling the pinch

Print edition | Britain Apr 26th 2018

Alamy

ON APRIL 9th Gemma Owen appeared in Swansea Crown Court accused of murdering a pensioner, John Williams, at his home in Pentrechwyth. A straightforward hearing—except that it had to be adjourned because the legal firm assigned to Ms Owen had been unable to find a barrister to defend her. It was one of the first cases to be affected by a criminal barristers' strike that started on April 1st.

It is not only the barristers. University and college lecturers only recently suspended their own strike action, accepting a joint committee of experts to arbitrate with the government in a dispute over cuts to their pensions. In 2016 junior doctors went on strike for the first time in 40 years, and their grievances simmer on.

They have all been protesting against cuts to their compensation or conditions, and the more general deterioration of the services they work in as the government reins in spending. After slicing through public services and handouts for the poorest, austerity is now biting hard at the professional middle classes.

Take the criminal barristers, of whom there are about 4,000 in England and Wales. They are striking against a change to the fee structure used when they take on cases in which the client qualifies for legal aid. The government wants to pay barristers according to the complexity of a case, rather than the volume of material that they have to read. The Ministry of Justice (MOJ) argues that the change is cost-neutral. But Angela Rafferty, head of the Criminal Bar Association, argues that barristers doing work-intensive cases will lose out.

More to the point, though, the barristers are protesting against deep cuts to the justice system since the government's austerity drive started in 2010. In 2016 the House of Commons Public Accounts Committee described a system "close to breaking-point". Central government spending on criminal justice fell by 26% between 2010 and 2016. The MOJ has suffered more than most Whitehall departments, losing 34% of its budget during the same period, according to the Institute for Fiscal Studies. It has to find a further £600m ($835m) in savings by 2020. "This is not a fiery uprising," says Ms Rafferty. "More an unprecedented feeling of we've had enough, of humiliation and shame in the system."

In the case of the lecturers, the axe has fallen on their generous pensions, part of what academics argue is an "unofficial covenant" to compensate for their relatively modest pay. In 2011 their final-salary pension scheme was closed to new entrants. Since then, members have been asked repeatedly to pay in more. The last straw was a proposal to move everyone over to a defined-contribution scheme. According to the lecturers' union, this could wipe £10,000 a year off the average academic's pension.

John Ralfe, a pensions expert, argues that lecturers cannot feel too aggrieved at the proposed closure of their defined-benefit scheme, as these "have closed almost entirely in the private sector." However, as with the barristers, the proposal comes on top of what lecturers see as a steady deterioration in their working conditions. There is particular anger at the "casualisation" of the profession, a trend common to other parts of the economy. Increasingly, academics find they can get only short-term contracts; lecturers have held protests against zero-hours contracts, to which workers in unskilled jobs have been subjected for years.

For now, the lecturers seem to have won. On April 13th university authorities agreed to talks, promising to maintain current levels of pension provision. The government also had to make a few concessions to the doctors to end their dispute. Tangling with the mobilised middle classes is a risky business.

This article appeared in the Britain section of the print edition under the headline "Austerity hits the middle class"

Sex change

England's single-sex schools are struggling to recruit pupils

Until the 1960s virtually all children went to single-sex schools. Today only 6% do

Print edition | Britain Apr 28th 2018

Charterhouse

IN 2021 Charterhouse's hushed cloisters and vast, immaculate lawns will welcome new arrivals. For the first time since the boarding school's foundation in 1611, girls will be among the "yearlings", the term for those joining at the age of 13. Alex Peterken, the school's head teacher, is excited by the change. He believes that co-education holds many advantages, one of which is that it helps militate against a "macho, alpha-male culture, based on hierarchy and order".

For centuries, that was a big part of what boys' boarding schools offered. And they were not alone in their approach. Until the 1960s all schools, with the exception of "one or two radical ventures", were single-sex, says Alan Smithers, an education expert at the University of Buckingham. There was a big move towards mixed schooling with the introduction of comprehensive (ie, non-selective) secondary education, which offered a chance to reorganise the school system along more egalitarian lines. In the aftermath, the number of single-sex schools continued to decline.

The trend shows no signs of stopping. In 2010 542,125 pupils in England attended a single-sex school. Now just 509,910, or 6%, of pupils do. And although the shift has been fastest in the private sector, where schools have little choice but to respond to market incentives, it is noticeable in the state sector, too. Altogether 889 single-sex schools remain, a narrow majority of them funded by the state.

The decline is not for want of support in education circles. Those in favour argue that single-sex schools allow pupils to flourish, free from the distracting influence of the opposite sex. Last year Amanda Spielman, the chief inspector of schools, wrote a defence of girls' schools. She argued that they helped women "take their full place in a world which is, to some degree, loaded against them." In 2016 an analysis of English schools by SchoolDash, a data firm, found that single-sex schools appeared to provide a small boost to the results of girls, but not to those of boys.

The trend away from single-sex education is mostly driven by boys' schools, which like the better exam results provided by female pupils, as well as the opportunity to double the size of their market. Girls' schools then have little choice but to follow suit.

Cultural change is perhaps the biggest reason for the shift away from segregation. Girls have long been seen, "sometimes erroneously", as a civilising influence on boys, says Susan Hamlyn of the Good Schools Guide education consultancy. This belief increasingly combines with a parental desire for an education that reflects the modern world. "I've had lots of conversations with fathers who go, ‘Hmmm, I had a great time [at my boys’ school]…but I would rather not think of the way I behaved towards women between the ages of 18 and 25’,” says Mr Peterken. Parents’ habit of unthinkingly sending their offspring to their old school has also largely come to an end, bringing more parental scrutiny of the education on offer.

The fact that schools are moving in a European direction (single-sex education is rare on the continent) is not entirely coincidental. According to the Independent Schools Council, which represents private schools, the number of non-British European pupils enrolled with its members has increased by 42% since 2014. Single-sex schools have struggled to take advantage of this growth, says Will Orr-Ewing, director of Keystone Tutors, a tutoring firm, since European parents, for the most part, “just do not understand single-sex education, do not believe in it, do not like it.” Chinese and Middle Eastern parents are said to be keener.

Growing internationalism is not the only demographic shift behind the co-educational trend. A generation or two ago it was rare for children to grow up in households in which both parents worked. Today 60% do. This was one factor in Charterhouse’s decision to go co-ed. “Lots of parents have boys and girls,” notes Mr Peterken, “and they’re really, really busy, often both with high-flying jobs.” Putting all their children in one place cuts down on faff, both in choosing a school and shuttling children around.

Single-sex schools are unlikely to die out. Many are adapting to new circumstances. In Bristol and Newcastle, small girls’ schools have merged to form more viable institutions. There remains a religious constituency for single-sex education, particularly among Muslims and Catholics. (Eleven single-sex “free schools”, which are funded by the state but run by organisations including charities and religious groups, have been founded, often to cater to this demand.) And those single-sex schools that remain tend to be well run, meaning they frequently play a central role in “chains” of schools run by non-profit organisations, says Sue Higgins of the Association of State Girls’ Schools.

But the remaining ones look increasingly odd in a school system that is overwhelmingly comprehensive and co-educational. As Mr Smithers notes, a widespread emphasis on equality means that it becomes harder and harder “to sustain the argument that children have to be separate to be equal.”

This article appeared in the Britain section of the print edition under the headline ”Sex change”

Computer says no

Online porn will soon require age checks in Britain

Expect a schoolyard black market in adult login-codes

Print edition | Britain Apr 24th 2018

AS IN most countries, only adults are allowed to buy pornography in British shops. In theory, the same is true online. In practice, of course, obtaining pornography on the internet is easy at any age. Prodded by children's charities, the government wants to tighten things up. The Digital Economy Act, which was passed in 2017, included a requirement that pornographic websites check their users' age before allowing them access. The rules were due to come into force this month. But in March, buried at the bottom of an unrelated press release, the government pushed the date back to the end of the year.

Quietly postponing a policy is often the first step towards abandoning it. But not, it seems, in this case. The government has appointed the British Board of Film Classification, the country's film censor, to enforce the new rules on age-verification. The BBFC is now consulting the public on how it should go about doing that job, with a view to presenting its ideas to Parliament in the summer.

The general idea is not new. Like many other countries, Britain already imposes age checks on gambling websites, which ask their users for details such as their names and addresses, which can be checked against public records like the electoral roll. But that could be a problem with porn. One of the advantages of internet pornography is that it avoids the embarrassment involved in buying a magazine in a shop. Customers may be reluctant to hand over identifying details that could leak—or be hacked—in future.

David Austin, the BBFC's boss, is at pains to point out that porn remains legal, and that the law is not intended to make life harder for the 56% of British adults who admitted in a survey in 2014 that they had watched online porn at least "occasionally". Rather than run age-checking schemes itself, the BBFC will oversee their development by other organisations. But, says Mr Austin, there are many ways that such checks might be done. Users could be required to give a credit-card number, or details of a mobile-phone contract, both of which can be obtained only by adults. Another idea, for the more privacy-conscious, is to allow people to buy, in physical shops, a numerical code that would provide access to the forbidden fruit online. Such numbers could be sold in the same way as alcohol and cigarettes, with identification requested only if the shopkeeper thinks a customer looks suspiciously young.

The BBFC will have the power to require internet service providers to block access to sites that flout the rules, as well as to levy fines and to require payment processors such as Visa and Mastercard to cut off the site's source of income.

The government says the law is designed to protect children who stumble across porn unintentionally. But for those depraved teenagers seeking out the stuff deliberately, things seem unlikely to get much harder. Attempts in Britain to block piracy websites have proved easy to circumvent, via virtual private networks (which hide what is passing through an internet connection) and proxy sites (which disguise a user's eventual destination). A schoolyard black market in login IDs seems inevitable. The law is designed to target commercial porn providers. But plenty of porn is available through search engines and social media, even though it is not their main business.

Ironically, the law could prove a boon for a Luxembourg-based firm called MindGeek, which is reckoned to be the world's biggest porn merchant. The firm is one of the biggest bandwidth-users, servicing more than 100m visitors a day across its various websites, among which is Pornhub, the most popular porn site. It has an age-verification product called AgeID, which is in use in Germany (which already requires age-verification for porn). Assuming it gets the nod from the BBFC, MindGeek is ready to deploy the system for British users.

Other porn sites would be able to use AgeID to comply with the new laws, for a fee. Many pornographers resent the prospect of paying an already-dominant firm. But MindGeek's market power could make AgeID the most-used piece of age-verification software across the web—and not just in porn. In response to new privacy rules, WhatsApp, a messaging service owned by Facebook, is raising the minimum age for European users to 16. Video-streaming sites, from YouTube to the BBC, offer violent, sweary content which, like porn, is supposed to be off-limits to children. It is an interesting question, says Mr Austin, whether age-verification rules might one day apply to them, too.

This article appeared in the Britain section of the print edition under the headline "Computer says: no porn"

Bagehot

Amber Rudd finds herself in a hostile environment

The home secretary is damaged by the Windrush scandal—but not fatally

Print edition | Britain Apr 28th 2018

LAST November the Centre for Policy Studies (CPS) held a drinks party to fete the younger generation of Tory MPs. The message was simple: far from being the zombified and lobotomised monstrosity that it appeared, the Conservative Party was, in fact, busily renewing itself, thanks to a new generation of MPs drawn from a wide range of backgrounds and fizzing with ideas. The star of the show was the home secretary, Amber Rudd.

The choice of Ms Rudd was significant for both chronological and ideological reasons. Chronologically, she represented a link between the establishment and the new generation. Ideologically, she represented a unifying force in a divided party. Here was Margaret Thatcher's favourite think-tank championing the leader of the Remain faction in the cabinet. Lord Saatchi, the CPS's chairman, introduced Ms Rudd by reading a list of five home secretaries who had gone on to become prime minister.

Today Ms Rudd is fighting for her political life, thanks to the abysmal treatment of the "Windrush generation", Caribbean migrants who came to Britain in 1948-71, who have recently been harassed in innumerable ways (including being threatened with deportation) because they can't produce paperwork to prove they are British citizens. Labour has called for Ms Rudd to resign. She faced blistering questioning from a parliamentary committee on April 25th about the Windrush affair, and what it says about Britain's treatment of immigrants.

Windrush is only the latest—if by far the most serious—in a succession of setbacks for the home secretary. Britain has seen a surge in knife crime and acid attacks. In February and March London's murder rate briefly exceeded New York City's. The Conservative right has added its voice to Ms Rudd's Labour critics. Fraser Nelson, the editor of the pro-Brexit *Spectator*, has criticised liberal Tories such as Ms Rudd for misinterpreting Brexit as a vote for closing the borders rather than embracing a more global future. Peter Oborne, a *Daily Mail* columnist, has accused her of being overpromoted—she became home secretary after only six years in Parliament—and unpatriotic to boot.

How badly damaged is she? Probably not fatally, unless there is another scandal festering in the Home Office's basement. Ms Rudd has tarnished her reputation with her handling of the Windrush disaster. She blamed her underlings at the Home Office, which was hardly statesmanlike. Her statement to the House of Commons that she found the cases "heartbreaking" provoked a stinging response from Amelia Gentleman, the *Guardian* journalist who broke the story: why, then, had the home secretary delivered nothing but pro forma answers when the paper contacted her about those very cases almost every week for the past six months? In 2016 Ms Rudd also horrified her friends on the Conservative Party's left by demanding that employers publish lists of their foreign-born employees. But for all that, her primary sin is administering—or perhaps mis-administering—a policy that she inherited from her predecessor.

The principal architect of the Windrush mess, in so far as there is an architect, is Ms Rudd's boss, Theresa May. Mrs May not only developed the "hostile environment" policy that was meant to discourage illegal immigrants from staying in the country. She also pursued David Cameron's target of reducing immigration to the tens of thousands, with a determination worthy of Inspector Javert in Victor Hugo's "Les Misérables". She insists that students should be included in the numbers, despite the opposition of almost everyone else in the cabinet, including Ms Rudd.

Even more than the Maybot's rigidity, the policy was driven by Britain's deep ambivalence about both immigration and identity documents. Under New Labour Britain pursued one of the most liberal immigration policies in the world, opening its doors to eastern Europeans after 2004. It then slammed the doors shut. Britain is one of only a handful of EU countries that do not require people to have ID cards. But at the same time it is increasingly demanding that people who receive the benefits of the welfare state should be able to prove they are in the country legally. Windrush is the product not of racism, but of the collision between the demands of the bureaucratic state and Britain's commitment to ancestral rights.

Ms Rudd is fortunate in that her strengths outweigh her weaknesses, making her unusual in the current cabinet. She is a natural member of Britain's officer class, devoid of clever ideas but just the sort of person you need to keep the show on the road. She also has flashes of star power. During the referendum debate she skewered Boris Johnson by describing him as "not the man you want driving you home at the end of the evening". And her pro-European views make her hard to sack. Removing her would upset the most important balance in politics.

Trial by fire

This is not to say that Ms Rudd will be able to relax any time soon. The Windrush scandal continues to metastasise, recently ensnaring citizens from other Commonwealth countries, including Canada. It also raises thorny questions of both competence and culture. Why should EU citizens think that they will be spared the Home Office's bureaucratic ineptitude after Brexit? And why should members of ethnic minorities trust the Tories again? The Tories are rapidly losing their claim to be the party of law and order, as Labour blames them for cutting police numbers by some 20,000 since 2010. Ms Rudd is fighting to shore up a minuscule majority in her Hastings and Rye constituency, making her acutely sensitive to public opinion. All of this will test her like never before. But that is surely no bad thing in somebody who aspires to the top job. Ms Rudd's former husband, A.A. Gill, used to refer to her as "the Silver Spoon" because of her privileged background. Britain will soon discover whether the Silver Spoon is in fact made of steel.

This article appeared in the Britain section of the print edition under the headline "A hostile environment"

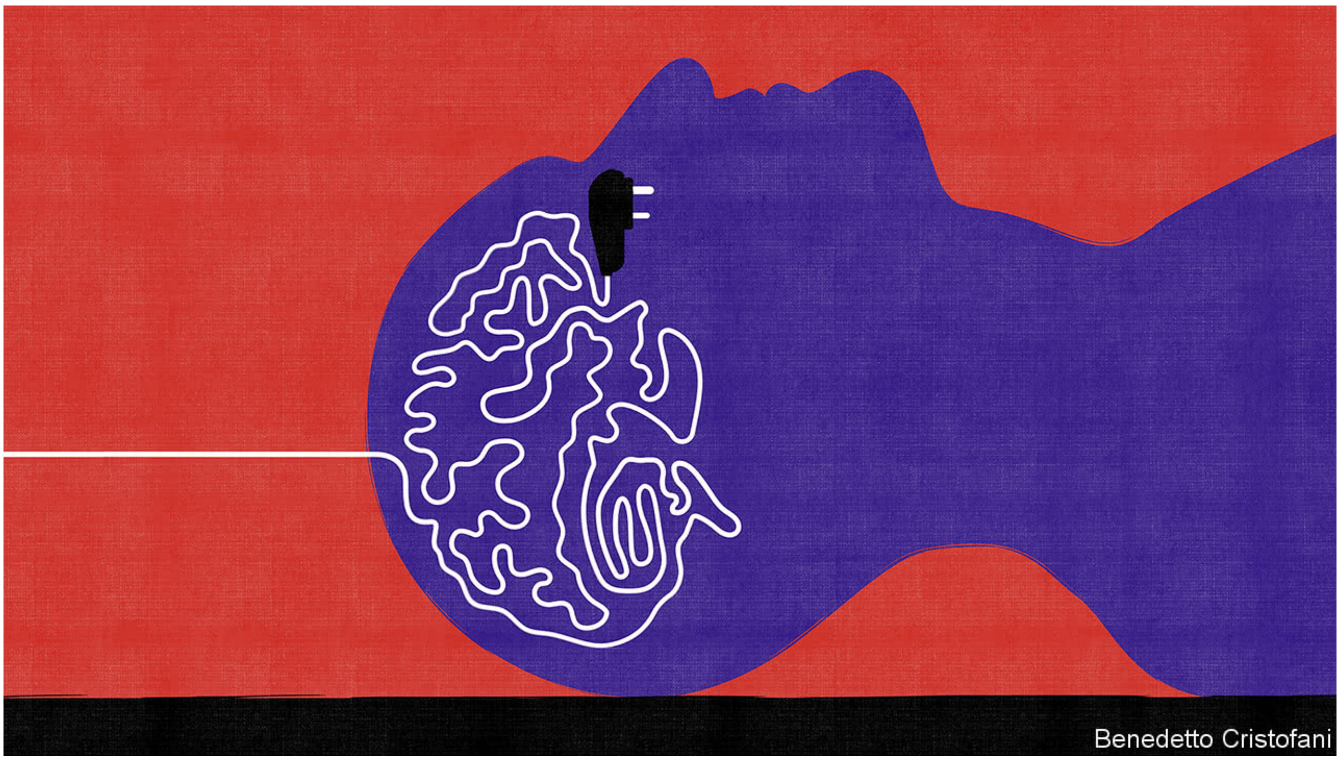
The meaning of mortality
No end in sight

The meaning of mortality

When death is not the end

There is growing opposition to the way many countries define dying

Print edition | International Apr 26th 2018



SHALOM OUANOUNOU was declared dead in September. The 25-year-old Canadian had suffered an asthma attack so severe that he was taken to hospital in Ontario where he was put on a ventilator. After carrying out tests, doctors found that his brain lacked functions such as consciousness and respiratory reflexes. They issued a death certificate and prepared to disconnect the medical equipment.

But Mr Ouanounou's family said that he and they, as Orthodox Jews, believe that life ends only when breath and heartbeat cease. They won a court injunction to keep him on artificial ventilation; his heart stopped of its own accord in March, five months later. "It just doesn't make any sense to us to say he wasn't alive throughout that period," says Max Ouanounou, his father.

Mr Ouanounou would have been declared dead in the same way in almost all rich countries. They tend to treat irreversible loss of all of the brain's function as constituting death. American states typically demand evidence that the whole brain has stopped working, for example a lack of intracranial blood flow, but there is no national protocol. Britain requires only the death of the brainstem, which runs between the spinal cord and the rest of the brain, and regulates reflexes and functions such as breathing. (Advocates for using brainstem death say it is a proxy for whole-brain death, though others disagree.)

In practice, the question of when someone is dead rarely arises. The heart and lungs usually shut down around the same time as the brain. The lack of pulse and breath is generally considered a biological marker for brain death, not an alternative to it. But determining when death occurs might matter for all sorts of reasons: when is someone widowed? When should a company pay out life insurance? Even, when should a new president be sworn in? As Lainie Ross, a doctor and bioethicist at the University of Chicago, says: "We can't have someone being considered dead by some people and alive by others."

Cases such as Mr Ouanounou's are challenging the consensus about what it means to be dead. A court in Ontario will decide whether to revoke his original death certificate and issue another showing him as having passed away this year. "Death is a value judgment based on cultural, philosophical, religious, social and other considerations," says Rihito Kimura, a Japanese lawyer and bioethicist. That makes it subject to change.

What it means to be dead was long considered simple; a lack of pulse and breath was the standard sign. But that changed in the 1950s and 1960s with advances in modern medicine. Machines could, for the first time, keep pumping blood through a person's arteries and veins, and aerating their lungs, long after they lost the ability to do so themselves. That lengthened the dying process: no longer must all organs shut down around the same time.

In 1968 a committee at Harvard Medical School recommended that brain death be the standard definition, and came up with criteria for assessing it. In 1981 America drew on this report in the Uniform Determination of Death Act, which suggests states use brain death as the definition, and that it can be determined either by the end of the heartbeat and breath, or by permanent damage to the whole brain. Most Western countries followed suit.

Mind over matter

There are three reasons why policymakers and most doctors have focused on the brain. One is that Western philosophy sees a distinction between mind and body. And while in other cultures the heart is often viewed as the central organ, Western societies emphasise the importance of the mind, for which the brain is used as a proxy. Bioethicists argue that using brain death as the standard definition values what is unique about humans.

The second consideration is the cost of keeping a person on life support. Stretched health services do not want to spend money on what some consider to be "aerating corpses". The hospital treating Mr Ouanounou reckoned it had, at the time of the injunction, spent C$500,000 ($400,000) on his treatment.

The final reason is to facilitate organ transplants. In Britain 1,332 people died in 2016 due to a lack of an organ donor; in America the figure is more than 7,000 (the two countries measure the tally in different ways). More organs can be used from a donor who is dead according to brain criteria than after cardio-respiratory failure.

In some countries it is openly recognised that a shortage of organs is a consideration in the use of brain death. This stokes fears that people will be determined brain-dead so that their kidneys, liver or heart can be used in a transplant operation. It also helps explain why Japan continues to rely on cardio-respiratory death, says Mr Kimura. In a famous case in 1968 a doctor in Sapporo, on the northernmost island of Hokkaido, carried out one of the world's first heart transplants. It was applauded until some questioned whether the donor had been pronounced brain-dead prematurely.

Facing a severe shortage of organs, Japan in 1997 tried to find a middle ground by enacting a law allowing those who clearly express their wish to be a donor to be declared dead when their brains shut down. India's organ-transplant law of 1994 specifies that death can be determined by a dead brainstem. But that has caused confusion about how to define the death of non-donors, notes Sunil Shroff of the Mohan Foundation, an NGO that promotes organ donation. Other laws dealing with death refer to it as the end of all evidence of life. It is not clear whether that means the brainstem or something broader.

A problem with using whole-brain death as the definition is that it is increasingly apparent that many people declared dead on this basis do not show the permanent cessation of functioning of every aspect of the brain, says Dr Ross. The hypothalamus may continue to secrete hormones, for example. That is one of the arguments being made in the case of Jahi McMath, a bubbly American teenager until a simple operation went wrong. Her family dispute the hospital's assessment, made in 2013, that she is brain-dead, pointing to the fact she is menstruating, which is neurologically regulated.

Other critics of the status quo support the principle of using the brain-death standard, but worry about how it is applied. They point out that it can leave doctors a lot of room for interpretation. Defenders of the use of brain-death criteria retort that such problems can usually be resolved. Countries can clearly define death in law, in line with medicine's ability to diagnose it, so there is less room for abuse or doctors' personal judgments.

But the fundamental challenges to the definition are about whether the brain should be the key component of death. Often this is down to religious belief. Unlike in the past, when Jews were declared dead by a rabbi who would use a feather or mirror to detect when the final breath had left the body, today most Jews accept brain death. But Orthodox sects consider this wrong. Some Muslims hold similar beliefs. Another current case in Canada turns in part on the Christian beliefs of Taquisha McKitty, who was declared dead last year after a drug overdose. Her family say that she believes that the soul is present so long as the heart works and she is breathing, even if only due to medical equipment.

Hugh Scher, the lawyer for the families of both Mr Ouanounou and Ms McKitty, argues that Canada's legal definition of death violates its constitutional guarantee of freedom of religion. (His opponents say that only living people have that right.) The idea has found some support. The American state of New Jersey bans a doctor from declaring someone dead from irreversible brain damage if the medic has reason to believe it would contravene the patient's religious convictions. In 2008 Israel introduced a brain-death standard but still allows some choice for patients between that definition and using a cardio-respiratory one.

Last wishes

Many developing countries continue to use cardio-respiratory definitions. African traditional faiths often make people want to prolong life at all costs, observes Rabi Ilemona Ekore, a doctor at the University of Ibadan in Nigeria. Many Africans believe they will become an ancestor in the spirit world only if their life is not cut short.

Objections to brain death are not just religious, though. Some places prefer cardio-respiratory death because they lack the medical equipment to keep a brain-dead person breathing, notes Daphne Ngunjiri, a Kenyan doctor.

Japan is reluctant to see the brain-dead as gone partly owing to a different notion of what makes someone human. The whole body is given prominence in Japan, rather than the mind, as in the West. “If we explain to families the notion of death in Western countries, they struggle to accept it,” says Misa Ganse of the Japan Organ Transplant Network.

Opinion polls tend to show that people do not understand brain death, but when they do, the results suggest that even in Japan a majority supports the idea of using it as the standard. But Claire White-Kravette, a psychologist at California State University, Northridge, in Los Angeles, says that even if people accept it in the abstract or at an intellectual level, when it involves an actual person, they feel differently.

It is hard for people to accept that someone is dead when faced with a relative who is warm and rosy-cheeked. Mr Ouanounou, for example, says his son looked “like he was sleeping”. Ms White-Kravette also reckons that most surveys ask about the mind and body only, thereby failing to allow for a third component, call it life-force or a person’s essence, which many people, whatever the country, believe exists, and do not necessarily associate with the brain. Such objections are not catered for, bar in New York state, which directs doctors to show “reasonable accommodation” for not only religious but also moral protests against the brain-death standard.

The challenges to the status quo have a unifying theme: the lack of say over something as fundamental as one’s own demise. Blanket definitions of any sort go against what Rob Jonquière of the World Federation of Right to Die Societies, a network spanning 26 countries, says is a global trend towards more respect for people’s right to determine their own end. Few dispute that, for society to function, death must be clearly defined. But there are growing calls for countries to allow people to opt out of their national definition—within limits—by making their wishes known.

Dr Ross and Robert Veatch, a professor at Georgetown University, argue that those options should include not only cardio-respiratory death, but a more liberal definition of brain death based on the irreversible loss of consciousness. Assuming it is medically possible to determine this, they contend that it is what makes us human and what current brain-death definitions attempt, clumsily, to measure.

Allowing people some discretion in death would have practical implications. But none seems insurmountable. Insurance premiums could, for example, take account of medical charges to cover the costs of equipment and drugs for someone who favours cardio-respiratory death. The limited examples in Japan, Israel and parts of America have thrown up few problems. Societies find ways to deal with similarly tricky matters. Even when less is at stake.

This article appeared in the International section of the print edition under the headline ”No end in sight”

An affordable necessity

Both in rich and poor countries, universal health care brings huge benefits

The argument for universal health care is clear. But getting there is difficult, says John McDermott

Print edition | Special report Apr 26th 2018

IN MAY 2014 DOZENS of mourners attended the funeral of a healer in the Kailahun District of eastern Sierra Leone. She had died after tending to people struck by fever, vomiting and bloody diarrhoea. As women ritually washed her corpse, 14 of them contracted the virus that had killed her and many who had sought her remedies. After the Ebola virus had swept through west Africa in the worst epidemic of the 21st century so far, as many as 365 deaths were traced to that single burial. In all, the outbreak killed 11,310 people.

When Bailor Barrie, a Sierra Leonean doctor, heard about the first cases of Ebola in his country, he knew it would spread quickly and widely. "Sierra Leone is a health desert," he says. "No surveillance; no public health; no health system." Life expectancy was already just 50 years, and an eighth of children died before their fifth birthday. Most clinics offered no prospect of affordable, accurate diagnosis and effective treatment, so few people trusted them when they became ill. Before the outbreak the country had just one doctor for every 50,000 people. (America has one for about every 400; China one for 275.) Then 7% of Sierra Leone's health workers died from Ebola during the epidemic.

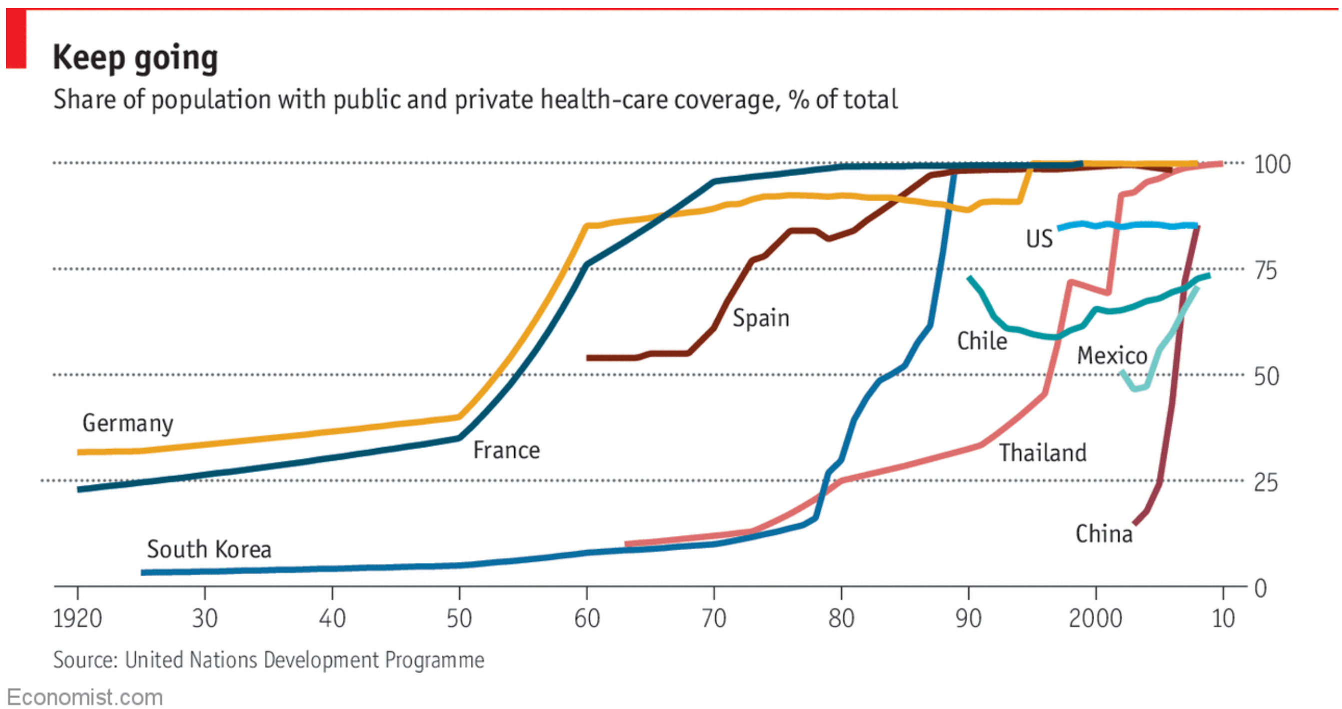
That epidemic was an avoidable tragedy. A slow international response, especially by the World Health Organisation (WHO, the UN's Geneva-based public-health body), and inadequate domestic health systems proved a lethal mix. Probably more people died as an indirect result of the outbreak than from the virus itself. The number of children treated for malaria in Sierra Leone in September 2014 was 39% down on four months earlier because health workers were overwhelmed.

Writing in April 2015, Bill Gates, whose family foundation spends more on health aid than most rich countries do, expressed the hope that Ebola would serve as a wake-up call for public health. Since then the World Bank has launched a facility that will help meet the cost of responding to a future pandemic. Tedros Adhanom Ghebreyesus, the Ethiopian who took over as boss of the WHO in July, receives daily briefings on disease outbreaks. That did not happen under his immediate predecessor, Dr Margaret Chan, who occupied the post for ten years.

But Ebola has also encouraged a broader rethink of the approach to global health, shifting the emphasis from trying to eradicate single diseases to building health systems that are resilient to diverse threats and less reliant on aid. One of its aims is to reduce the number of people pushed into poverty by having to pay for health care. Central to this effort is the embrace of universal health care, the idea that everyone should be able to get the care they need without facing financial ruin. All countries have committed themselves to getting there by 2030 as part of the UN's "sustainable development goals", a voluminous set of targets agreed on in 2015. That commitment marks a new chapter in global health. Even though recent years have seen remarkable improvements—child deaths, for example, fell from 10m in 2000 to 6m in 2015—much remains to be done.

A report published in December by the World Bank and the WHO found that at least half the world's population does not have access to what it called "essential" health services, such as antenatal care, basic treatment for malaria, HIV and tuberculosis, and checks for high blood pressure. Another study, in 2015, for the *Lancet*, a medical journal, estimated that 5bn people around the world cannot get basic surgery such as a caesarean section, a laparotomy (an incision into the abdominal wall) or a repair for a fractured bone.

According to the paper from the World Bank and the WHO, 800m people spend more than 10% of their household budget on health care, and nearly 100m are pushed into extreme poverty (defined as having less than $1.90 a day to live on) every year by out-of-pocket health expenses. This chimes with smaller-scale studies. A survey last year of patients at a government hospital in Uganda discovered that 53% of their households had to borrow money to pay for treatment and 21% sold possessions. About 17% lost their job.

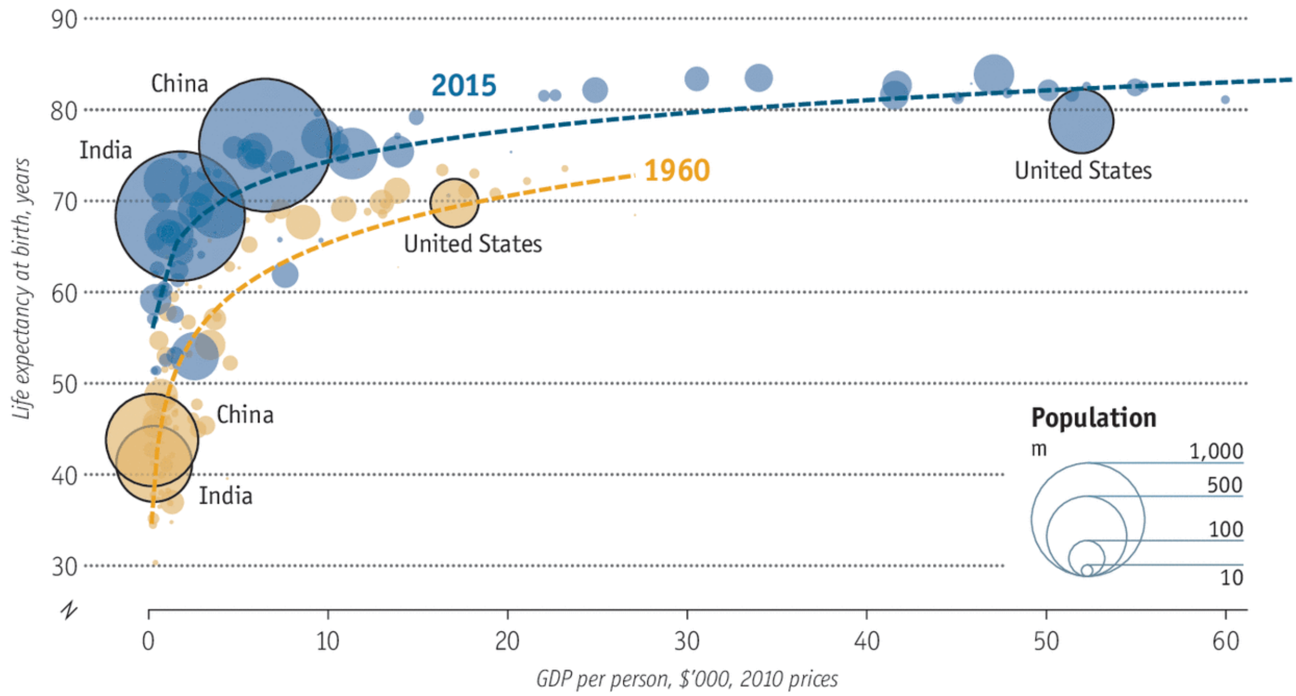


It used to be common even for people in rich countries to have to choose between financial or physical health. When Britain's National Health Service, the world's first universal-health-care system free at the point of use, was set up in 1948, households received leaflets telling them that the service would "relieve your money worries in time of illness". Since then many more countries have followed suit with comprehensive health-insurance schemes (see chart).

As countries get richer, they spend more on health. This is known as "the first law of health economics". As a share of GDP, the developed world spends roughly twice as much on health as developing countries do. But this does not mean that once the world gets richer, universal health care will necessarily follow. Nor are rising incomes the only cause of improving health. Wealth and health are intertwined, but only up to a point.

Rich rewards

Life expectancy and wealth



Sources: World Bank; United Nations

Economist.com

In "The Great Escape", a book on the historical relationship between health and growth, Angus Deaton, a Nobel laureate in economics, explains that a country's GDP per person is linked to its life expectancy (see chart). On average, as countries' GDP per person rises, their people live longer. Higher incomes mean they have more money to buy food and medicines, and governments are better able to afford public-health measures such as sanitation. But life expectancy over time has increased even more than implied by rising incomes. For Mr Deaton this is evidence that income is not the only factor; the application of knowledge also matters. "There are ways of ensuring good health at low incomes, and ways of spending large sums of money to no purpose," he says. America is a case in point.

You don't have to be rich

This special report will argue that universal health care is both desirable and possible, even in low-income countries. Some countries achieved near-universal coverage when they were still relatively poor. Japan reached 80% when its GDP per person was about $5,500 a year. More recently, several developing countries have shown that low income and comprehensive health care are not mutually exclusive. Thailand, for example, has a universal health-insurance programme and a life expectancy close to that in the OECD club of mostly rich countries. In both Chile and Costa Rica income per person is roughly 25% of that in the United States and health spending per person just 12%, but life expectancy in all three countries is about the same. Rwanda's GDP per person is only $750, but its health scheme covers more than 90% of its population and infant mortality has halved in a decade. "Ebola would not have happened there," says Dr Barrie.

This may start off a virtuous cycle. It is becoming increasingly clear that better health can lead to higher incomes, as well as the other way around. Economists at the World Bank used to call spending on health a "social overhead", but now they believe that it speeds up growth, says Timothy Evans, one of its senior directors. A study in 2011 carried out by the University of St Gallen looked at 12 European countries between 1820 and 2010 and found a close link between the expansion of health care, a fall in mortality rates and growth in GDP per person. Another study found that in Britain as much as 30% of the growth in GDP between 1780 and 1979 may have been due to better health and nutrition. A paper by two leading economists, Dean Jamison and Lawrence Summers, found that 11% of the income gains in developing countries between 1970 and 2000 were attributable to lower adult-mortality rates.

Smaller-scale studies support these historical analyses. Improving health, for example through malaria-eradication efforts, is associated with children receiving more schooling and going on to earn more money in adulthood. And lower out-of-pocket health costs reduce inefficiencies in purchasing health care and can encourage consumer spending. Clearing land of disease-carrying parasites can open it up to farming, mining and other forms of development.

Pioneering countries and new research have added to the argument in favour of universal health care. So, too, has the growing realisation among the biggest institutions in global health that eliminating specific diseases is hard in places where basic health systems are dysfunctional. Indeed, single-disease programmes can make the problem worse by setting up parallel structures or diverting health workers. Mr Gates has recently called for more investment in primary health care, a core part of achieving full coverage, to improve the outcomes of his foundation's schemes.

Making a commitment to universal health care is the easy bit. The hard part, for both governments and international organisations, is to find ways to make the best use of limited resources and then get on with reform. That task is made even tougher by shifts in the burden of disease.

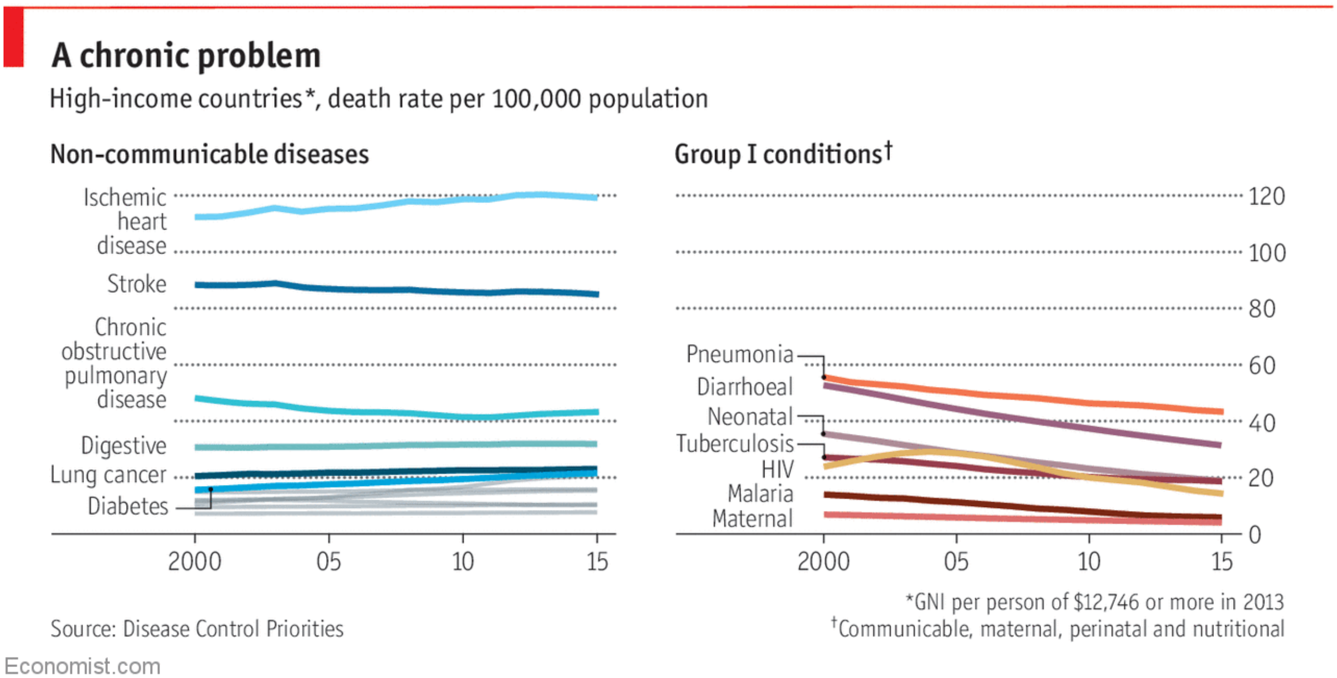
This article appeared in the Special report section of the print edition under the headline "An affordable necessity"

A shifting burden

The epidemiological transition is now spreading to the emerging world

Even in poorer countries, chronic diseases are rapidly becoming a bigger problem than infectious ones

Print edition | Special report Apr 26th 2018



A CHILD BORN in China today can expect to live more than three decades longer than his ancestors 50 years ago, a gain in life expectancy that rich countries typically took twice as long to achieve. The increase reflects a shift in the burden of disease that is increasingly apparent in other developing countries, too. But the speed of the transition brings with it huge challenges for both domestic policymakers and the international organisations that distribute aid and run health programmes.

Crudely put, what is known as "the epidemiological transition" is a shift from diseases of the bellies and lungs of babies to those of the arteries of adults. In 1990 the main causes of premature loss of life in 16 of China's 33 provinces were either respiratory infections or complications of pre-term births. By 2013 the leading cause in 27 provinces was cerebrovascular disease.

This change is documented by the Global Burden of Disease Study, produced by the Institute for Health Metrics and Evaluation (IHME) based at the University of Washington in Seattle. As well as crunching the numbers for death rates and life expectancy at birth, the IHME tracks "disability-adjusted life years" (DALYs), an estimate of the time lost to disability and early death. By measuring DALYs, it can work out the number of years people can expect to live free from disability.

The Global Burden of Disease Study is imperfect. For every death for which data are available, it has to make assumptions about many more. Its alphabet soup of measures can be unappetising. But it offers the best picture available of the world's health. Between 1990 and 2016, the global average for healthy life expectancy at birth increased from 55 to 61 years for men and from 58 to 65 years for women. The rise was due mainly to lower rates of infectious diseases such as HIV/AIDS, malaria and tuberculosis, as well as fewer neonatal deaths. Between 2006 and 2016, years of life affected by disease or early death fell by 44% for HIV/AIDS, 27% for malaria and 23% for tuberculosis. For neonatal disorders the drop was 23%. Separate data from the WHO show that death rates from these causes fell sharply between 2005 and 2015. HIV/AIDS still kills more than 1m people every year, but since 2014 it has not appeared in the global list of the ten most common causes of death.

Meanwhile the burden of chronic conditions has been rising. The number of DALYs due to diabetes and kidney disease has gone up by 24% and 20% respectively since 1990. In a survey last year the World Bank and the WHO found that more than 1bn people globally have uncontrolled hypertension, a risk factor for many non-communicable diseases. Even though health spending per person in China increased by 12% a year between 1993 and 2012, studies suggest that over half of Chinese with hypertension may be unaware of their condition. Globally, mental illness has become more common, too. In 2016 major depressive disorders were among the top ten causes of ill health in all but four countries worldwide.

Another way of looking at the shift is to examine the main causes of DALYs in countries of different income levels. In the poorest fifth of countries the four most common causes are lower respiratory infections (such as pneumonia), malaria, diarrhoea and HIV/AIDS. In middle-income countries they are heart disease, conditions to do with blood supply to the brain, road accidents and lower back and neck pain.

So developing countries will have to deal with two problems simultaneously. The first is that the absolute numbers of people with infectious diseases remains high. Nigeria has more than a quarter of the entire world's malaria cases, for example. The second is that people are living longer, but not necessarily in a healthy state, as already evident in the rich world (see chart).

DALY bread

Shifts in the burden of disease also present dilemmas for international organisations. Though most spending on health in poor countries comes from government budgets and out of consumers' pockets, an average of just over a third in 2016 was paid for by aid. Health aid in that year added up to $37.6bn, according to the IHME. A little over half of that came from three sources: the American government (34.0% of the total), the British government (10.9%) and the Gates Foundation (7.8%). The vast majority of this aid goes on child and maternal health and on infectious diseases, especially HIV, which makes up fully 25% of the total. Non-communicable diseases account for just 1.7%.

Those diseases also get minimal attention from the biggest institutions in global health. The World Bank and the WHO, both set up in the 1940s, have a sprawling array of interests. Two newer organisations, the GAVI Alliance, which funds vaccines, and the Global Fund to Fight AIDS, Tuberculosis and Malaria, are chiefly concerned with infectious diseases.

"Improving global health is no longer primarily about combating infectious diseases," says Lawrence Summers, who as the World Bank's chief economist in the 1990s did much to advance its work on health. That view may strike many health experts as premature when malaria, tuberculosis and HIV are still killing millions every year, but the epidemiological shift will ensure that ever more resources will be consumed by chronic conditions. Policymakers will have to think carefully about which health services to prioritise, and how best to supply them.

This article appeared in the Special report section of the print edition under the headline "A shifting burden"

First things first

The importance of primary care

Good primary care is an essential precondition for a decent health-care system

Print edition | Special report Apr 26th 2018

IT IS MONDAY morning at Connaught hospital in Freetown, the capital of Sierra Leone, and the accident and emergency department is abuzz. One of only four specialist hospitals in the country, it should provide the sophisticated care not available elsewhere. Instead, like many urban hospitals in poor countries, it is full of people with simple problems that should have been dealt with through primary care (the generalist branch of medicine), or patients with complex conditions that should have been treated earlier.

For many patients Connaught is a last resort. If they find themselves ill, their first response is to hope that their symptoms will pass; their second is to self-medicate. This may involve a visit to a drugseller, perhaps buying a "shotgun bag" containing a few days-worth of antimalarial medicine, antibiotics and painkillers. If that does not work, they go to Connaught. A board in the entrance of the A&E ward lists prices, from 10,000 leones ($1.30) for catheterisation to 30,000 ($3.90) for a transfer to a bed. Once admitted, patients have to pay extra for food and supplies. About half of the nurses are not on the payroll but come in the hope of picking up work. Consultation can easily turn into negotiation. That can harm patients. And if clinicians do not treat what they have diagnosed, they will be slower to learn.

If you fall ill in Sierra Leone, Connaught is one of the better options. But both its staff and its patients are victims of the sort of dysfunctional health system common in poor countries. In November the IHME and the University of Washington published the latest volume of its Disease Control Priorities report (known as DCP3), one of the most influential documents in global public health. It tries to set out which treatments and policies poor countries should prioritise, based on the most cost-effective ways to improve healthy life expectancy and prevent financial catastrophe. "Unfortunately," notes the report, "most countries lack health systems that meet this standard."

In many developing countries people get their health care mostly from informal private providers such as drug shops or unqualified practitioners. In India, informal providers account for three-quarters of all visits. The figures in other countries are similar, if mostly less extreme: 65-77% in Bangladesh, 36-49% in Nigeria and 33% in Kenya. Often these markets exist side by side with public-sector providers who rely on patients paying for drugs and tests, as in China, despite a spate of recent regulations.

It is easy enough to measure how long patients have to wait or whether drugs are available. In rural India, for example, 66% of the population does not have access to preventive medicines, and 33% must travel more than 30km to get treatment.

But answering the most important question—whether a problem is diagnosed and treated correctly—has proved harder. That is why recent research by Jishnu Das of the World Bank and colleagues is so welcome. Inspired by "mystery shoppers" who visit supermarkets, they send "standardised patients" to clinics across the world. These patients present with symptoms that are specific to particular diseases. After the consultation they are quizzed on whether the health workers adhered to clinical guidelines.

The findings show widespread woefulness. In one Chinese study the average consultation time was a minute and a half. In India the average length was double that, but one-third of the visits lasted just one minute and featured a single question: "What is wrong with you?" Only 30% of consultations in India and 26% in China resulted in correct diagnoses, and patients were more likely to receive unnecessary or harmful treatment than the correct sort. Studies in Paraguay, Senegal and Tanzania have produced similar results.

Before 1995 just 25% of Costa Ricans had access to primary health care; by 2006 the share was 93%

The consequences of such ineptitude are severe. In India about half a million children die of diarrhoeal diseases every year. In a study in Delhi only 25% of providers asked parents whether there was blood or mucus in the child's stool, a clear symptom of such disease. Health workers who had undergone more training provided more accurate diagnoses, but that alone is not enough. Curiously, Mr Das and his team also found that, even when clinicians know what treatment should be given, they often do not provide it. In one study 74% of Indian clinicians were able to tell researchers how to deal with patients suffering from angina, asthma or diarrhoea, but when visited by mystery "patients" presenting with exactly these symptoms, just 31% treated them correctly. One explanation for the "know-do gap" is that patients generally know far less about the best course of action than clinicians, who can get away with under- or over-treatment when they are not held accountable for their work.

Other developing countries provide much better care at low cost. An exemplar is Costa Rica, whose model shows the benefit of high-quality primary health care. This is often ignored as countries splurge on big hospitals. "Primary care is not heroic," explains Asaf Bitton of Ariadne Labs, "but it works well." Between 1995 and 2002 Costa Rica established more than 800 "Equipos Básicos de Atención Integral de Salud", or integrated primary-health-care teams, each looking after 4,000-5,000 people. The teams are made up of a technical assistant, who visits patients at home; a clerk who keeps up-to-date records; a nurse; a doctor; and a pharmacist. The doctors have a lot of scope to run the teams the way they think best, but the health ministry holds them accountable for their patients' outcomes.

Before the programme was in place, just 25% of Costa Ricans had access to primary health care; by 2006 the share had risen to 93%. It was introduced in stages, which enabled researchers to assess its impact. A study in 2004 found that for every five years it was in place, child mortality declined by 13% and adult mortality by 4%, compared with areas not yet covered. Another study estimated that 75% of the gains in health outcomes resulted from the reforms.

Supply-side reforms to health care in other countries have also brought dramatic improvements. Thailand in the 1980s froze capital investment in urban hospitals and reallocated the funding to primary-care centres, which cut mortality rates. Ethiopia since 2004 has trained more than 38,000 "health extension workers", rural high-school graduates who undergo a year's training before being sent back to their local area. They have helped cut child and maternal mortality by 32% and 38% respectively. In Rwanda each village has to have three community health workers, elected by their peers, who offer basic services and make referrals. "People who have a minimum education can do a lot," says Agnes Binagwaho, a former health minister.

One lesson from countries like Rwanda is that closing the gap between knowledge and action requires reforms far beyond the consultation room. Training helps, but so do incentives and accountability. When Rwandan health workers were paid to adhere to clinical guidelines, their performance improved. And when rural Ugandans were given more information about the quality of local health services, clinicians did a better job.

But care needs to be taken to set the right incentives. Doctors who are rewarded for prescribing medicines will overdo it. One study from 2013 found that more than half of all outpatient prescriptions in China contained antibiotics (the WHO suggests the share should be less than 30%). China has also rapidly expanded hospitals over the past 20 years; today it has more hospital beds per person than Britain or America. Yet between 2002 and 2013 the number of primary-care providers actually fell.

Have you taken your medicine?

Aid organisations can make matters worse. If you drive from Freetown to Kono in the east of Sierra Leone, you will pass a graveyard of failed projects. Signs mark clinics built but never staffed. But in Kono, with the help of Partners in Health, an American charity, Dr Barrie is trying to buck the trend. This region of 500,000 people has just two doctors who are paid by the government. That makes the job of Mabel Konoma, a community health worker, even more vital. Every morning she visits patients with tuberculosis or HIV. As she goes from house to house, she asks people whether they have taken their medicines. One woman with HIV says she has struggled since villagers started shunning her rice stall because of the stigma attached to the disease. No custom means no money, no food and no medicine. Mabel takes a note and arranges for the woman to receive food.

When patients need further care they are referred to the Wellbody clinic, a primary health centre. Unlike most in Sierra Leone, it does all of the basics well. On arrival, patients are screened for signs of Ebola as a precaution, and triaged. They receive an electronic record number so their cases can be tracked. This is useful in Sierra Leone where many first-born children are given the same name: Sahr for boys and Sia for girls. Because of the shortage of doctors, Wellbody has trained "associates", somewhere between a nurse and a doctor.

It also has an obstetrics wing, where pregnant women with potential complications wait to give birth. Sierra Leone has one of the world's highest rates of maternal mortality, partly because most women would rather give birth at home with the help of traditional birth attendants than go to a clinic far from home that may lack trained midwives or perhaps even electricity. Wellbody is properly equipped, and to encourage women to give birth there it allows the birth attendants to come, too.

DCP3, the value-for-money report, says that for maximum cost-effectiveness, poor countries would spend about 50% of any increase in funding on primary care and 18% on community care. Yet although these are the building blocks of strong health systems, by themselves they are not enough. Hospitals will always be needed to provide emergency and specialist care. This is particularly true in a field that campaigners for universal health care rarely mention: surgery.

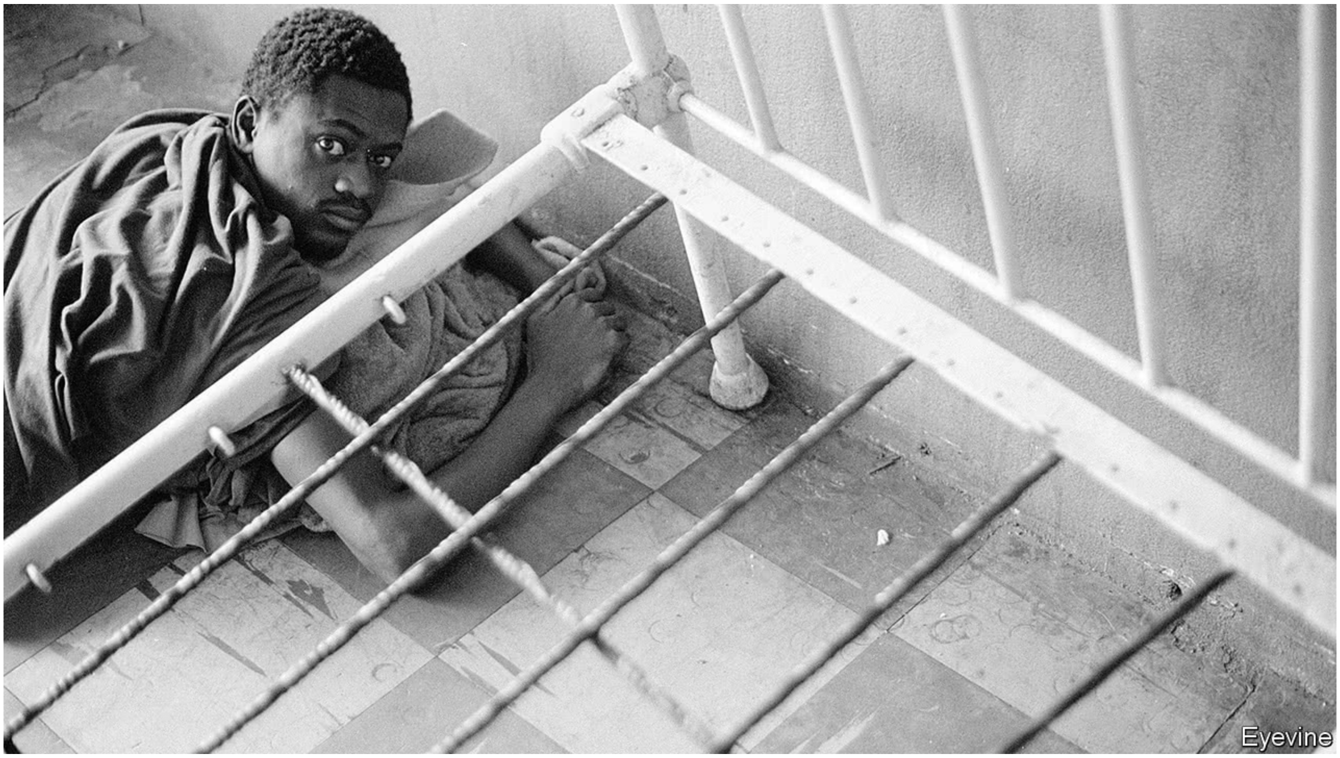
This article appeared in the Special report section of the print edition under the headline "First things first"

A crazy system

Nobody spends enough on mental health

Mental illness is ignored by policymakers and aid donors

Print edition | Special report Apr 26th 2018



"YOU WILL BE stunned by the suffering inside," said Dr Abdul Jalloh, a psychiatrist at Kissy mental hospital in Freetown, Sierra Leone, as your correspondent arrived for a visit. He was right.

Opened in 1820, Kissy is Africa's oldest psychiatric hospital and the only such facility in Sierra Leone. It has about 150 patients, most of whom were brought in by their families. Outside the wards, on the walls painted black and yellow, there are drawings made by patients. One is of a ladder going up the wall. Inside the sparse wards most male patients are chained to their iron beds. Several lie in the fetal position on the bare metal, or on what is left of a foam mattress. A teenager sits rigid, staring out of the open window. Some of the toilets are out of order, so the patients urinate and defecate in black buckets next to their beds, the fetid smell wafting through the hallways.

The two psychiatrists are overwhelmed, and the drug dispensary is bare. Eddie, a patient aged 30, says he does not feel safe, "especially after six o'clock", when it gets dark. There is no electricity, and people from outside break in and steal his food.

Kissy may be horrific, but "the neglect of mental health is not a uniquely Sierra Leonean problem," says Tarik Endale of the King's Sierra Leone Partnership, an English charity working in the country. According to the world mental-health survey conducted by the WHO, between 76% and 85% of people with serious mental disorders had received no treatment in the previous year. Low-income countries spend an average of just 0.5% of their health budgets on mental health, with the vast majority of the money going on hospitals that are more like asylums. And mental-health spending made up just 0.4% of global aid spending on health between 2000 and 2014.

The neglect stems partly from the stigma attached to mental disorders. Kissy is known locally as the "craze yard". For a doctor to choose to work there is seen as an odd and career-limiting move, notes Dr Jalloh. But mental-health problems are also neglected because they may be underreported. In a paper published in 2016 Daniel Vigo of Harvard Medical School and colleagues show that the Global Burden of Disease study ignores various personality disorders and does not count suicide and self-harm as mental-health issues. Dr Vigo reckons that mental conditions make up 13% of the global burden of disease (measured by DALYs), roughly the same as cardiovascular diseases and more than cancer.

Anti-epileptic drugs, generic antidepressants and psychotherapy for depression are all highly cost-effective, according to DCP3, which analyses the value for money offered by various health-care interventions. But providing such treatments in countries that, in effect, have no mental-health service is difficult.

One promising effort to develop these is PRIME, a project run by the University of Cape Town in parts of Ethiopia, India, Nepal, South Africa and Uganda. PRIME researchers are training nurses and community health workers in diagnosing disorders and following clinical guidelines, integrating this treatment with local primary-care systems. But resources are thinly stretched. Most of the countries where PRIME operates have less than one psychiatrist or nurse for every 100,000 people.

Back at Kissy hospital, Dr Jalloh and his colleague, Dr Bailor Barrie, are unimpressed by international donors. A huge sign celebrates an EU-funded project to refurbish five toilets, none of which is now working, mere yards from chained patients. “This is ridiculous,” Dr Barrie says. “They build toilets, have no plan, and leave.” Meanwhile the health ministry has stopped supplying drugs and new nurses. As he leaves a ward, Dr Jalloh notes: “The only difference between this place and a prison is that the patients have committed no crime.”

This article appeared in the Special report section of the print edition under the headline ”A crazy system”

Kindest cut

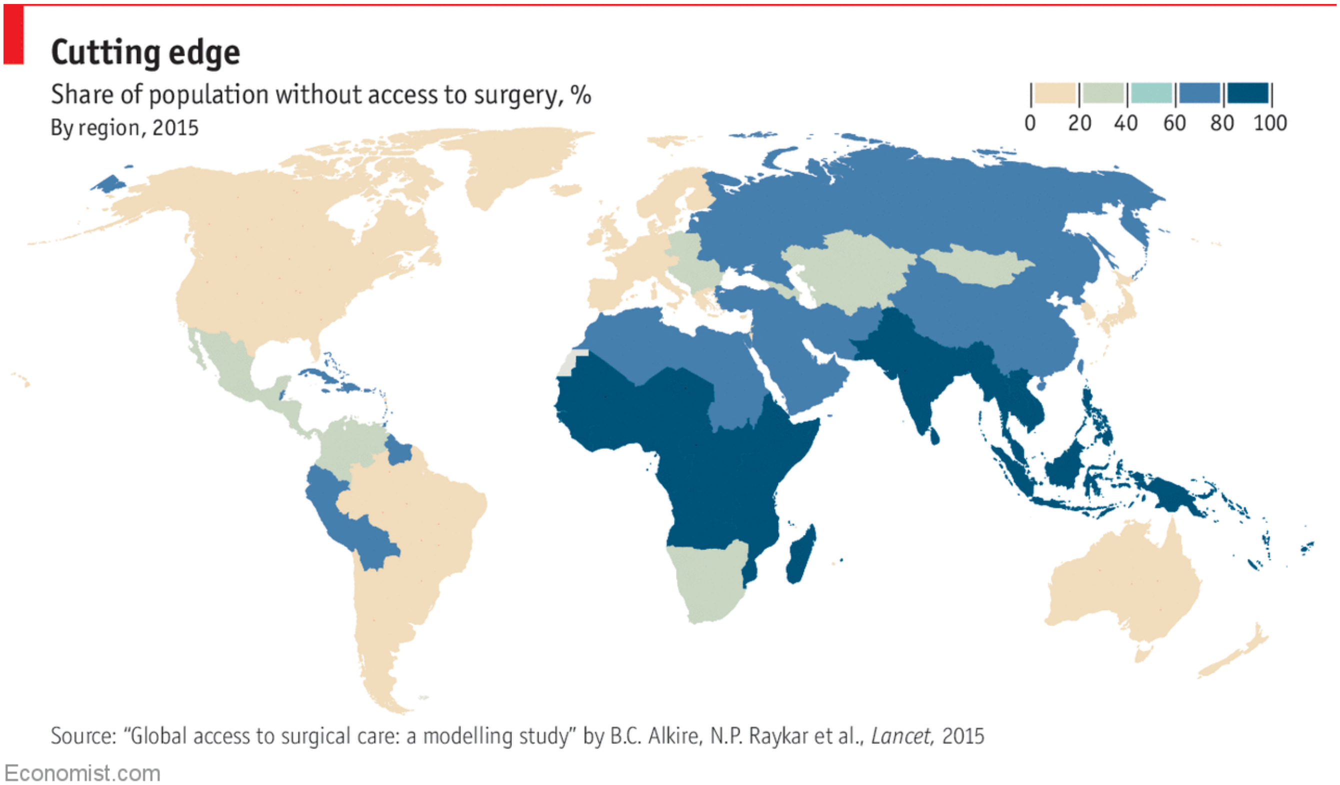
It is wrong to see surgery as an expensive luxury

Operations are a critical part of universal health care

Print edition | Special report Apr 26th 2018

OUTSIDE THE SURGICAL theatre at Koidu hospital in Sierra Leone's Kono district, Therisa Mye-Komara explains that until a few years ago surgeons would operate by torchlight in the evenings. Things are better now, says the surgical nurse. There is a generator to provide round-the-clock electricity, an oxygen machine to supply the anaesthetic equipment and an anaesthetist who can use the kit. "It is very rare for us to lose a patient on the table," she says. But Ms Mye-Komara readily concedes that "we do not have the know-how" for many of the operations needed.

Nine in ten people living in developing countries do not have access to "safe and affordable" surgical care, according to a report in 2015 by the *Lancet* (see map). About 60% of operations round the globe are concentrated in countries with only 15% of the world's population. In rich countries a rough rule of thumb suggests there will be about 5,000 operations per 100,000 people every year. But according to the African Surgical Outcomes Study, a survey of 25 African countries, the median rate on that continent is just 212 per 100,000.



Surgery may seem something of a luxury if funds are tight, but the consequences of not having access to it are profound. In 2010, 17m lives were lost from conditions needing surgical care, dwarfing those from HIV/AIDS (1.5m), TB (1.2m) and malaria (also 1.2m). Roughly one-third of the global disease burden measured by DALYs is from conditions requiring surgery.

Lack of emergency obstetric care is a case in point. The WHO estimates that 5% of births may require a caesarean section. But in a survey of east African countries back in 2005, less than 1% of women there had access to such treatment. Globally, 1bn women would not get the urgent care they would need in the event of complications with a pregnancy.

Surgery is also more likely than other forms of care to have severe financial consequences, says Anna Dare of the University of Toronto. An operation is often a matter of life or death, so there may be no time to put funds aside for it. Some 57% of operations in developing countries are for emergencies, compared with 25% in rich ones. A recent study in rural Bangladesh found that 10-22% of patients with acute surgical conditions, such as a post-delivery hysterectomy, ended up in poverty. For those with conditions that did not require surgery the figure was 3.4%.

Jim Yong Kim, now president of the World Bank, and Paul Farmer, the founder of Partners in Health, the American health charity, noted in 2008 that surgery is the "neglected stepchild" of global health. It remains neglected, for several reasons. One is an image problem, notes Justine Davies, one of the authors of the *Lancet* report: surgery is seen as an expensive luxury. Another is that because it is used to treat many different conditions, it holds less appeal for aid donors, who like to focus on specific diseases such as HIV/AIDS or malaria.

But as the DCP3 report by the University of Washington shows, surgery is an essential part of any universal-health-care scheme. The report identifies 44 essential procedures that, if widely available, could avert 1.5m deaths a year at a global cost of $3bn. Most of them can be carried out at smaller district hospitals. These "rank among the most cost-effective of all health interventions". A caesarean section costs between $15 and $380 for every year of disability (DALY) averted, cataract surgery $50 and hernia repair between $10 and $100. Anti-retroviral treatment for HIV/AIDS costs $900 per DALY. Such metrics rely on debatable assumptions, but they do suggest that basic procedures can have large benefits at low cost.

More for less

The question is how poor countries can expand their surgical capacity. The 25 countries in the African Surgical Outcomes Study had an average of 0.7 surgeons, obstetricians and anaesthetists per 100,000 people, compared with a typical figure of more than 40 in the rich world. Over half the district hospitals in one study of eight African countries had no anaesthesia machine. Often the kit is donated, and few locals know how to fix it. One survey suggests that 40% of donated surgical equipment in poor countries is out of service.

Training more surgeons is clearly vital, but there are other ways to make surgery more accessible, such as getting it done by more junior staff. In a review of studies conducted in countries such as Malawi, Mozambique and Tanzania, clinical officers with about three years of training performed caesarean sections as safely as doctors did. Technology can help, too, such as the cheap pulse oximeters to measure blood-oxygen saturation developed by Lifebox, a charity.

Even more important, surgery needs to be a core part of the broader health system, or else referrals will be made too late, and primary-care clinics will not be able to keep an eye on patients after surgery. The African Surgical Outcomes Study found that the death rate following surgery across the continent was twice the global average. What happens after a patient leaves the operating table is as important as the surgery itself.

This article appeared in the Special report section of the print edition under the headline "Kindest cut"

Land of the free-for-all

America is a health-care outlier in the developed world

The only large rich country without universal health care

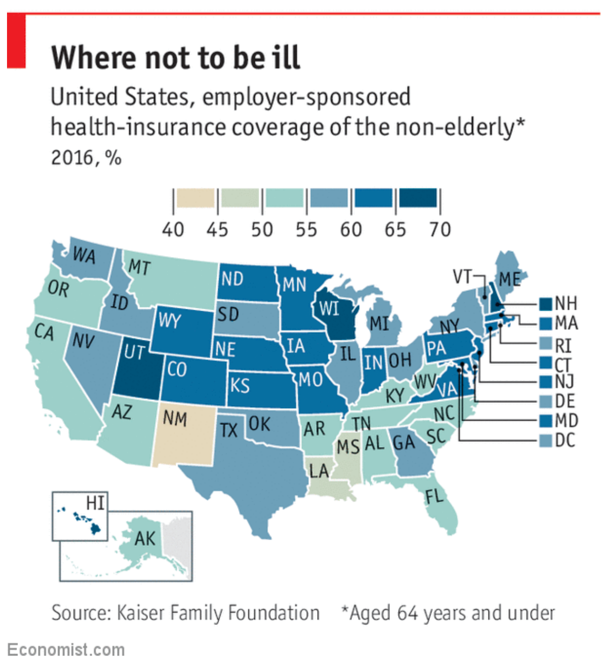
Print edition | Special report Apr 26th 2018

THE ARLINGTON FREE CLINIC, in the American state of Virginia, is a world away from the treatment rooms of sub-Saharan Africa. Thanks to local doctors and nurses who donate their time to the clinic for people without health insurance, the patients get care akin to that in nearby private hospitals. They are fortunate: of the more than 1,000 free clinics in America, few are as well-run or offer such a broad range of services. And even in Arlington getting access is partly a matter of luck. The clinic holds a monthly lottery to decide which locals will be added to its rolls. Out of an estimated number of those without insurance of 20,000, the charity can offer free specialist care to only 1,650.

Despite the passage of the Affordable Care Act in 2010, America remains an outlier in health-care provision. It has some of the best hospitals in the world, but it is also the only large rich country without universal health coverage. And health-care costs can be financially ruinous.

America made a good start. Towards the end of the civil war Abraham Lincoln announced that there would be health provision "...to care for him who shall have borne the battle, and for his widow and his orphan". At the time this was one of the largest government-backed health-care plans in the world. But America never followed rich European and later East Asian countries in introducing universal coverage. Today 10% of Americans below retirement age are without insurance (the elderly are covered by a government-backed scheme, Medicare), though the share ranges from 6% to 17% in different states.

Historians offer various explanations, not least America's strong culture of individualism. Many Republicans believe that health care is not a right but something people choose to buy (or not) in a marketplace. As Jason Chaffetz, a Republican congressman, put it, "Americans have choices. And they've got to make a choice. And so maybe, rather than getting that new iPhone that they just love, and they want to go spend hundreds of dollars on that, maybe they should invest in their own health care." Another reason is resistance to reform by powerful interest groups. When nine of the ten best-paid occupations involve medicine, doctors have little incentive to change the system.

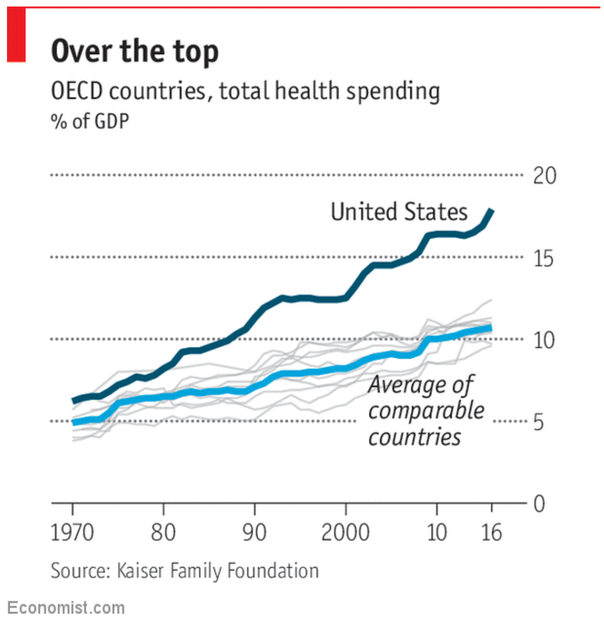


Perhaps more important, about half of Americans have their health insurance provided by their employers (see map). This resulted from a quirk of history. During the second world war President Franklin Roosevelt froze Americans' wages but allowed companies to increase workers' benefits, which they wanted to do to alleviate labour shortages. The share of workers with health insurance increased from 10% in 1940 to nearly 30% in 1946. That gave companies a stake in the system, which successive tax exemptions have helped maintain. So now America has a version of a problem seen the world over: voluntary insurance cannot ensure that everybody gets coverage.

The Affordable Care Act expanded Medicaid—the health-insurance system for the very poorest Americans—and subsidised slightly less poor ones to buy health insurance in statewide marketplaces. This cut the number of uninsured people from 44m to 28m, but still left a gap among people not poor enough to qualify for Medicaid but not rich enough to buy private insurance. Following a Supreme Court decision in 2012 that allowed states to opt out of expanding Medicaid, 18 did just that, leaving more people uninsured.

Last year the Republican-controlled Congress tried and failed to repeal the Affordable Care Act, but it keeps chipping away at some of its provisions. At the same time the Democrats were buoyed by their successful opposition to the repeal. "The Affordable Care Act was never popular until the Republicans tried to abolish it," says a former policy adviser to President Barack Obama. Today the standard view among Democrats is that the time has come to travel the last mile towards universal health care. Polls for the Kaiser Family Foundation, a health think-tank, find that a slim majority of Americans now favour a "single-payer" system (usually meaning that government, rather than insurance companies, buys care from providers), with more support from those without a political affiliation. This is an important shift. The next Democratic candidate for president will almost certainly campaign under the banner of universal health care.

Though broader coverage remains a Democratic goal, the main rationale for the party's reform proposals is to cut costs for those who are already insured. According to a report published in 2017 by the Commonwealth Fund, a think-tank, 28% of American adults under 65, or 41m people, are underinsured, meaning that in addition to their insurance premiums they spend more than 10% of household income (or 5% for poor households) on topping up their health care.



In 2016 America spent $10,348 per person on health care, roughly twice as much as the average for comparable rich countries, according to the Kaiser Foundation. That is 17.9% of GDP, compared with 10.7% elsewhere (see chart). America's figure is so high partly because the country consumes more expensive forms of care, such as MRI and CT scans and elective surgery, but mostly because treatments cost more. On average, both hospital costs and drug prices can be 60% higher than in Europe, according to an analysis by the OECD in 2009.

Outrageous fortune

Higher costs reflect fragmented insurance markets, where consumers have little scope to negotiate. Fragmentation also means that prices for the same service can vary enormously. Having your appendix removed, for example, can cost anywhere from $1,500 to $183,000, depending on the insurer. Administrative costs are affected, too. Whereas the number of doctors increased by 150% between 1975 and 2010, that of health-care administrators rose by 3,200%.

Most of the myriad plans floating around Washington, DC, are aimed at higher coverage and lower costs, but they differ on how to get there. In reports for the Century Foundation, a think-tank, Jeanne Lambrew and her colleagues have set out a range of ideas, which fall into four broad groups. The first are "single-payer" plans. One, proposed by the Democrat Bernie Sanders and supported by several presidential hopefuls, is "Medicare for all", based on the existing scheme for pensioners. Medicare would eventually become nearly the only purchaser of care.

> America has a version of a problem seen the world over: voluntary insurance cannot ensure that everybody gets coverage
>
> A second group hopes gradually to widen access to Medicare, whether by lowering the eligibility age or making it available in places with few or no private insurers. Perhaps the most radical version was proposed in February by the Centre for American Progress, an influential centre-left think-tank. It would open up Medicare to everyone but allow people to keep their employer-based insurance plans so long as they offered Medicare-like benefits and prices.
>
> A third set would allow better-off people to buy Medicaid. Since Medicaid is administered by the states rather than the federal government, they would have to take the lead in achieving universal coverage. A fourth group involves various tweaks to the marketplaces introduced by the Affordable Care Act, such as government-backed reinsurance that would cap the out-of-pocket costs faced by people with private insurance.

None of these schemes has been thoroughly costed. Ominously for Mr Sanders's plan, even his home state of Vermont ditched the idea of a single-payer system in 2014. In California, ahead of the election for governor in November, those on the left, supported by a powerful nurses' union, want candidates to sign up to a state bill for a single-payer plan. Privately, however, many policymakers worry about the cost of such a drastic change—and the likely backlash from people who would have to change their insurer.

There is a lot of misunderstanding about what a single-payer system means. Almost half of Americans do not think they would have to switch insurers, but under Mr Sanders's plan, for example, they would. Most Americans are satisfied with their health-insurance coverage, so a true single-payer system would be a hard sell, even before interest groups began campaigning against it. And there is no guarantee that changing to a single-payer system would lower costs, because providers will lobby hard to avoid having to cut their prices.

Where America goes from here depends on what happens to health care during the rest of President Donald Trump's term of office. With Congress and many Republican-run state governments trying their best to undermine the Affordable Care Act, the numbers of uninsured and underinsured Americans could rise over the next few years. If health care turns into even more of a mess than it is now, Democrats might try to introduce more radical reforms should they regain the presidency in the 2020s. By then yet more developing countries may have achieved universal health care, making America even more of an outlier.

This article appeared in the Special report section of the print edition under the headline "Land of the free-for-all"

The price of human lives

More and wiser health-care spending could save millions of lives

If universal health care is to become ubiquitous, politicians will have to act more boldly

Print edition | Special report Apr 26th 2018

IN 2013 A GROUP of doctors and health economists argued in the *Lancet* that a "grand convergence" would be possible over the next two decades. If governments spent more on health, and more wisely, mortality rates in the poorest countries could fall to those seen in the healthiest middle-income ones. That would amount to saving 10m lives a year.

To see what a high-quality health-care system in a developing country looks like, consider the case of Farida Waree, a 55-year-old housewife in Thailand. In early 2016 Mrs Waree felt a lump on her right breast. She went to her local primary-care centre, which referred her to Nakornayok provincial hospital. She was diagnosed with cancer, and over the next year was given a mastectomy, chemotherapy and Herceptin, an anti-cancer drug. Five years earlier her treatment might have cost her 800,000 baht (about $25,000), much more than she and her family could have afforded. Instead, nearly all the costs were covered under Thailand's Universal Coverage Scheme. The cancer is now in remission. "I consider myself very fortunate," she says.

Introduced in 2002, Thailand's scheme has become a model for other countries trying to extend coverage. It shows that universal health care can be affordable if policymakers think carefully about how to spend scarce resources. And it demonstrates the power of health insurance to bring "the magic of averages to the aid of millions", as Winston Churchill put it.

Nearly 10% of global GDP is spent on health care, according to the latest data from the WHO. Rich countries spend an average of 12%, with America an outlier well above that; middle-income ones (including China) 6%; and low-income ones just under 6%. In developed countries, 60% of health spending comes from public sources. In poor economies the figure is around 40%. As economies grow and governments are able to allocate more resources to health, the share of individual out-of-pocket spending typically falls. But the variation in such spending in poor countries suggests that the health systems they end up with depend on their choice of public policies.

In the 1980s and 1990s many health economists were relaxed about out-of-pocket payments, also known as user fees. The World Bank saw them as a way of making sure money was not wasted, and of helping health-care consumers hold providers to account. There is merit to this argument. Research by Jishnu Das of the World Bank found that when Indian health workers saw patients in their private clinics, they spent more time with them and asked more questions than when the same health workers saw patients in public clinics.

Pockets of resistance

Yet that does not make it a good idea to rely mostly on user fees to fund a health system. They stop those who need care from seeking it. Concerns that users will consume too much health care unless they have to pay are overblown. And when people are not getting vaccinated to save a few cents, others suffer, too.

Out-of-pocket payments are also "cannonballs of inefficiency", says Timothy Evans of the World Bank, which is now sceptical about user fees. If spending is pooled, it can insure more people against the risk of ill health and put pressure on providers to cut prices. Of the $500bn generated globally by user fees every year, the World Bank estimates that 40% is wasted.

More than 110 countries now have some sort of social health-insurance scheme. Yet most are patchy, so users have to supplement them with out-of-pocket payments or private insurance. In parts of Africa such private schemes are expanding quickly as telecommunications companies branch out into health care. BIMA, a provider in Ghana, among other countries, offers schemes that reimburse users for hospital costs, and has recently set up its own telemedicine service. In Kenya, where about half of health costs are paid out of pocket, M-TIBA (tiba means "care" in Swahili) offers a dedicated mobile health account, letting people use their phones to put in money and pay approved providers. Developed by various groups including Safaricom, a telecoms company, it has more than 900,000 users.

These new services show there is demand for protection against ill health, especially among informal workers. Yet relying on voluntary private insurance and out-of-pocket payments will never get a country close to universal coverage, according to a report published in 2015 by the Institute of Global Health Innovation at Imperial College London. In voluntary schemes the sick buy lots of insurance whereas the healthy buy less. Since the sick will need lots of treatment, they will price out the healthy. This dynamic has plagued the United States, as well as poorer countries. Universal health care needs the rich, the young and the healthy to subsidise the poor, the old and the sick.

Countries that want to expand their coverage have taken two distinct approaches. The first is to start by covering a small group of workers in depth and work outward from there, adding workers from other industries as you go along. Inevitably, though, this leaves groups of people without insurance, and those with coverage have little incentive to help them get it.

Start small

The second, better approach is to cover more people but start with a limited range of benefits. In 2004 Mexico introduced Seguro Popular, a scheme that covered 50m people in the informal sector. Studies suggest that Seguro Popular has drastically reduced the number of Mexicans facing catastrophic health costs and reduced infant mortality.

Rwanda is another example. More than 90% of its people have health insurance, mostly under its Mutuelles de Santé policy that gives access to community health services as well as various treatments partly paid for by the Global Fund. Most visits involve a small co-payment and there is a tiered system of premiums, with exemptions for the poorest people. The scheme has helped cut out-of-pocket expenditure and improved health outcomes. Between 2000 and 2011, for example, the mortality rate for tuberculosis fell from 50 to 14 per 100,000 people.

In Thailand the Universal Coverage Scheme replaced two existing schemes for the rural poor and for informal workers. Today 98% of Thais have health insurance. The scheme was accompanied by reforms such as incentives for doctors to work in rural areas and extra payments to hospitals to take on patients. Crucially, Thailand's Health Intervention and Technology Assessment Programme, a quasi-governmental body, analyses the cost-effectiveness of treatments, as well as ensuring that cancer cases such as Ms Waree's are dealt with sympathetically. Despite the increased coverage, Thailand still spends only 4% of its GDP on health, about the same as it did 20 years ago. That works out at roughly $220 per person per year.

Finding the best way to spend limited resources is critical. In November the DCP3 report proposed about 100 high-priority services, including public-health measures (such as informing people about family planning), immunisations, antibiotics, antenatal care and basic surgery. If implemented, these would cost an additional $26 per person per year, or an extra 3.1% of average GDP per person in low-income countries. A broader package of more than 200 treatments would cost $53 per person. The report estimates that this could save 1.6m-2m lives per year. The numbers may be approximate, but they can guide policymakers on which treatments to make available.

Another option is to expand the tax base in poorer countries. Possible candidates are taxes on extractive industries and on goods harmful to health such as tobacco, alcohol and air pollution. That would not only raise money but have great public-health benefits. Energy subsidies could also be curtailed; some poor countries, including Bangladesh, Indonesia and Pakistan, spend more on these than they do on health and education.

However, the poorest countries will still need foreign aid. That way they can continue to fight communicable diseases while also building their health systems and expanding coverage. Some of the most cost-effective aid spending does both. The Global Fund, for example, uses its spending on HIV prevention to develop cadres of community health workers who could also help deal with other diseases. Elsewhere, for example in Rwanda, aid spending has been used to match domestic resources that have gone into expanding health insurance.

But aid alone will never be enough to realise universal health care. Even in the poorest countries it amounts, on average, to only a third of health spending. And after rising rapidly during the 2000s the sums dished out by Western governments, especially America's and Britain's, have recently remained flat. During the days of plenty, governments in poor countries relied on big annual increases in aid so they could use their own budgets for other purposes; in effect, aid often replaced domestic health spending.

Recent research by the Institute for Health Metrics and Evaluation suggests that just one-fifth of the health-related targets set as part of the Sustainable Development Goals will be met on time. If there is to be a grand convergence, that will need to change. Poor countries will still need aid, but they will also have to step up their own efforts to bring about better health care for all.

This article appeared in the Special report section of the print edition under the headline "The price of human lives"

Technology companies
DeFANGed?

DeFANGed?

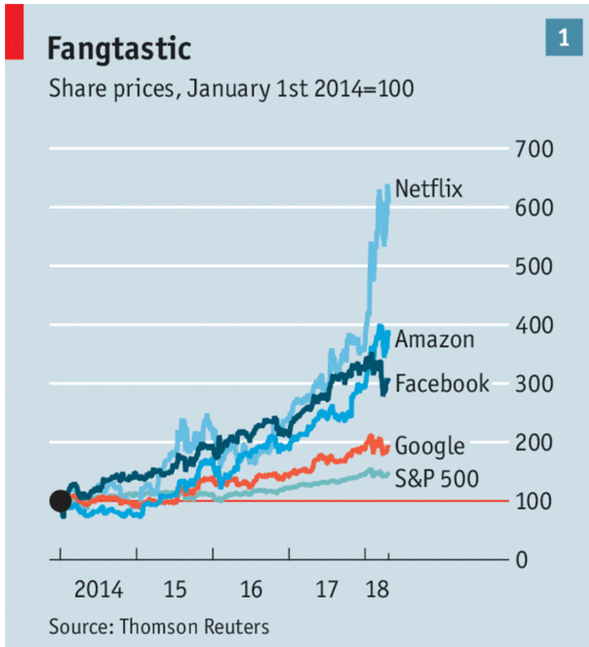
Big tech is growing, but so is investors' caution

For years American tech giants were treated as a single asset class. No more

Print edition | Business Apr 26th 2018

Luca D'Urbino

FOR a few years now Facebook, Amazon, Netflix and Google have behaved like sled dogs pulling the stockmarket forward with boundless energy. The ride has been mostly smooth and enriching. To many in Silicon Valley the fortunes of the FANGs—as the pack is known—seemed so entwined that they were treated like a distinct asset class. It was one in which everyone should have coveted a stake (see chart 1). The four firms have accounted for 20% of the rise in S&P 500 stocks since 2016. Yet the FANGs' fates may no longer be indivisible.



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On April 23rd Alphabet, Google's parent company, reported its strongest sales growth in nearly four years, but its share price dropped by 4.5% the next day because of rising costs from investments in new businesses such as cloud computing and hardware. On April 25th Facebook posted a large increase in sales and profits, as well as a 39% rise in costs compared with last year. Investors have been most focused on the ramifications of a privacy scandal in March, when it emerged that users' data had been shared without their consent; the fallout so far seems to have been limited enough that the social network's share price rose by more than 7% after hours. Markets are still besotted with Amazon and Netflix. Netflix is the best-performing public company in 2018. But after years of being brushed aside by investors, the differences between the four firms are now commanding greater attention.

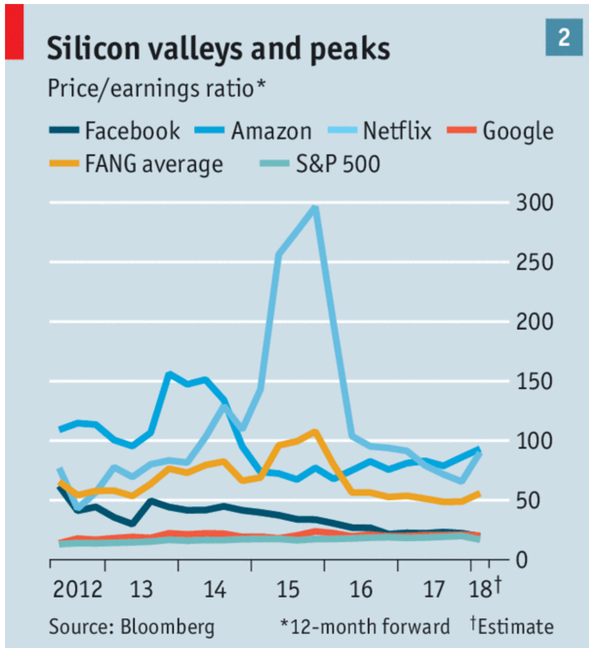
The companies still have important things in common: dominance, scale and growth. Each is top dog in its neck of the internet: Facebook in social media, Amazon in e-commerce, Netflix in premium video-streaming, Google in search. All benefit from network effects, turbocharged by clever algorithms. The more users they have, the better their products, the more new customers are lured. This has helped them confound doubters and grow briskly despite their massive size.

Potential markets remain enormous. Facebook and Google are already goliaths, but can expect to expand as more ad spending migrates online. All told, Amazon is now present in consumer markets worth $4.8trn, nearly double the equivalent figure in 2015, according to Brian Nowak of Morgan Stanley, a bank. It looks well-placed to benefit from the accelerating shift away from bricks-and-mortar retailers in America. Optimists believe that Netflix can double today's 120m subscribers by 2022. It may have room to raise prices without alienating consumers.

Yet these broad similarities mask deep differences. For a start, the firms make money in distinct ways. Netflix and Amazon, which recently announced it has 100m "Prime" members who pay an annual fee for free shipping and online video, sell subscriptions. On top of that, Amazon sells just about everything else consumers desire, while its cloud-computing business guarantees stable, recurring revenue. Facebook and Google sell users' attention to digital advertisers.

Fearful of a political backlash provoked by the Facebook scandal, companies that do not depend on advertising are trying to distance themselves from the online ad duopoly. Netflix is more of a "media firm" than "pure tech", Reed Hastings, Netflix's boss, recently told analysts, adding that his company was "substantially inoculated" because it does not sell ads and protects users' privacy. Tim Cook, the boss of Apple, sometimes considered a fifth FAANG, has publicly derided Facebook's handling of users' data (though investors fret about weak iPhone sales ahead of its quarterly earnings report on May 1st).

The companies view profitability rather differently, too. Facebook and Google built enormous businesses first and are re-investing the profits to develop new ones. Netflix and Amazon continue to prioritise scale and are splurging to achieve it, observes Michael Nathanson of Moffett Nathanson, a research firm. This helps explain the companies' disparate valuations (see chart 2). Facebook and Alphabet trade at a conservative 20 times earnings; the figure for Amazon and Netflix is closer to 90, more than five times the average for members of the S&P 500.



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The FANGs do face common challenges, albeit to varying degrees. One is regulation. It is too soon to say how much Europe's sweeping General Data Protection Regulation, which is coming into effect in May, will hit Google's and Facebook's bottom-lines—but investors are anxious that hit it will. Another privacy scandal could prompt American regulators to enact onerous rules that hamper digital giants. Talk of antitrust enforcement grows louder every time Facebook notches up another 100m users or Amazon enters a new market (see Schumpeter). Netflix looks safe for now, but that may change if it ever gets as big as investors think it will. Mere threats of regulation—including in a presidential tweet—can dent a firm's share price, as Amazon has learned (Donald Trump is no fan of the *Washington Post*, a newspaper that is owned by Amazon's boss, Jeff Bezos).

A second challenge concerns margins. Facebook and Google are enormously lucrative businesses, with margins of 50% and 29% respectively in 2017. But rising costs may squeeze them. Amazon and Netflix rely on investors' unshaken belief that they are headed for world domination. Netflix may burn through $3bn-4bn in 2018 alone in its pursuit of that goal. Mr Nathanson expects the company to generate cash only in 2021. Earlier this month his firm wrote that it "still can't justify" Netflix's stock price "under any scenario". Short-sellers now own around 4.5% of Netflix stock, more than four times as much as Amazon, Facebook or Alphabet.

The final problem is competition. One of the few certainties in the technology sector is that the giants will clash with one another. Having come to dominate a large part of their own markets, they are now striking out in search of new opportunities. Inevitably and increasingly, they will encroach on each other's territory.

Netflix looks the most vulnerable. Disney plans to launch its own subscription-based video service and withhold its block-busters from Netflix. Amazon already offers a streaming-video service to Prime customers but if it were to announce a serious investment in this market and offer a standalone service, it could temporarily halve Netflix's share price, reckons Mark Mahaney of RBS Capital, an investment bank. Amazon is also building a digital advertising business of its own, which could grow from perhaps $4bn today to $22bn over the next five years. For the time being this is likelier to hurt offline media than Facebook or Google, thinks Brent Thill of Jefferies, an investment bank. One day that could change. Intra-FANG rivalry will be bad for returns, but it may also deflect accusations that the companies have grown too dominant. Lower margins could be the price the tech giants must pay to keep regulators off their backs.

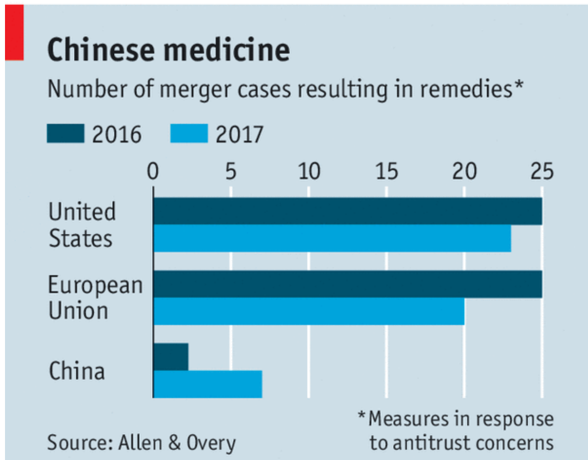
This article appeared in the Business section of the print edition under the headline "DeFANGed?"

Command and control

Antitrust with Chinese characteristics

The country's competition regulators are getting more activist on global deals

Print edition | Business Apr 26th 2018



Economist.com

GLOBAL deals may be growing at a rapid clip, but they seldom offer instant gratification. Qualcomm, an American chipmaker, first bid for NXP Semiconductors, a Dutch company, in October 2016. The union has since been blessed by eight regulators worldwide, but one hurdle remains: China. With no decision yet from its regulator, the companies, which were expecting to have closed the $44bn deal this week, now hope to conclude it by July. The purchase of the chip unit of Toshiba, a troubled Japanese company, by a consortium led by Bain Capital, an American private-equity firm, is similarly awaiting sign-off from China.

Some suspect the delays stem from the threat of a trade war with America. Holding back regulatory approval, particularly on sensitive high-tech deals, could be part of the arsenal in any trade conflict. Organisational change may also be to blame. Fay Zhou, who works in Beijing for Linklaters, a law firm, points out that a recent reshuffle, which took merger reviews away from the commerce ministry and put them under the same roof as other competition authorities, may have contributed to lags. Either way, the delays bring home the importance of the Chinese authorities to international deals.

They are now one of the three big regulators to reckon with, together with the Americans and Europeans, says Mark Furse of Glasgow University. Research by Allen & Overy, a law firm, shows that Chinese regulators sought remedies on seven deals in 2017 (see chart). Though fewer than American and European interventions, that is a record for China.

As with much else, China's approach to mergers is distinctive. Like in other jurisdictions, foreign businesses must seek approval for a merger if their sales or assets in the country cross a certain threshold. But in addition to protecting consumers, the Chinese authorities are required by law to promote "the healthy development of the socialist market economy". That industrial-policy objective means that regulators can intervene even when competition is not strictly a concern, notes Charles Pommiès of Allen & Overy (although plenty of cases are judged purely on competition grounds).

Deals tend to attract scrutiny if they involve industries where China wants to catch up with the West, such as high-tech sectors, or where it has interests to protect, such as commodities. Although the European Commission was relatively relaxed about Microsoft's takeover of Nokia in 2013, for example, the Chinese authorities fretted that its firms would lose access to intellectual property as a result. They also intervened in a merger between two mining firms, Glencore and Xstrata, even though their combined market share was less than 20% in each of their product markets in China. Mr Furse points out that, in contrast, it typically takes market shares of over 40% to raise concerns in Europe; thresholds are even higher in America.

Chinese authorities also seek distinctive conditions before clearing a deal. Some divestments have been known to directly benefit the state. The Glencore and Xstrata merger, for example, was approved on the condition that a mine in Peru was sold off; soon afterwards it was snapped up by a consortium of Chinese state-owned firms, led by the China Minmetals Corporation. And "behavioural" remedies can require a combined company to keep prices unchanged after the merger, or to stay out of certain markets. Such conditions can be intrusive, requiring the companies to report regularly to the authorities. Western regulators tend to avoid them, as they are a nuisance to monitor.

A stricter, but rarer, condition is the "hold-separate" remedy, which has been applied to a handful of hardware deals, including the merger last year of two Taiwanese chipmakers, Advanced Semiconductor Engineering and Siliconware Precision

Industries. The two firms cannot integrate their operations for a certain period of time, which kicks the benefits of merging even further down the road. As ever more deals come into the purview of Chinese regulators, dealmakers will have to remind themselves that patience is a virtue.

This article appeared in the Business section of the print edition under the headline "Command and control"

Into the sands

One of France's best-known tycoons is arrested

Vincent Bolloré is being investigated over his business in Africa

Print edition | Business Apr 28th 2018

PA

"THIS port is for the Togolese," says Sherif Tchedre, a mechanic standing among containers that line the shorefront in Lomé, Togo's capital. "But it is Bolloré who runs everything." He thinks little of the port's French operator, Bolloré Group, or the conglomerate's eponymous owner-boss, Vincent Bolloré. They do "nothing for Togo", he says, adding that the Frenchman is too cosy with African presidents.

The French police seem to think so, too. On April 24th they arrested Mr Bolloré and some of his firm's senior staff in Paris on suspicion of paying bribes a decade ago to win bids to run the Lomé port and one in Conakry, in Guinea. The next day he and two others were placed under formal investigation, one step short of being charged. The authorities suspect that Havas, a communications firm that Bolloré then owned, gave African politicians heavily discounted help in their election campaigns. Mr Bolloré and Bolloré Group deny the allegations.

Bolloré is bigger than almost any other multinational firm in Africa, where it has done business for 80 years. It operates in all but four of the continent's countries. Its sprawling interests include 16 ports, three railways, energy, media and plantations. The logistics arm has expanded enormously over the past decade, tripling its income between 2005 and 2015.

Such heft inevitably involves close official ties. Journalists dubbed Mr Bolloré *le petit prince* (the little prince) in the 1990s for his prominence in *Françafrique*—the term for the cosy relations between the French and French-speaking African rulers. The tycoon flaunted his connections, for example by lending Nicolas Sarkozy a yacht so that the latter could celebrate his election as French president in 2007. Bolloré-owned free-sheets in France are known to dish up friendly coverage of African politicians. Two years ago Alpha Condé, Guinea's president, told *Le Monde*, a French newspaper, that Mr Bolloré was a capable friend, and "I help my friends, so what?"

Episodes such as this have long made Bolloré controversial in Africa. In 2015 the firm was awarded a contract to rebuild the railway from Benin to Niger—even after it had been won by another firm, Petrolin. Bolloré was later kicked out of Benin by its new president (an act for which the firm is demanding compensation).

In Ivory Coast in 2013, Bolloré won the contract to build and run a second container terminal at the port of Abidjan. It is currently investing €400m ($487m) in the terminal. When the contract was awarded, Jean-Louis Billon, the country's commerce minister, attacked his own government because Bolloré already ran the first terminal and part of the rationale for expanding the port was to promote competition.

The latest affair has already knocked the company: Bolloré's shares dropped by 8% after the arrests and the announcement of the investigations. As for Mr Bolloré, "until yesterday I thought he was untouchable", says a person who worked for an opposition figure in Guinea. French investigators made sure to stir up media interest, using the same aggressive legal procedure to detain and question him that was deployed against Mr Sarkozy in March. The former president was charged in an (apparently) unrelated case of alleged Franco-African corruption involving claims—which he denies—that Libya's Muammar Qaddafi funnelled money to his campaign.

Trouble has also been brewing for Mr Bolloré and his empire in markets closer to home. Last week his son, Yannick Bolloré, who runs Havas, unexpectedly replaced his father as chairman of Vivendi, a big media firm that Bolloré controls. Last year Vivendi bought Havas in a manoeuvre that seemed to have "no industrial rationale", says François Godard of Enders Analysis. The purchase makes more sense if Mr Bolloré *père* plans to reduce his role in the overall group.

Mr Bolloré's strategy for his media concerns has been unclear for some years. In France Canal Plus, a once-dominant pay-TV channel, is struggling against the likes of Netflix. His attempts to seize rivals have run into trouble. In March Vivendi abandoned its year-long bid for Ubisoft, a big French maker of computer games, including "Assassin's Creed", a wildly popular shoot-em-up. Vivendi amassed a 27% stake before it was stymied.

At least it cashed in €1bn; Ubisoft's market value almost doubled to nearly €9bn after the bid was announced. More troubling are Mr Bolloré's missteps in Italy, in particular Vivendi's grab of Telecom Italia (TI), the former state provider, and its attempt to snatch Mediaset, the country's biggest television broadcaster, from a firm belonging to the family of Silvio Berlusconi, a former prime minister.

Talk that he would somehow create a "European Netflix", or roll out fibre connections to rural consumers, has come to nothing. Vivendi is instead beset by both rising political opposition (Mr Berlusconi is again influential) and an attack by Elliot Advisors, an activist hedge fund set on foisting a new board on TI at a shareholder meeting on May 4th. Mr Godard judges that Mr Bolloré has "spectacularly failed" in Italy and that he—or his son—would sell TI given the chance. Along with all his headaches over Africa, he can count on little respite in Europe.

This article appeared in the Business section of the print edition under the headline "Into the sands"

Floating lotuses

China's holy sites list on the stockmarket

Monks v markets

Print edition | Business Apr 26th 2018

Imaginechina

BENEATH a lustrous 33-metre bronze statue of Guanyin, the Buddhist bodhisattva of mercy, a young monk on Mount Putuo tallies the cash donated by visiting faithful: "Daily, anywhere between tens of thousands and hundreds of thousands of yuan," he says (100,000 yuan is a little under $16,000). Over 8m trips are made yearly to the tiny islet in Zhoushan city, about a four-hour drive from Shanghai (11m visited Shanghai Disneyland in its first year, after it opened in 2016). When it comes to temple fundraising, the monk is resolute. "The traditional way is the best way," he says.

The Putuoshan Tourism Development Company has other ideas. A state-owned enterprise whose biggest shareholder is controlled by the government of Zhoushan and some state asset-management firms, it manages tourist facilities in the location, such as ferries, cable cars and joss-stick shops. Since 2012 it has mulled an initial public offering (IPO) of these services on Shanghai's stock exchange; last year it said it hoped to raise 615m yuan.

Monks are rattled. The one manning Guanyin's donation box fears such undisguised moneymaking would turn their shrine into "another Shaolin". That temple, in Henan province, is run by an abbot known as "the CEO monk". He has leased out the Shaolin kung fu brand to computer-game developers and other temples, and wants to build a $297m hotel-and-temple complex in Australia, with a golf course and a martial-arts academy.

In April Buddhists won an unusual victory against Putuoshan Tourism, when China's stockmarket regulator asked the company to withdraw its IPO application. New rules forbid profit-making from Buddhist and Taoist places of worship, including from public listings. Tourism companies argue that their offerings do not include the sacred sites themselves.

Yet business and Buddhism have often been in harmony, says Kin Cheung, who researches Asian faiths and economics at Moravian College in Pennsylvania. China's earliest pawn shops were run by Buddhist monasteries, who also leased land to farmers. After the end of the Cultural Revolution, monks whose land had been expropriated co-operated with local authorities and businesses keen to attract visitors, paving roads to their temples and opening shops hawking spiritual tat. Local governments began to charge entrance fees to the country's sacred peaks: 160 yuan for Mount Putuo. In Mr Cheung's view, "IPOs are the logical next step for Buddhist engagement with capitalism in China".

It is a step already taken by some. The first to float of China's four sacred hills—known by Buddhists as "the pure lands"—was Mount Emei in Sichuan province, in 1997, when its local tourism company went public on the Shenzhen stock exchange under the providential ticker number 000888. It has since opened a cluster of fancy hotels on the mountain, and its revenue has grown twelvefold, to 1bn yuan last year. Mount Jiuhua, in Anhui province, listed in 2015 on the Shanghai stock exchange (after being rejected twice, in 2004 and 2009). Mount Wutai, in Shanxi province, has mulled IPO plans since 2010, but was reported this week as having shelved them in December.

Liu Lewen, an analyst who follows religious-tourism stocks at Shenwan Hongyuan Securities, a Chinese brokerage, says the flotations are more about generating publicity than money, in the hope of using a well-known brand to entice a bigger chunk of China's domestic travellers to what are often remote, poor regions. In 2016 inbound tourism generated close to 4trn yuan, up from around 620bn yuan a decade earlier. Putuoshan Tourism says the funds from an IPO would allow it to build parking lots and a hot-spring resort.

But tourism firms are up against changing official doctrines. Ian Johnson, who wrote a recent book about China's spiritual revival, says that state-owned enterprises that have built profitable monopolies from shrines could increasingly find parts of their businesses unwound. The central government under Xi Jinping wants to promote faiths that it views as indigenous, including Buddhism and Taoism, and to tamp down on those seen as foreign and money-grubbing. The monks also worry that touts and mass tourism will turn their biggest, most pious donors away. In that sense, a shared conviction.

This article appeared in the Business section of the print edition under the headline "Floating lotuses"

Big job, hard going

Politicians' battle against Korean conglomerates hits a snag

Chaebol reform is proving tricky

Print edition | Business Apr 26th 2018

WHEN Kim Ki-sik took the helm of South Korea's Financial Supervisory Service (FSS) on April 2nd, he was supposed to restore credibility to the embattled agency. The co-founder of an influential left-leaning NGO and fierce critic of South Korea's family-run conglomerates, or *chaebol*, Mr Kim seemed the ideal candidate to clean up after his predecessor, Choi Heung-sik, who had to quit after just six months when he became embroiled in a nepotism scandal. In the event Mr Kim's tenure proved even shorter than Mr Choi's. He resigned on April 16th after it emerged that as an MP he had mishandled political donations and gone on three foreign trips—including cable-car rides in the French ski resort of Chamonix—sponsored by organisations his committee was supervising at the time.

Mr Kim's downfall is the latest setback for President Moon Jae-in's ambitious *chaebol* reforms. Along with Kim Sang-jo, who heads the Fair Trade Commission (FTC), South Korea's main antitrust body, the disgraced Mr Kim was one of the reforms' main architects. The blow makes a tough job even tougher.

Earlier this month the FTC reported that the conglomerates had eliminated most of their opaque circular-shareholdings. Firms such as Samsung, Hyundai and Lotte have become fluent in the language of transparency and corporate governance. "Companies have begun to respond to our policy changes," soothes Kim Sang-jo.

But many of the responses so far appear cosmetic. Fundamentally, observers gripe, the *chaebol* have not mended their old ways. On April 22nd Cho Yang-ho, chief executive of Hanjin Group, which owns Korean Air, was forced to remove his two daughters from their management positions for being abusive towards employees. One had to leave for the second time, having previously been rehired after spending time in jail for throwing a tantrum in 2014 when a flight attendant served her macadamia nuts in a packet rather than arranged on a plate.

The daughters' sacking may hint that Hanjin is at last trying to rein in the worst excesses of its executive-suite heirs. Yet few in South Korea believe that. Most think the *chaebol* are still largely run for the benefit of the founders' families.

Mr Moon would like to do more. But his minority government is weak. Liberty, the main conservative opposition party, is openly hostile to his efforts and has been blocking legislation to strengthen shareholder rights, force firms to separate industrial and financial businesses and pursue white-collar crime more effectively. That may change after local elections in June, hopes Park Sangin of Seoul National University. "If his party wins big, he might be able to make *chaebol* reform a top priority."

Others are less sanguine. Like other presidents before him, Mr Moon has to weigh the benefits of reform with the danger of doing serious damage to the *chaebol*, which still account for a big chunk of South Korea's economy, says Sung Taeyoon of Yonsei University. It does not help that economic performance has recently deteriorated. GDP growth is expected to dip below 3% this year. Unemployment is rising; among the young it is close to 12%. That may explain Kim Sang-jo's emollient tone.

Mr Moon can probably expect less leeway for such pragmatism than his predecessors, given that he ran on a promise of incorruptibility. Every appointee who fails to live up to that exacting standard damages the government's ability to retain the moral high ground, and with it the chances of reining in corporate wrongdoing.

The FSS is a case in point. When Mr Kim resigned, it had just begun to investigate an incident at Samsung Securities where 2.8bn of its shares were accidentally issued to its employees, some of whom sold them before the error was spotted. The subsequent fall in the broker's share price hurt other investors, including the state pension fund. The incident caused public outrage at the employees' alleged profiteering as well as at insufficient safeguards to prevent this kind of thing happening. But the FSS investigation will stall until Mr Kim's successor is appointed, which could take months. Reforming the *chaebol* was never going to be easy. And so it is proving.

This article appeared in the Business section of the print edition under the headline "Big job, hard going"

Hard cheese

Fearing Brexit, Irish cheesemakers mull a switch to mozzarella

Cheddar-producing dairies are exploring cheeses with wider export potential

Print edition | Business Apr 28th 2018

THE herd of water buffalo ambling over rolling hills may look like a scene from southern Italy. In fact the beasts roam in southern Ireland. Johnny Lynch, who owns a 150-acre farm in County Cork, makes plump balls of mozzarella from their milk, and bids customers a cheerful, Irish-accented "*Buongiorno!*" in online advertisements for his produce.

Of the 200,000 tonnes of cheese made each year in Ireland, 90% is cheddar. That could soon become a problem. Apart from America, which has plenty of cheesemakers of its own, the only country with a big appetite for cheddar is Britain. It buys more than half of Ireland's cheddar exports, for upwards of €250m ($300m) a year. But its impending exit from the European Union could cause the dairy trade to turn sour.

If Britain leaves the EU's single market and customs union, as it intends to, Irish exporters can expect to face regulatory hurdles and perhaps tariffs. Conor Mulvihill of Dairy Industry Ireland, a lobby group, estimates that these barriers could add as much as €0.21 to the cost of cheddar made with each litre of milk; its farm-gate price is only about €0.30. In that worst-case scenario, "there wouldn't be a gram of Irish cheddar exported," he says.

So cheesemakers are following Mr Lynch's example and exploring varieties with wider export potential. One of the largest producers, Dairygold, has announced a "Brexit-proofing" plan to open a factory in Cork to make up to 20,000 tonnes a year of Jarlsberg, a Norwegian speciality, in partnership with Norway's Tine. Glanbia, a big dairy which already makes mozzarella in Wales and Northern Ireland, plans to invest €250m-300m by 2020 to increase production capacity in Ireland for a range of goods, including cheese. All the large dairies in Ireland are investigating alternative varieties, including Edam and Gouda, says one big cheese in the industry.

One snag is that Ireland's grass-fed cows produce far more milk in summer than winter. Cheddar, which can be left to mature for years, allows cheesemakers to smooth their output throughout the year. Switching to softer cheeses could mean summer gluts and winter scarcity. Some farmers have also found that the grass that gives Irish butter its prized golden colour also gives mozzarella an unappealing yellowish tint. But that may not matter much when it comes to sales to the food-service business—that is, for ready meals or pizza toppings—which make up the biggest slice of Ireland's cheese exports.

Continental competitors are not alarmed for the time being. "Everyone is free to produce it where they want. I'm for the free market," says a magnanimous Pier Maria Saccani, the head of Italy's Consortium for the Protection of Mozzarella di Bufala Campana. But, he cautions, "everyone should do what they know how to do. I would never buy whisky from Amalfi."

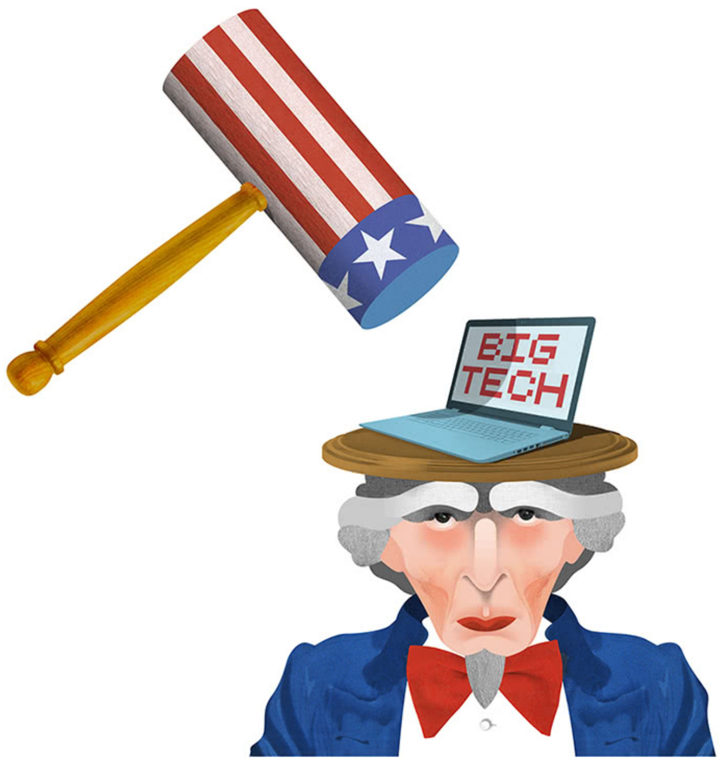
This article appeared in the Business section of the print edition under the headline "Hard cheese"

Schumpeter

America's antitrust apparatus prepares to act against big tech

A University of Chicago conclave of experts debates how far to go

Print edition | Business Apr 26th 2018



Brett Ryder

THE rise of the big tech firms is easy to spot in downtown Chicago. Apple's minimalist store looms over the riverfront, close to a skyscraper carrying the name of another omnipresent brand—Trump. At a bus stop a Facebook advertisement promises that its new algorithm will combat fake news. On the Magnificent Mile's digital hoardings Google urges pedestrians to swoon into the arms of its voice-activated assistant.

Inside the University of Chicago, a bastion of free-market thinkers and of free speech, tech has become more prominent, too. On April 19th and 20th most of America's antitrust establishment—officials, economists and lawyers—as well as a smattering of Silicon Valley types, gathered to discuss whether big tech needed to be tamed. The conclave came just days after Mark Zuckerberg, Facebook's chief, testified before Congress.

One Facebook executive was brave enough to show his face in Chicago, bearing the smile of someone stuck at the dentist for two days without anaesthetic. The experts agreed that government intervention in big tech is needed. But debate raged about which institutions should do it, and about the trade-offs between innovation and regulation, between privacy and free flows of data, and between stopping manipulation and protecting free speech.

When you assemble a room full of intelligent critics, the dizzying scope of the complaints against the tech industry becomes clear. They come in three flavours. First, antitrust worries, which take in big tech firms' high market shares, buying-up of promising competitors, and potential monopsony power over suppliers and vendors. The five biggest American tech firms together make about a tenth of all corporate profits. Second, the externalities they may impose on their users, including a loss of privacy and tech addiction. And third, their probable pollution of the public sphere with fake news, mass manipulation and lobbying.

The view in Chicago was that Facebook and Alphabet (which owns Google) are the most vulnerable to regulation given their surveillance-based models and high market shares. Apple was viewed as less problematic given that it does not sell ads and has big competitors such as Samsung. Amazon divides opinion: its stratospheric valuation suggests it will evolve into a price-gouging monopoly but at the moment it is lowering consumer prices. Microsoft, which faced an antitrust case in 1998-2001, is now seen as big tech's harmless uncle, a label which should delight it.

America's antitrust establishment is like a clergy that after decades of obscurity finds itself blinking on the world stage. It simultaneously resents being criticised for its passivity, wants to preserve its doctrinal purity and absolutely loves all the attention. Since the 1980s American competition policy has been timid. Even today some antitrust officials and scholars want to pass the buck, arguing that the tech problem rightfully belongs to other parts of the government.

There is something to this. Across the Atlantic, the European Commission has taken action on everything from the "right to be forgotten" to tax-dodging by tech firms. America has an institutional division of labour. Rights for individuals over their data may be a matter of consumer protection, which falls under the Federal Trade Commission (FTC). Ensuring there is a variety of news sources, and that political ads are disclosed, could be the job of the Federal Communications Commission. Only Congress can repeal section 230 of the Communications Decency Act, which allows tech firms to avoid liability for what they publish. If social media were to be regulated like tobacco or food, as a product that can harm consumers, states could play a role.

Yet ultimately big tech is also a matter for antitrust. It is possible that the big firms' dominance will be transitory. But this is a risky assumption. The stonking valuations of Facebook, Alphabet and Amazon imply that they will double in size by 2021. All five firms prevent the emergence of rivals by buying or crushing them. They have hoovered up at least 329 small firms in the past five years, according to Bloomberg, a data provider. One venture capitalist told the audience in Chicago that there is a "kill zone" around Alphabet and Facebook, which startups cannot survive.

Antitrust is vital because any solution to the problems of big tech will require innovation as well as regulation. For example, privacy could be protected by the rise of new "fiduciary" companies that act as trusted, anonymised intermediaries between users and the big tech firms. "Ethical" firms could emerge that create search engines, social-media platforms and digital assistants which are not reliant on ads and surveillance. The job of helping competitors emerge belongs squarely to the antitrust watchdogs. Makan Delrahim, the head of the antitrust arm of the Department of Justice (DoJ), conceded this, arguing that incumbents must not "kill" competition.

Here is a prediction. An alphabet soup of different consumer, privacy and media regulators will slowly try to ensnare the big tech firms. At the same time the antitrust regulators (the DoJ and the competition arm of the FTC) will make it nearly impossible for the big five companies to acquire smaller ones. They will also seek to enforce mechanisms to ensure there can be a safe transfer of data and customers between the big incumbent tech firms and their potential competitors so that newcomers can prosper.

Let chaos reign

For the tech firms this may appear utterly disorganised, and thus fairly harmless. But one way of gauging the hawkish mood in Chicago is to listen to what the big hitters of the non-tech business world now say about the industry. On April 23rd Jeffrey Gundlach, a celebrated fund manager, stood on stage at the Sohn Conference, an investment event in New York, and made fun of Mr Zuckerberg before saying Facebook was his best "short". The reason? Regulation. Or try the head of a megabank: the big tech firms and their bosses "have no idea what is going to hit them".

This article appeared in the Business section of the print edition under the headline "Chicago bears"

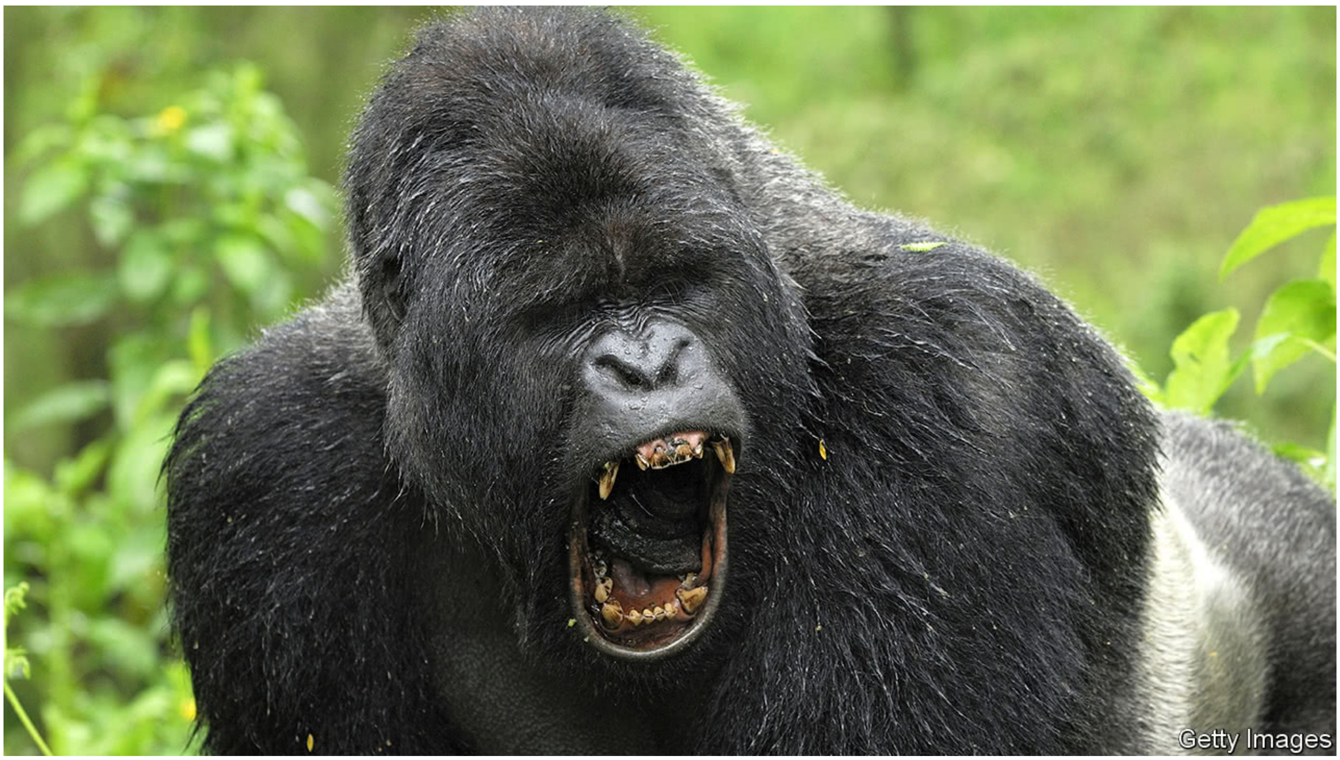
Commodities and geopolitics
The 800-pound-gorilla effect

The 800-pound gorilla effect

Donald Trump is sending shockwaves through global commodities markets

Possible sanctions on Iran and Venezuela are the next big threat

Print edition | Finance and economics Apr 26th 2018



THE notion that the gentle flap of a butterfly's wings can cause chaos on the other side of the world is well known. But commodity markets have been tested in recent weeks by what could be called the 800-pound-gorilla effect: the idea that chest-beating in the White House can unleash turmoil in global metals, agricultural and energy markets.

President Donald Trump has slapped sanctions on Russia's biggest aluminium producer, Rusal, intensified a trade tiff with China and tweeted a gibe against OPEC, the oil-producing cartel. His actions have shaken commodity markets at a time when speculation in futures is near the record heights of 2012, making markets even more volatile (see chart). Aluminium, nickel and palladium prices have soared and then plummeted. Soyabean markets are under threat. Oil prices are at their highest levels for more than three years.

Physical trade has been affected too, with some shipments to Rusal of bauxite and alumina, the raw materials of aluminium, suspended for fear of sanctions-busting, and cargoes of American sorghum to China diverted in mid-ocean because of Chinese trade restrictions. Pushing oil prices yet higher is the possibility that Mr Trump could impose sanctions on oil shipped from Iran and Venezuela next month, tightening the global supply of crude just as America's summer driving season starts. Geopolitics has often upset global trade in commodities. But rarely has America's government been such a source of upheaval across so many markets.

Metals have suffered most directly. From April 6th, when America's Treasury prohibited Americans from dealing with Rusal and its boss, Oleg Deripaska, and threatened sanctions against non-citizens who traded with them, aluminium prices rose by more than 30% as buyers scrambled for non-Russian metals. Then on April 23rd, when the Treasury temporarily softened the proposed sanctions to spare "the hardworking people" of Rusal and its subsidiaries, and said it might lift them on Rusal if Mr Deripaska ceded control, they gave up around half of those gains.

Nickel prices also soared until April 19th on expectations the sanctions could extend to Norilsk Nickel, a Russian producer. José Cogolludo, global head of commodities at Citi, notes bashfully that shortly before the sanctions-related rally, the bank had been telling investors that nickel prices would hit $16,000 a tonne by 2020. They reached $17,000 in days—before falling back when the sanctions were eased.

Mr Cogolludo says that hedging of metals reached unprecedented levels as corporate clients sought to protect themselves during the price moves and speculators tried to cover short positions. He adds that computer-driven models, which account for most speculative activity in metals markets, respond quickly to market signals but are rarely good at deciphering geopolitical risk. This may have led to overshooting.

Agricultural commodities have suffered collateral damage from trade tensions between America and China. After the Trump administration imposed tariffs on steel and aluminium imports in March, in mid-April China announced a 179% preliminary anti-dumping duty on imports of American sorghum, a niche animal feed. This stopped American exports, which account for almost all sorghum entering China, in their tracks.

More significantly, China responded to an American proposal in April to slap 25% tariffs on 1,300 goods from China by threatening similar levies on 106 American imports, including soyabeans and cotton. According to Stefan Vogel of Rabobank, 35% of China's 97m tonnes of soyabean imports come from America, which are not easily replaceable. So the market is betting that China will not carry out its threats. But if traders are wrong, and a tariff war breaks out in earnest this summer, the disruption could be severe. He says prices of soyabeans in America would plummet. Those of soyabeans in South America, spared the Chinese tariffs, could soar.

Some say that Mr Trump is showing a pattern of making threats and then backtracking, which creates noise but does little lasting damage. That view may be tested in the oil markets on May 12th. The president has threatened to reintroduce sanctions on Iran unless Britain, France and Germany agree to renegotiate the Iranian nuclear deal by then.

Some oil bulls say Mr Trump's nomination of Mike Pompeo as secretary of state and his appointment of John Bolton as national security adviser—both Iran hawks—have made sanctions likelier. These could remove at least 500,000 barrels a day of Iranian oil from a market that is already looking tighter because OPEC and non-OPEC producers have restrained output. Abhishek Deshpande, head of oil research at J.P. Morgan, says such sanctions could raise average annual oil prices by about $10 a barrel (Brent crude has been trading near $75). Additional measures threatened against Venezuela if elections on May 20th are not free and fair could squeeze the market yet more.

But Bob McNally of Rapidan Energy Group, a consultancy, argues that the impact of higher petrol prices on American drivers may persuade Mr Trump to accept compromises on Iran and Venezuela. Nerves ahead of mid-term elections, he reckons, explain the president's first tweet aimed at OPEC. On April 20th Mr Trump blamed the cartel for "artificially very high" prices—although high prices are also a windfall for American shale producers.

OPEC ministers, disturbed by the tweet while at a birthday party in Jeddah for the organisation's secretary-general, Muhammad Barkindo, were not conciliatory. They claimed, however implausibly, that they were not trying to rig oil prices. But they should beware taking Mr Trump's ability to mess with the markets too lightly. With bullish bets on oil prices near record highs, it would not take much to trigger a sharp reversal. Just ask metals traders: the 800-pound gorilla can trash prices as well as push them up.

This article appeared in the Finance and economics section of the print edition under the headline "The 800-pound-gorilla effect"

Buttonwood

Technology can tackle investors' flaws

Forget about beating the market

Print edition | Finance and economics Apr 26th 2018

TECHNOLOGY has transformed finance. Consumers bank and buy their insurance policies online. They use technology to manage their pensions and other investment portfolios. But can tech improve returns? Only if it is used wisely.

If it is cheaper to trade, then costs will take a smaller chunk out of long-term returns. Technology also allows fund managers to replicate stockmarket indices, giving investors access to broadly diversified equity portfolios for a fraction of a percentage point in annual fees.

But the ease and cheapness of trading, along with the vast range of options available, create a terrible temptation. Worldwide there are nearly 7,400 exchange-traded funds (ETFs) and related products. These funds are not used only by "buy and hold" investors. Nearly half of the top 20 traded securities on American markets, by value, are ETFs.

Just because you can trade does not mean you should. And just because there is a fund specialising in smaller Vietnamese companies, or one that bets on trends in volatility, does not mean you have to buy it. Men aged over 50 can go shirtless on sunny days or wear flip-flops. But that does not mean it is wise for them to do so.

Some professional investors make a virtue of incessant trading, with a holding period for shares of milliseconds rather than years. They can use computers to crunch data faster than anyone else and to exploit small differences in securities prices. This is a Darwinian business, in which everyone is incessantly improving their infrastructure and their algorithms to get an edge on the competition.

But by definition a majority of investors cannot beat the market, whether with frequent trading or any other strategy. Instead of chasing this chimera, ordinary investors should use technology to correct for their innate flaws.

First of all, many people underestimate how much they need to save to meet their long-term needs. Some of this is down to the difficulties involved in the calculations, which require people to make assumptions about longevity, inflation and future investment returns. Another problem is the natural human inclination to spend money today rather than to save for a distant, and uncertain, future.

Either way, such short-sightedness creates a problem. Take Americans aged between 40 and 55. The median balance in their private pension plans is just $14,500. Low interest rates were adopted by central banks in the aftermath of the financial crisis in order to discourage people from saving, and to help revive the global economy. The paradox is that low interest rates mean that savers need a bigger pension pot on retirement. They must save more, not less.

Technology can help deal with this issue. A good statistical model can tell individuals what pension pot they will need at retirement; what investment return they can reasonably expect; and whether they are on track for the target. If they find they are falling short of their goal, investors can save more or adjust their planned retirement date. Just being aware of the scale of the task can make investors change their behaviour.

Secondly, technology can help investors choose a strategy that avoids incessant trading. It is easy for investors to fall into one of two traps: making an arbitrary selection of assets in their 20s and never changing it, or relentlessly fiddling with their portfolio. Too many people fall into the trap of enthusing over fashionable sectors or hot mutual funds. If a sector is in vogue, it has already risen in price, so it is quite likely to be expensive relative to its history. By the same token mutual funds become hot because of their past performance, but there is very little evidence of persistence in returns.

An automated system can impose discipline. One possible approach would involve setting up a strategic asset allocation: say 20% to domestic equities, 40% to international shares, 20% to inflation-linked bonds and 20% to corporate debt. The portfolio could be automatically rebalanced once a year, or if the asset allocation strayed a long way from the target in the meantime. Such an approach would have the merit of buying assets when they have fallen in price (and are cheap) and selling them when they are dear.

In short, investors should not treat technology as the equivalent of a "diet pill" that will help them to lose weight effortlessly and instantly. Instead, they should view it as a tool to encourage the behaviour (the investment equivalent of exercising more and eating less) that will lead to long-term success. Think of fintech as one of those step-counting apps, nagging you to financial fitness.

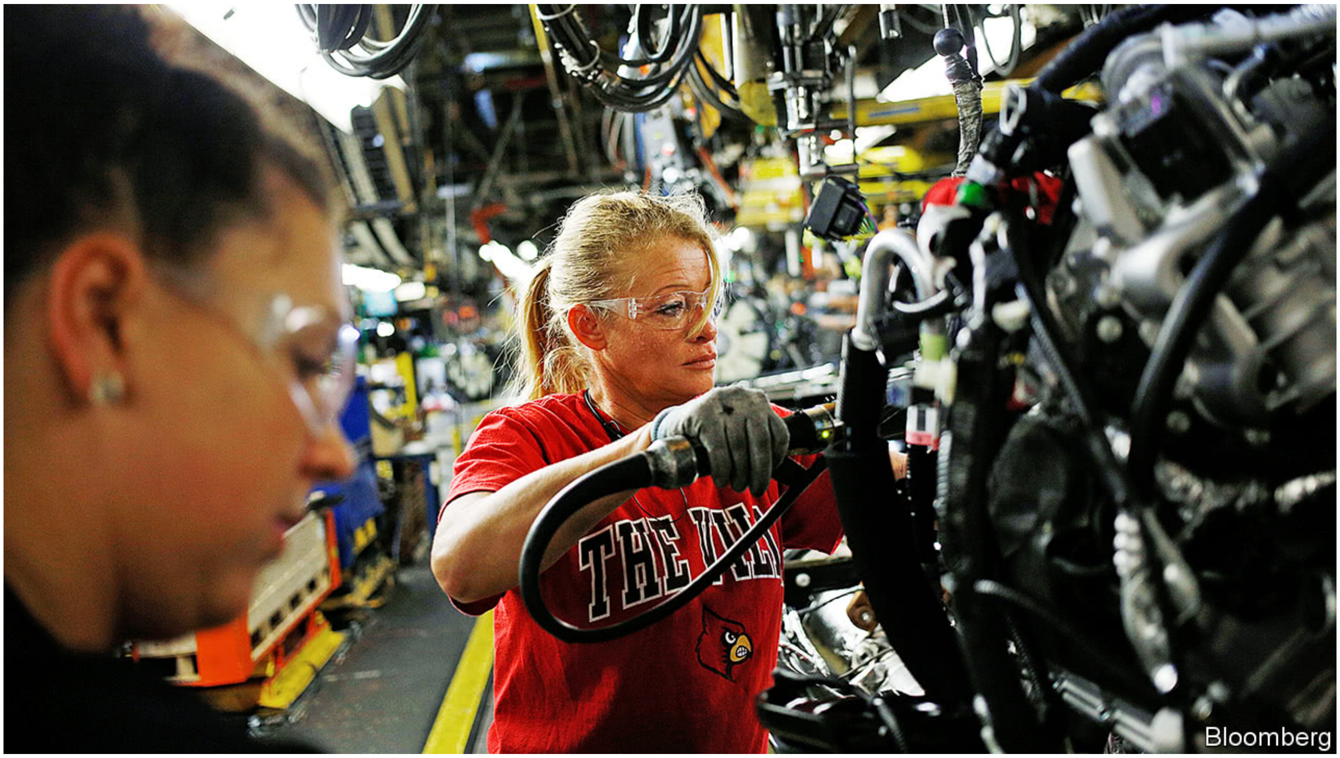
This article appeared in the Finance and economics section of the print edition under the headline "Mind games"

Renegotiating NAFTA

A new NAFTA may be agreed on soon

Then the hard work begins

Print edition | Finance and economics Apr 26th 2018



ONE year ago, a member of President Donald Trump's administration drafted a short executive order to withdraw America from the North American Free-Trade Agreement (NAFTA), a trade deal with Canada and Mexico. The obvious interpretation was that Mr Trump was irresponsibly bullying the Mexicans and Canadians into giving America better terms. A kinder view held that he was aiming at a domestic audience. Congress was dragging its feet at the time over the confirmation of Robert Lighthizer, the president's chosen trade negotiator. Mr Trump's threats were a way to kick it into action.

One year on, with Mr Lighthizer long since in place, America's attitude to NAFTA seems no less hostile. Its threat of withdrawal still hangs over the talks, and in March Mr Trump waved the stick of tariffs on steel and aluminium in case a deal to revise NAFTA could not be reached by May 1st. This tough talk may yield an agreement within the next few weeks. Negotiators are working intensively in Washington, DC, with instructions to be available until May 4th. (Even after an agreement in principle is reached, it could take a little while longer to finalise all the details.)

The details of any deal would bear the scars of hard negotiations. Mr Lighthizer has demanded that a new NAFTA expire automatically after five years and wants to weaken a clause that allows members to dispute emergency tariffs imposed by their partners. If his team prevails, the revised pact would be a step away from the integrated North American economy that the original deal was supposed to foster.

Mr Lighthizer's team has also demanded that NAFTA be stripped of provisions that allow investors to sue governments if they are denied "fair and equitable treatment". He reckons that claims against the American government should be tried in American courts, and that offering legal protection for American firms abroad underwrites the outsourcing of jobs. The Canadians and Mexicans, not to mention some senior Republicans, all disagree.

These proposals could yet be dropped. It seems more certain that a new deal will contain tighter "rules of origin" for cars, which specify how much North American content a car must have for it to qualify for zero tariffs. The Americans' latest proposal is to raise the requirement from 62.5% to 75%. Although this is lower than their original demand of 85%, it could still cause disruption as car companies either reconfigure their supply chains or suck up non-NAFTA tariffs.

A related idea, to give carmakers credit towards the content requirement if they use parts made by workers earning more than a specified wage, would find support among those who worry that free-trade deals typically encourage a race to the bottom.

But it would find opponents too, mostly from Mexicans who might see it as a way of favouring American and Canadian workers at their expense, and from the car companies forced to comply.

Yet the true costs of the Trump administration's aggressive approach may show up as the three members try to move from a deal in principle to a deal in practice. Each member must have the agreement approved by its legislature. That will be more difficult if Mr Trump continues to treat NAFTA as a zero-sum pact (even if Mr Lighthizer recognises publicly that all three sides must gain).

That said, in Canada winning a vote should be fairly straightforward, given the governing party's parliamentary majority. And although some have worried that Andrés Manuel López Obrador, the left-leaning front-runner in Mexico's presidential race, will try to renegotiate if he wins, his pick for economy minister said on April 18th that Mr López Obrador would respect a deal struck before the election.

Oddly, America's Congress may prove trickier. There is precious little chance of putting a deal before legislators before the mid-term elections on November 6th, and none of forcing them to vote on a deal in their final session if they are reluctant to do so. Securing votes in a lame-duck session after the election might require enticing members of Congress with special provisions to their liking, perhaps on intellectual property or agricultural markets. But those are precisely the sorts of provisions that could be ditched by negotiators in the interest of concluding a quick deal. Republicans will not like a deal that strips out the investor-state dispute-settlement rules, or has an expiry date.

Rather than courting centrist Democrats or Republicans of the sort who might have voted for the Trans-Pacific Partnership, a trade agreement from which Mr Trump withdrew as soon as he took office, Mr Lighthizer has been engaging more with left-wing Democrats and trade unions. This is a risky strategy, as these groups may still be unsatisfied by whatever labour standards Mr Lighthizer can negotiate and be wary of the political costs of associating with Mr Trump.

Mr Trump could revisit his threat of a year ago to withdraw from NAFTA, a step Mr Lighthizer reportedly favours. Presented with an alternative of no deal, that could force Congress to approve the new version. But Congress could also fight back, either by reversing any American tariff increases or by inserting "riders" in other bits of legislation to strip Mr Lighthizer's department of funding to implement the NAFTA withdrawal. Whatever happens, agreement in principle is only the first part of the fight.

This article appeared in the Finance and economics section of the print edition under the headline "A deal undone"

Not finnished

The lapsing of Finland's universal basic income trial

Plenty of UBI trials are under way, with more to come

Print edition | Finance and economics Apr 26th 2018

THE concept of a universal basic income (UBI), an unconditional cash payment to all citizens, has in recent years captured the imagination of a wide spectrum of people, from leftist activists to libertarian Silicon Valley techies. Proponents see a neat solution to poverty and the challenges of automation; detractors argue it would remove the incentive to work. Trials of UBI have been launched, or are about to be, in several countries. Most are publicly funded, although Y Combinator, a Silicon Valley startup accelerator, is starting a privately funded experiment in America.

Finland was one of the first movers. In January 2017 it began a trial for 2,000 people, each receiving €560 ($680) a month. That drew legions of foreign journalists and camera crews. This week, however, international media attention abruptly centred on the ending of the experiment in December 2018. Headlines suggested that it had been "scrapped" or had "failed". The truth is more nuanced.

The trial was always due to finish after two years, although Kela, Finland's national welfare body, which was responsible for the experiment, had hoped to expand it (it was denied funding in January). The scheme was also more limited than the hype suggested; it was not a truly universal benefit, because all the recipients were chosen from among the unemployed. And the trial is not ending because of failure. Indeed, Kela has refused to publish any results until it is finished, for privacy reasons and to avoid biasing outcomes. The government simply has other priorities. In particular, it has decided to adopt Danish-style active labour-market policies.

More important, the UBI trial was always as much about the principle of policy experimentation as it was about the outcome. As Heikki Hiilamo of Helsinki University points out, Finland has tested policies before, such as a "full employment" trial which sought to provide a salaried job for every unemployed person in the small town of Paltamo. And the country is still keen on novelty. After the UBI trial, the government is planning to test a universal credit system.

In its desire to try new policies on a small scale, Finland is no different from many other countries. A study in five Dutch municipalities, billed by some as a basic-income trial, is in fact mainly focused on testing various options for unemployment benefits, dividing participants into three groups. (To be fair, one of these was supposed to receive something much more like a UBI before changes imposed by the national government.)

For all the hype around UBI, surprisingly few are using the most rigorous research approach—a randomised control trial. Y Combinator's plan in America, as well as an experiment in Kenya run by GiveDirectly, a non-profit organisation, are exceptions.

In the Kenyan project, 300 villages were assigned to four groups. In one, villagers get a UBI for 12 years; in the second, for two; in the third, they get a lump sum; the fourth is a control group. But all these trials are just getting started, and none has released results yet.

Meanwhile, other basic-income trials are going ahead. On April 24th the provincial government of Ontario said that it had successfully finished the enrolment phase of its UBI study, which has more than 4,000 participants in four towns. And in Scotland, four local authorities, including Glasgow and Edinburgh, are busy hashing out pilot projects to implement a basic income. Whatever the results of Finland's trial, a definitive answer on how UBI actually affects citizens' long-term behaviour is still many years away.

This article appeared in the Finance and economics section of the print edition under the headline "Not finnished"

Rule the school

A market-design economist wins the John Bates Clark medal

Parag Pathak's market designs have influenced the lives of 1m schoolchildren

Print edition | Finance and economics Apr 26th 2018

BOSTON parents were fed up. To get their children into public schools they had to submit a list of their preferences. Spots were allocated first to those who put a school top. Only then would schools consider pupils who put them second or third. Sounds fair? Hold on. The best schools are popular. Picking them risks rejection. Good schools are sought after, too. If put second they may also fill up, leaving only places at worse schools. Should parents aim for the best and risk mediocrity, or settle for the good?

On April 20th the American Economic Association (AEA) awarded the John Bates Clark medal, given annually to a leading economist under 40, to Parag Pathak of the Massachusetts Institute of Technology. He researches market design—eg, creating mechanisms to allocate resources without money, such as school places in Boston. Solutions he devised there have been applied widely, from New York to New Orleans. The AEA says that by improving pupil allocation Mr Pathak had "influenced the lives of over 1m public school students".

In Boston, as a graduate student at Harvard, Mr Pathak worked with his mentor Alvin Roth (since awarded a Nobel prize) on a new system. It asks pupils and schools to list each other from first to last. A computer program offers places to pupils that schools put top. Pupils take the best offer and reject the rest. Schools work down the list making fresh offers as rejections occur, with each pupil keeping a single, most preferred, offer. Parents no longer need strategies.

Mr Pathak has since pondered related questions, such as whether parents can truly judge schools' quality. In Boston, he found that charter schools (public schools exempt from some regulation) improved the performance of disadvantaged pupils. Children randomly allocated places there tended to flourish; those elsewhere languished. Parents spotted high achievement, and applications rolled in. But in New York, where parents pay handsomely to live near elite schools, he showed that whether pupils just squeak in or just miss out, they do equally well and attend similar colleges. The best schools get the best pupils, but may not make them better.

When he was growing up in New York state, Mr Pathak "used to dream about attending a selective public school in New York City". It seems that he needn't have worried.

This article appeared in the Finance and economics section of the print edition under the headline "School rules"

Catching a cold

The euro area's economy loses momentum

The best of the zone's growth spurt may already have passed

Print edition | Finance and economics Apr 26th 2018

Economist.com

ECONOMISTS have spent the past decade wringing their hands over the health of the euro area's economy. Last year, in a welcome respite, it expanded by a robust 2.3%, outstripping forecasts and matching America's growth rate. But it has appeared less rosy-cheeked since.

Symptoms include moderation in a number of monthly indicators. Industrial production fell in January and February, as did business confidence; retail-sales growth was disappointing. The purchasing managers' index (PMI), an output survey regarded as a good early indicator of GDP growth, has fallen from exuberant—and perhaps unsustainable—levels at the turn of the year, though it still points to decent growth (see chart).

Germany, the bloc's largest economy, has not been immune. A summary indicator compiled by the Macroeconomic Policy Institute, a German think-tank, which includes production, sentiment and interest-rate data, suggests that the probability of a recession has risen, from 7% in March to 32% in April. A measure of economic sentiment based on a survey of participants in financial markets by the Centre for European Economic Research (ZEW), another German institute, has fallen sharply.

Many analysts think that at least part of the explanation could be a range of temporary factors, the equivalent of a sniffle rather than a severe infection. A cold, elongated winter across the continent, and a nasty outbreak of flu in Germany, may have depressed production and kept shoppers at home. Some German output was probably lost in February, when members of IG Metall, a large trade union for industrial workers, went on strike. But if this told the whole story, the euro area's economy should be bouncing back by now. Although the whole zone's PMI stabilised in April, some surveys in Germany and France dipped a little further.

Demand may have been weighed down by other factors. The waning impact of the European Central Bank's (ECB) quantitative-easing programme could be a candidate. But the central bank's regular survey of banks suggests that its accommodative monetary-policy stance continued to translate into looser credit conditions over the past six months.

Another candidate is the stronger euro, which may have held back exports. Although much of its rise took place last year, economists at HSBC, a bank, point out that currency changes typically feed through to the trade figures with a lag. Consistent with that, the zone's exports fell in February; sharp falls in the PMI measure of manufacturing-export orders also point to a loss in momentum.

Barring further strength in the currency, this too should eventually pass. A complication, though, is the risk of a trade war, given the importance of exports for the euro area, and particularly Germany. The fear of protectionism could explain why some forward-looking indicators of sentiment have turned down, says Achim Wambach of the ZEW, though it is unlikely to have affected the hard data yet.

The ECB, which was meeting to discuss monetary policy as *The Economist* went to press on April 26th, will be watching closely for signs of more persistent weakness. One risk is that the slowdown indicates less spare capacity in the economy than expected, with less room for above-trend growth. But with inflationary pressure still subdued across the euro zone, policymakers may not be too exercised. That said, the cyclical peak in growth may be past. As spare capacity is used up, most forecasters expect growth in the zone to slow gradually over the coming years, towards its long-run potential rate.

And here a more chronic problem surfaces. In its *World Economic Outlook*, released last week, the IMF opined that medium-term growth in the single-currency bloc was likely to be only 1.4%, "held back by low productivity amid weak reform efforts and unfavourable demographics". The hand-wringing continues.

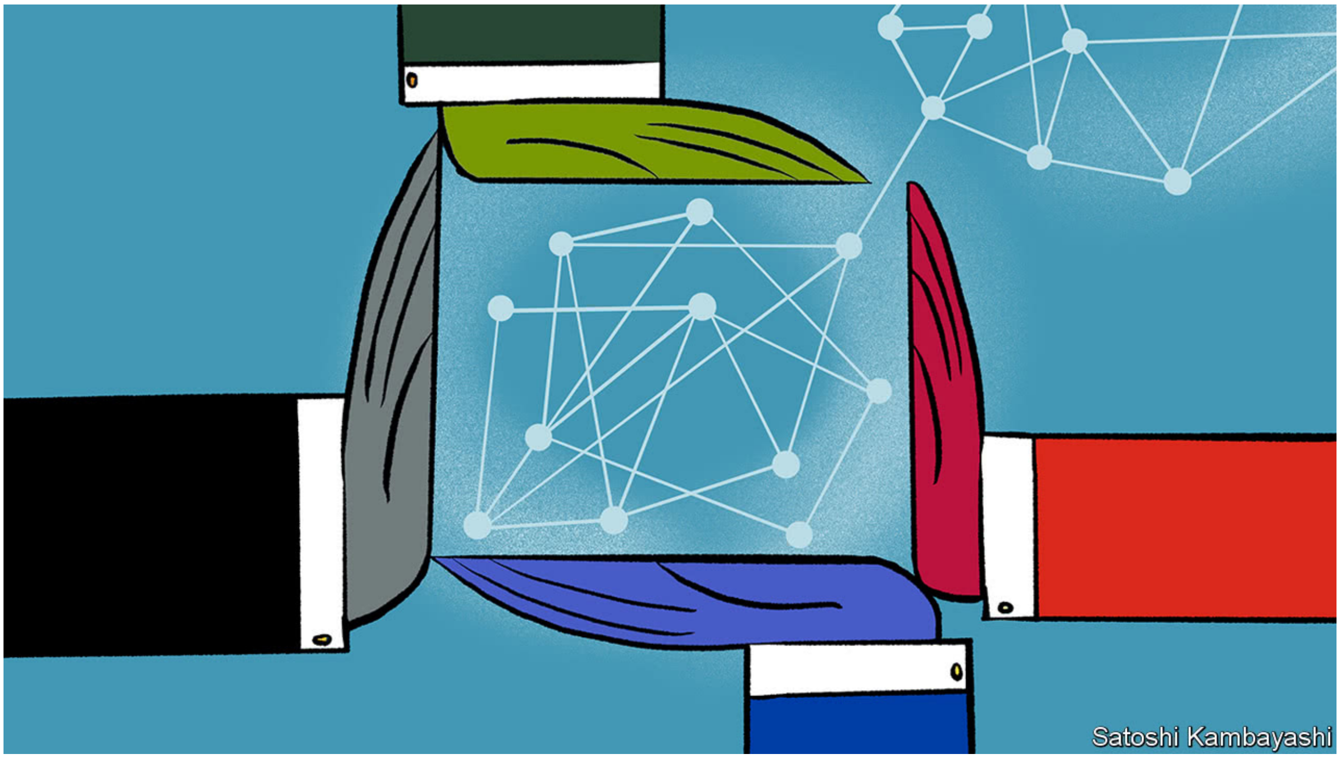
This article appeared in the Finance and economics section of the print edition under the headline "Catching a cold"

Policing the wild frontier

Regulating virtual currencies and ICOs

A legal framework for the crypto-sphere is starting to take shape

Print edition | Finance and economics Apr 26th 2018



THE pattern is familiar. Computer geeks develop technology that threatens to overturn established markets and habits. Regulators then scramble to understand and tame the beast. This is what is happening in the financial world in the wake of an explosion of crypto-currencies. Over the past year the pool of virtual currencies has both deepened, from $30bn to $400bn, and widened, with the spread of "initial coin offerings" (ICOs, a form of fundraising in which investors in young companies are issued with virtual tokens). Hedge funds, students and pensioners have all been caught up in the crypto craze.

This worries authorities, because the crypto-sphere is far from risk-free. Valuations can leap and plunge: after a giddy rise, between December and February the price of bitcoin dropped from nearly $20,000 to less than $7,000. (It is now around $9,000.) Several ICOs have turned out to be scams. Legitimate tokens are in danger of being stolen. Some crypto-currency exchanges have been hacked.

In response, national authorities are starting to think seriously about a legal framework for finance's unruly frontier. Regulators fret about how to classify ICOs and tokens (are they securities, or not?) and how to tax them. They want to stop their use for such evils as money-laundering and financing terrorism. And they worry about how to protect retail investors from the risk of losing their shirts.

Indeed, scarcely a day passes without a supervisor somewhere calling for tighter regulation, or taking action. On April 6th the Financial Conduct Authority in Britain warned firms offering services linked to crypto-derivatives that they were subject to its rules. On April 10th Taiwan's finance ministry said it was planning crypto regulation aimed at money-launderers. On April 17th New York state's attorney-general asked 13 crypto-exchanges for information about their operations, conflicts of interest and safeguards for customers.

Regulators are plotting together as well as separately. When the governors of the G20 countries' central banks met in Buenos Aires in March, crypto was high on their agenda. They agreed that at present these assets are too small to be of systemic importance, but they committed themselves to extending standards to which financial institutions already adhere—such as know-your-customer (KYC) rules and procedures for monitoring unusual transactions—to the crypto-world, in order to thwart the illicit use of virtual currencies.

When bitcoin entered public awareness it was chiefly as a facilitator of anonymous, illegal sales on the "dark web" and as the currency of choice for online ransoms. Many in law enforcement thought its anonymity would make it ideal for criminals of all stripes. But until recently evidence of this was scarce. “The overwhelming view was that crypto-currencies had great utility to cyber-criminals but limited use to other criminals,” says David Carlisle of the Royal United Services Institute, a think-tank. Volatility and illiquidity limited their use for money-laundering. But evidence that crooks are making more use of them is mounting (see article).

The most logical parts of the crypto-infrastructure to regulate are the platforms on which virtual currencies are exchanged for ordinary money. Several countries, such as Australia and South Korea, already do this. The EU’s fifth anti-money-laundering directive, which was passed by the European Parliament on April 19th, also includes measures to regulate exchanges. But many places have no rules at all.

That may suit many crypto-entrepreneurs, but not all. Several exchanges are, for example, voluntarily implementing KYC standards (eg, by asking new customers to prove their identities), banning coins promising extra privacy or using software to monitor unusual transactions.

Agreed rules would help to tie exchanges into the mainstream banking system. Many of them currently choose unfussy jurisdictions or institutions, because conventional banks will not serve them. Lenders are wary both of credit risk and of abetting crime if exchanges don’t police users. Proponents of regulation say that once exchanges operate in a clear legal framework, those risks should be reduced and banks will take them on. That in turn will make it easier to keep an eye on exchanges.

Regulators disagree about consumer protection. Some see shielding investors from harm as their job; others think people should be free to gamble if this poses no wider risk. Many have warned investors to be wary of ICOs. Some authorities want both to protect consumers and to allow legitimate crypto-businesses to flourish in their jurisdictions. Gibraltar already licenses some crypto-companies. France is working on a system of voluntary licensing. Iqbal Gandham of CryptoUK, which represents some of Britain’s largest crypto-companies, believes such initiatives could help legitimate businesses gain access to banks and perhaps even advertising. “We also don’t want to have criminals on our platforms,” he says.

Authorities also worry about taxation. They spy a new source of revenue: because trading crypto can be lucrative, they are keen to levy capital-gains tax on any profits. And they fear losing existing income: virtual currencies might be used to hide money. Because most exchanges have operated in the dark, reliable data on crypto-evasion do not exist. Most countries are still working out how to define tokens, let alone tax them. Some are stepping up, however. In February Coinbase, an exchange, said it had unsuccessfully fought an American court order and would have to hand the identities of 13,000 customers to the Internal Revenue Service. Other exchanges have fled to offshore jurisdictions with more favourable tax regimes.

With so many poorly understood risks, some regulators think the only safe answer is to shut the whole crypto-sphere down. China, for example, has banned ICOs and exchanges. But elsewhere this is neither desirable nor practical (it requires tight censorship of the internet). Crypto-enthusiasts see parallels with the early days of the internet, when authorities also strove to control a new arena—and declared it a nest of criminality. Most countries have since decided that the web’s benefits outweigh its costs. It is too early to say whether this will be true of crypto-assets or the blockchain technology that underpins them. But it would be wrong to outlaw them before knowing the answer.

This article appeared in the Finance and economics section of the print edition under the headline ”Policing the wild frontier”

Digital detergent

Crypto money-laundering

Will crypto help the money-launderers of the future?

Print edition | Finance and economics Apr 26th 2018

AS LONG as dirty money has been around, so has money-laundering. Between $800bn and $2trn, or 2-5% of global GDP, is washed annually, estimates the United Nations Office on Drugs and Crime. Criminals have swapped money for precious metals, mis-stated invoices, rinsed cash through casinos or simply strapped it to their bodies and flown to places where banks don't ask questions. Now they have a new detergent: crypto-currencies.

Such data as there are suggest that crypto-laundering is still a small share of the whole. But crypto-currencies' attractions—global availability, the speed and irreversibility of transactions and the ability to hide identities—are plain. Rob Wainwright, head of Europol, Europe's police agency, has estimated that 3-4% of the continent's annual criminal takings, or £3bn-4bn ($4.2bn-5.6bn), are crypto-laundered. He thinks the problem will get worse. America's Drug Enforcement Administration believes international gangs are using crypto-currencies more.

Dirty cash—from drug-dealing, say—can be washed by converting it into crypto, splitting it into smaller amounts and moving it through the crypto-sphere, perhaps via several virtual currencies. Dirty crypto, for example from a ransomware attack, can be similarly swapped around—often at high speed ("atomic swaps") and in little chunks ("micro-laundering")—until it is clean enough to be switched into ordinary money.

Authorities are slowly catching up. Last month a Briton was jailed in the Netherlands for taking €11m ($13.2m) in dirty bitcoin from criminals, converting these into ordinary money through his bank account, withdrawing the cash and returning it to the crooks, minus a cut. But professional launderers are using more sophisticated methods, often mixing old and new ways to evade detection, says Michael McGuire of the University of Surrey.

Europol recently uncovered how European crime bosses used crypto to pay a Colombian drug cartel for cocaine. European henchmen visited crypto-exchanges to convert euros into anonymous virtual currencies. These were sent to a digital wallet registered in Colombia and swapped into pesos on an online exchange. The pesos were withdrawn in cash, which local "money mules" spread over dozens of bank accounts, in sums small enough to avoid suspicion. The cartel bosses got the money by withdrawing the cash or by e-transfer.

"Sticking £10,000 down your underpants and flying to Zurich is still quite a common and easy way to launder money," says Mr McGuire. But he warns that as governments work to get cash off the street and crack down on other ways of washing money, cyber-laundering may well be the future.

***Correction (April 30th, 2018)**: The original version of this article stated that Michael McGuire worked at Sussex University. In fact he is at the University of Surrey. Apologies.*

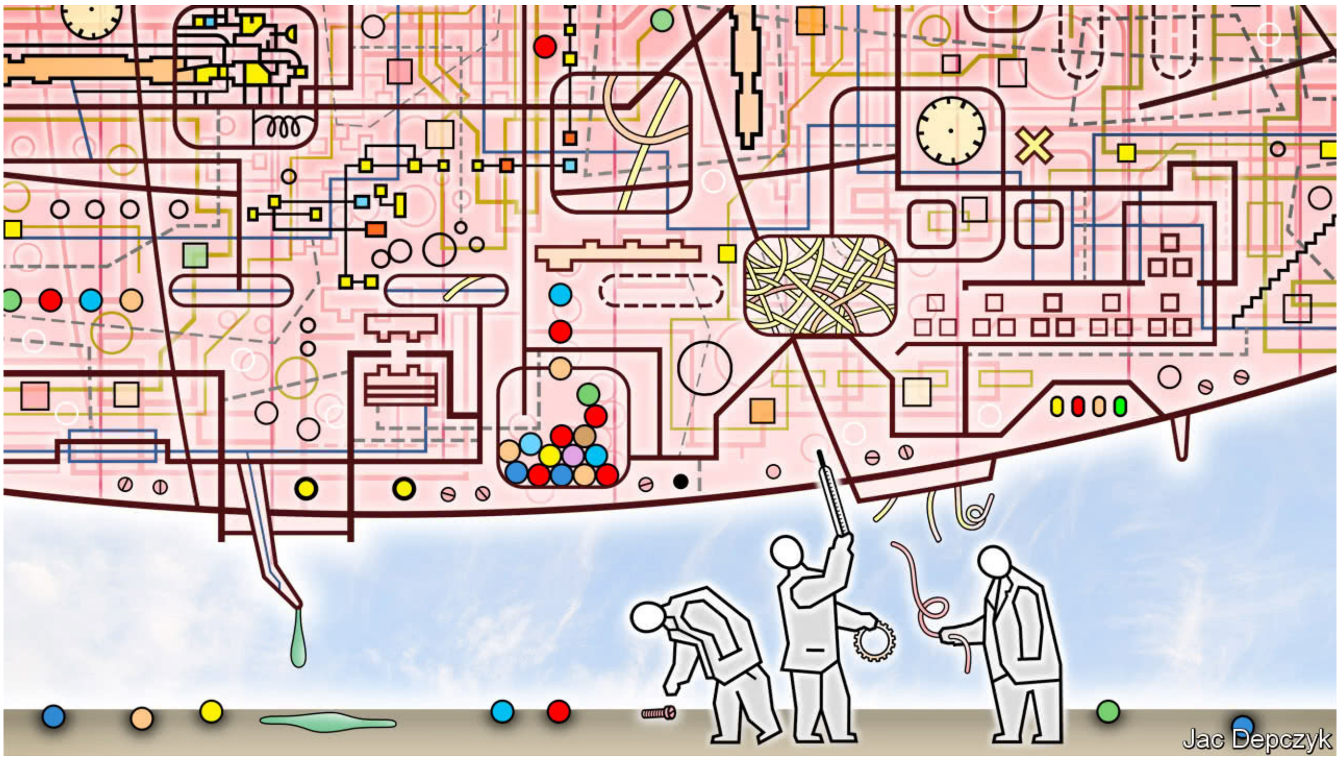
This article appeared in the Finance and economics section of the print edition under the headline ”Digital detergent”

Free exchange

Many results in microeconomics are shaky

The third in our series on the shortcomings of the economics profession

Print edition | Finance and economics Apr 26th 2018



MICROECONOMISTS are wrong about specific things, Yoram Bauman, an economist and comedian, likes to say, whereas macroeconomists are wrong in general. Macroeconomists have borne the brunt of public criticism over the past decade, a period marked by financial crisis, soaring unemployment and bitter arguments between the profession's brightest stars. Yet the vast majority of practising dismal scientists are microeconomists, studying the behaviour of people and firms in individual markets. Their work is influential and touches on all aspects of social policy. But it is no less fraught than the study of the world economy, and should be treated with corresponding caution.

For decades non-economists have attacked the assumptions underlying economic theory: that people are perfectly informed maximisers of their own self-interest, for instance. Although economists are aware that markets fail and humans are not always rational, many of their investigations still rely on neoclassical assumptions as "good enough" descriptions of the world. But this "101ism", as Noah Smith, an economist and journalist, calls it, is less prevalent than it was in the 1950s and 1960s, when researchers like Gary Becker reckoned everything from crime to marriage could be described in terms of rational self-interest. Since the 1970s, as Roger Backhouse and Béatrice Cherrier describe in "The Age of the Applied Economist"*, a new collection of essays, the field has taken a decidedly empirical turn.

Most influential economic work today involves at least some data from the real world. Many economists made their names by finding unique datasets containing "natural experiments", in which a change in policy or conditions affects only parts of a population. This allows researchers to tease out the effect of the change. In a famous example, published in 2001, John Donohue and Steven Levitt used variations in abortion laws across states to conclude that legalising abortion had been responsible for as much as half of the decline in crime in America in the 1990s. Other economists used randomised controlled trials (RCTs) to generate experimental data on the effects of social and development policies. In RCTs randomly chosen subjects are given a "treatment", such as a microloan or a school voucher, while those in a control group are not. The behaviour of the two groups is then compared.

These developments have led to better, more substantial research. Yet they have also exposed economics to the problems bedevilling most social sciences, and some hard sciences, too. Researchers can tweak their statistical tests or mine available data until they stumble on an interesting result. Or they read significance into a random alignment. Economics, like other social sciences, is suffering a replication crisis. A recent examination in the *Economic Journal*, of almost 7,000 empirical economics studies, found that in half of the areas of research, nearly 90% of those studies were underpowered, ie, that they used samples too small to judge whether a particular effect was really there. Of the studies that avoided this pitfall, 80% were found to have exaggerated the reported results. Another study, published in *Science*, which attempted to replicate 18 economics experiments, failed for seven of them.

Even when a study is perfectly designed and executed, the result is open to interpretation. Environmental factors such as changing institutions or social norms inevitably play some role, but researchers cannot fully account for them. The results of an experiment conducted in one country might not be relevant in another, or in the same country at a later date. Research may suffer from more than one of these problems. Critics of the paper by Messrs Donohue and Levitt reckon, for instance, that the authors' computer code contained an error, that they used a measure of crime that flattered their results, and that they neglected the possibility that differences in the change in crime across states were caused by differences in factors other than abortion laws. (The pair conceded an error, but responded that taking better account of confounding factors did not weaken their conclusion.)

Small wonder that economists struggle to answer seemingly straightforward questions, such as how minimum-wage laws affect employment. In 2017 two teams of researchers released assessments of a change in Seattle's minimum-wage laws within days of each other. Each came to wildly different conclusions (continuing an established pattern of such research).

New techniques could help. Machine learning, in which computer programs comb through vast datasets in search of patterns, is becoming more popular in all areas of economics. A future beckons in which retailers know virtually everything about every transaction, from the competing products buyers considered before their purchases to their heart rates at the moment of payment. That could mean better predictions and policy recommendations without a smidgen of economic analysis. But pitfalls are already apparent. The algorithms used are opaque. And getting access to the richest data will require researchers to work with, or for, giant tech firms which have their own interests.

Read the small print

Economics enjoys greater influence over policy than other social sciences. Striking new findings are publicised by researchers and their institutions, promoted by like-minded interest groups and politicians, and amplified by social media. Conflicting results and corrections are often ignored. Being alert to the shortcomings of published research need not lead to nihilism. But it is wise to be sceptical about any single result, a principle this columnist resolves to follow more closely from now on.

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This article appeared in the Finance and economics section of the print edition under the headline "A little knowledge"

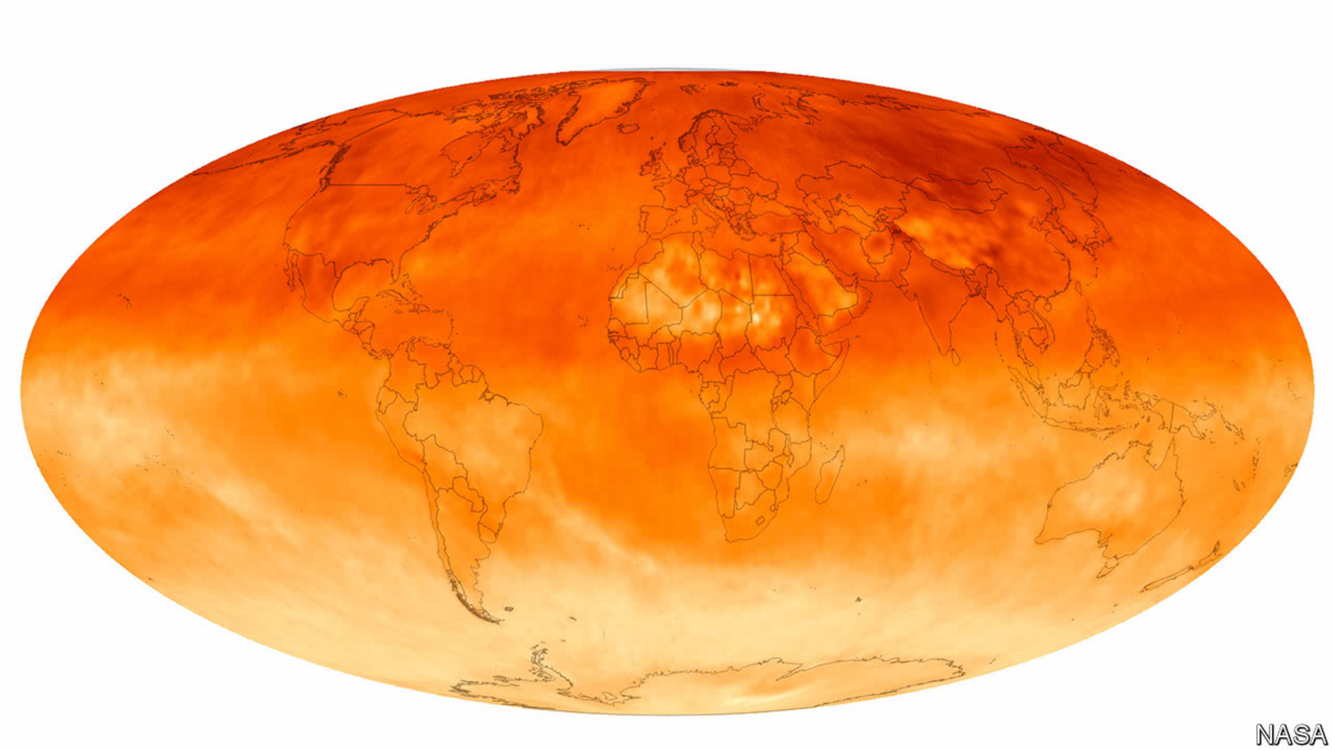
Climate change
The methane mystery

The methane mystery

Scientists struggle to explain a worrying rise in atmospheric methane

A potent greenhouse gas

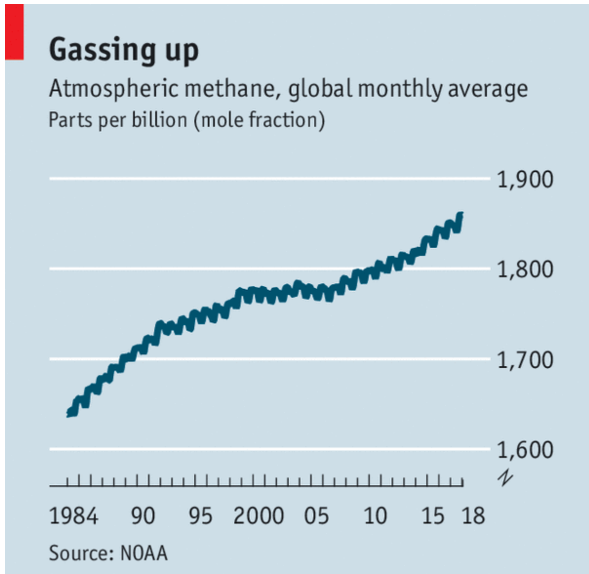
Print edition | Science and technology Apr 28th 2018



NASA

EVERY year human endeavours emit 50bn tonnes of "carbon dioxide equivalent". This way of measuring things reflects the climatic importance of CO_2, which traps heat in the atmosphere for centuries before it breaks down, compared with other, shorter-lived greenhouse gases.

Of that 50bn-tonne total, 70% is carbon dioxide itself. Half the remaining 15bn tonnes is methane. In the past decade methane levels have shot up (see chart), to the extent that the atmosphere contains two-and-a-half times as much of the gas as it did before the Industrial Revolution. Earlier this month America's National Oceanic and Atmospheric Administration (NOAA) confirmed another sharp rise in 2017.



Economist.com

This is disturbing for two reasons. First, methane is a powerful heat-trapper. Although it is far less abundant than carbon dioxide and stays in the air for only a decade or so, molecule for molecule its warming effect (calculated over 100 years) is 25 times higher. Keeping methane in check is therefore critical if a rise in temperature this century is to remain "well below" 2°C relative to pre-industrial times, a goal set out in the Paris climate agreement of 2015. The second concern is that methane's latest rise is poorly understood. The explanations put forward by scientists range from the troubling to the truly hair-raising. More research is needed to determine the correct degree of anxiety.

Atmospheric methane is biological in origin—but some of the biology happened a long time ago. The bulk of this ancient methane gets into the atmosphere during the production and transport of natural gas, of which methane is the principal component. A lesser amount leaks straight out of the ground. But this fossil methane is only 20% of the total. The remaining 80% is produced by micro-organisms which break down organic matter. These so-called methanogens inhabit soils, preferably moist ones, as well as the digestive tracts of ruminants (and, to a lesser extent, other animals, humans included).

Detective work

Methane consists of a single carbon atom surrounded by four hydrogen ones, giving the gas its chemical assignation of CH4. To ascertain the provenance of a plume of methane scientists take a sample and measure the proportion of carbon-13, a comparatively rare isotope of the element that it contains. Methane from wetlands or livestock tends to be lower in carbon-13 than that from pipelines. As global concentration of CH4 rose in the 1980s and 1990s, so did its carbon-13 content, leading observers to finger the former Soviet Union's creaky gas infrastructure. When the level stabilised early this century, it was put down to better maintenance.

The latest increase in atmospheric methane is more mysterious. A dip in carbon-13 implies that biological sources are driving the change. But which? One big worry is the Arctic. The soil there contains methane equivalent to 2.3 times all the carbon dioxide humanity has emitted since the 1800s. If it were released it could set off a vast new burst of global warming. But methane-rich Siberian air (see map of average atmospheric methane levels in January 2016, above) shows no sign of rising any faster than the rest of the world.

Some researchers, such as Hinrich Schaefer of New Zealand's National Institute of Water and Atmospheric Research, reckon that increasing numbers of cattle in India and China, along with more rice paddies in South-East Asia, are to blame. Others, including Euan Nisbet of Royal Holloway, University of London, point to tropical wetlands, which have been getting wetter and warmer, conditions in which methanogens thrive.

John Worden of NASA's Jet Propulsion Laboratory in California, and his colleagues, offered an alternative explanation in a paper published last year in *Nature Communications*. They reckon a decline in bushfires, which release methane even richer in carbon-13 than natural gas, has been steeper than previously thought. This could shift the overall isotopic signature by enough to mask a rise in emissions linked to natural gas.

Of these three propositions, Dr Worden's is the one to be wished for, because natural-gas leaks can be plugged more easily than Asian consumers' diets can be changed. The fire theory also deals with another puzzle. When annual emissions from all known sources (including fires) are tallied, the corresponding change in planet-wide methane levels exceeds that recorded by NOAA and others. Revise down blaze-related emissions, Dr Worden argues, and the numbers stack up. Sceptics point out that his approach relies on satellite measurements of carbon monoxide, which like methane is a by-product of incomplete combustion, but whose decline may be down to other things, such as the shift away from leaded petrol.

Dr Nisbet's hypothesis about the tropical wetlands is the most alarming, for it could signal an Arctic-like feedback loop there, whereby global warming could be causing them to release more methane by making them hotter and wetter. Worse, this would be happening as the wetlands get bigger. Since 1979 the boundaries of tropical rainfall have been shifting towards the poles, by 60-110km a decade according to one estimate. This is a predictable, and predicted, result of greenhouse warming, though it could be due to natural variation.

Down the sink

There is one other possibility, advanced by Alexander Turner of the University of California, Berkeley. Rather than sources of methane, Dr Turner looks at methane sinks. Specifically, he has examined hydroxyl radicals, which are water molecules stripped of one hydrogen atom. These volatile compounds act as an atmospheric detergent, mopping up methane by reacting with it to create CO2 and water. And Dr Turner thinks there are less of them about than there used to be.

Because a way to measure atmospheric hydroxyl concentrations reliably has yet to be invented, he and his colleagues arrived at their conclusion based on the use of computer models. The decrease in hydroxyls, they wrote last year in *Proceedings of the National Academy of Sciences*, is "the mathematically most likely explanation" for the rise in methane levels after 2006. Why hydroxyls would have dwindled is anyone's guess.

As ever in science, more studies are needed. But methane scholars can complain with some justification that their work commands less attention than CO2. Last year atmospheric methane was the subject of 600 peer-reviewed publications, compared with 2,000 for CO2. The tropics are particularly underserved, with only two year-round monitoring sites: a NOAA station in Hawaii and one overseen by Dr Nisbet on Ascension Island, a British dependency in the South Atlantic, which is run on a shoestring budget. Upgrading it to a "3D observatory", with drones sampling air at different altitudes, might cost little more than £50,000 ($70,000) a year, according to Dr Nisbet, who test-flew a drone for that purpose in 2016.

Better atmospheric measurements are not enough, however. More accurate tallies of individual methane sources are needed, too. On April 11th the Environmental Defence Fund, an NGO, announced plans to build a satellite to pinpoint individual methane sources from space. Steve Hamburg, the fund's chief scientist, hopes to see it in orbit by 2021. At first, it will train its sights on oil and gas installations.

Such remote sensing could shed light on leaks in gas-rich but data-poor countries, such as Russia or Iraq, where inspectors are unwelcome or afraid to venture. But it cannot fully replace on-site sampling because carbon isotopes cannot be identified from afar. Last year Dr Nisbet's team used isotopic analysis and weather models to trace a cloud of methane over the North Sea not to one of its many oil rigs but to cows in the county of Lincolnshire.

Rich countries already refine and update their methane inventories using such methods, but most developing ones do not, partly because UN guidelines are so lax as to be meaningless. Some scientists would like robust inventories to be introduced as part of the Paris commitments. Enshrining tougher standards for implementing the Paris deal, due to be thrashed out by the end of the year, could make it easier to channel UN climate finance and other development aid to places which cannot afford proper methane accounting. But many countries would resist moves that may limit their discretion.

Even as scientists battle over rival hypotheses, all agree that methane emissions must be slashed. The onus chiefly falls on the oil and gas industry. Several giants have made strides to limit fugitive emissions. BP, for example, has upgraded all but 145 of its 10,000 American rigs with less leaky plumbing. According to a rough calculation by Stephen Pacala of Princeton University, if all the world's gas producers attained BP's leakage rate of 0.2%, instead of an industry average of over 2%, it would prevent 100m tonnes or so of methane from entering the atmosphere every year. This would spare Earth as much warming as cutting all the carbon dioxide emitted since the 19th century by one-sixth.

Methane will not displace carbon dioxide as the world's main climate preoccupation. Nor should it: cutting CH4 is not an alternative to curbing CO2. But both are unavoidable if the Paris objective is to have any chance of being met. Solving the methane mystery can wait awhile. Starting to tackle the methane problem cannot.

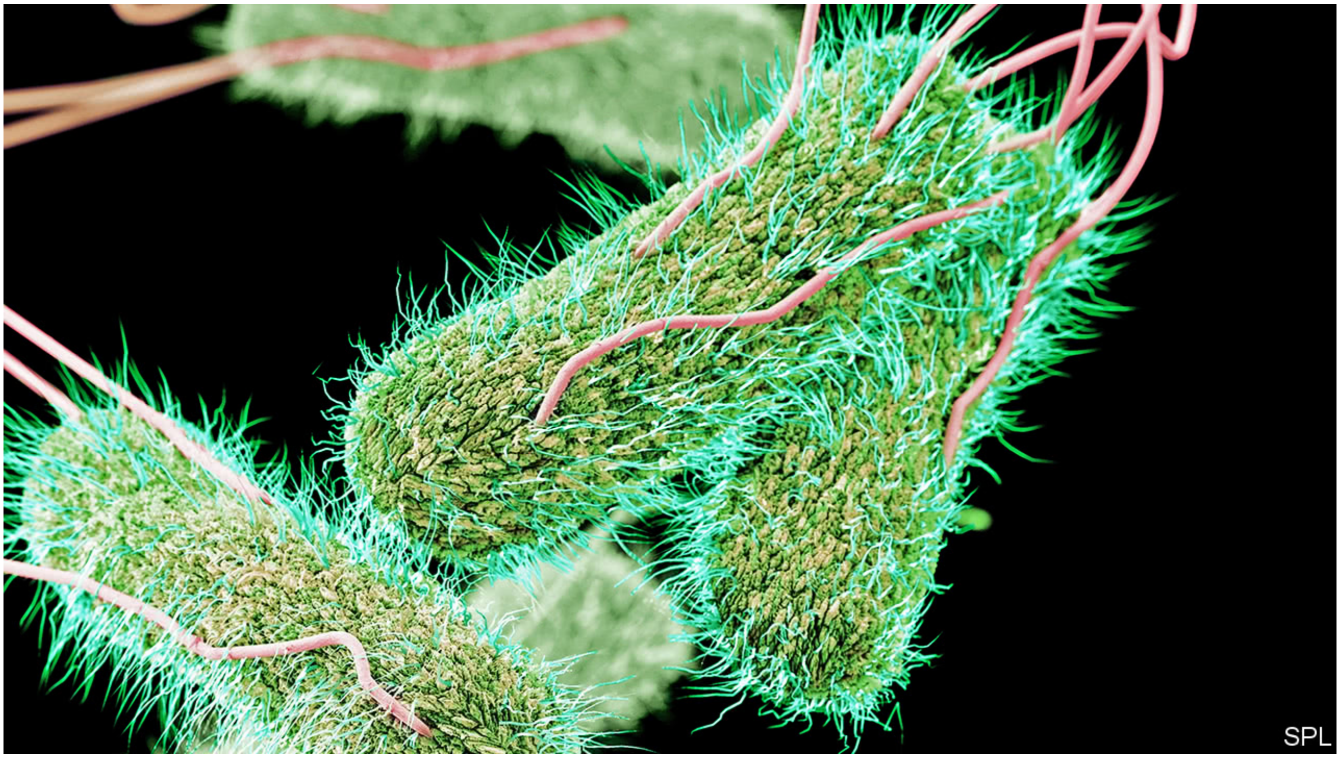
This article appeared in the Science and technology section of the print edition under the headline "The methane mystery"

A killer in the making

A strain of typhoid could become virtually untreatable

Drug-resistance makes a bug extremely worrying

Print edition | Science and technology Apr 28th 2018



TYPHOID affects some 21m people each year, and about 1% of cases are fatal. Before antibiotics were used to treat the disease 70 years ago, death rates were much higher. If left unchecked, typhoid can cause internal bleeding, perforation of the gut and, in up to a fifth of cases, death. Researchers are now concerned that an "extensively drug resistant" (XDR) strain of *Salmonella enterica* serotype Typhi (*S.* Typhi), the bacterium that causes the disease, could see a return to those dangerous days.

Since November 2016 the XDR strain has led to 858 reported cases of the disease and four deaths in the Sindh province of Pakistan, according to the latest figures from Pakistan's National Institute of Health. Together with their colleagues, Elizabeth Klemm of the Wellcome Sanger Institute near Cambridge and Rumina Hasan of the Aga Khan University in Karachi have analysed the pathogen. Their study, published recently in *mBio*, showed that its genome contains resistance genes for five types of antibiotic, making the Sindh epidemic the first known to be caused by an XDR strain. That, in effect, leaves doctors in Pakistan with just one oral antibiotic, azithromycin, with which to treat patients suffering from the disease.

If that was not worrying enough, the researchers showed that the Sindh *S. typhi* was of a lineage known as H58. Since emerging on the Indian subcontinent around 30 years ago, H58, which is resistant to as many as four classes of antibiotic, has spread to much of South-East Asia and, more recently, to sub-Saharan Africa and Oceania. The researchers found that *S. typh*i had gained more resistance genes by acquiring a plasmid, a circular piece of DNA, from another bacterium (a process known as horizontal gene transfer). Similarities in DNA sequences between this plasmid and those of other bacteria suggest that the culprit was probably *Escherichia coli*, which is commonly found in the human gut. Troublingly, H58 has in the past absorbed other antibiotic-resistance genes into its chromosome, where they can become more "hard wired" than plasmids, which can just as easily be lost as gained.

There is no reason why *S. typhi* should not also become resistant to azithromycin. Indeed, many experts believe it is simply a matter of time before it does so. That would mean the only treatments left would be "antibiotics of last resort", such as carbapenems, which are expensive and have to be injected by trained staff. In poor countries, where such treatment is unlikely, it means an epidemic may be nearly impossible to contain.

In the long term, the solution is straightforward. The bacterium is found in the faeces of those infected, as well as a small proportion of people who have recovered but remain asymptomatic carriers. The disease spreads through water or food contaminated with infected faeces. Effective sanitation and access to clean water has largely eliminated typhoid from rich countries. It could, in time, do so in poorer ones, too. More careful use of antibiotics could help avoid a near-untreatable strain of *S. typhi* emerging. There are also ongoing efforts to find new antibiotics.

In the short term, however, vaccination, monitoring and treatment remain the best options. Unfortunately, vaccines do not provide lasting immunity, require multiple doses or are only approved for children older than two. A new vaccine from Bharat Biotech, a firm based in Hyderabad, protects for at least three years with a single dose and can be administered to children as young as six months. GAVI, an international public-private alliance that provides vaccines to poor countries, has agreed to pay $85m for vaccinating children in countries where the disease is rife. The race is on to contain typhoid before it evolves into an even deadlier threat.

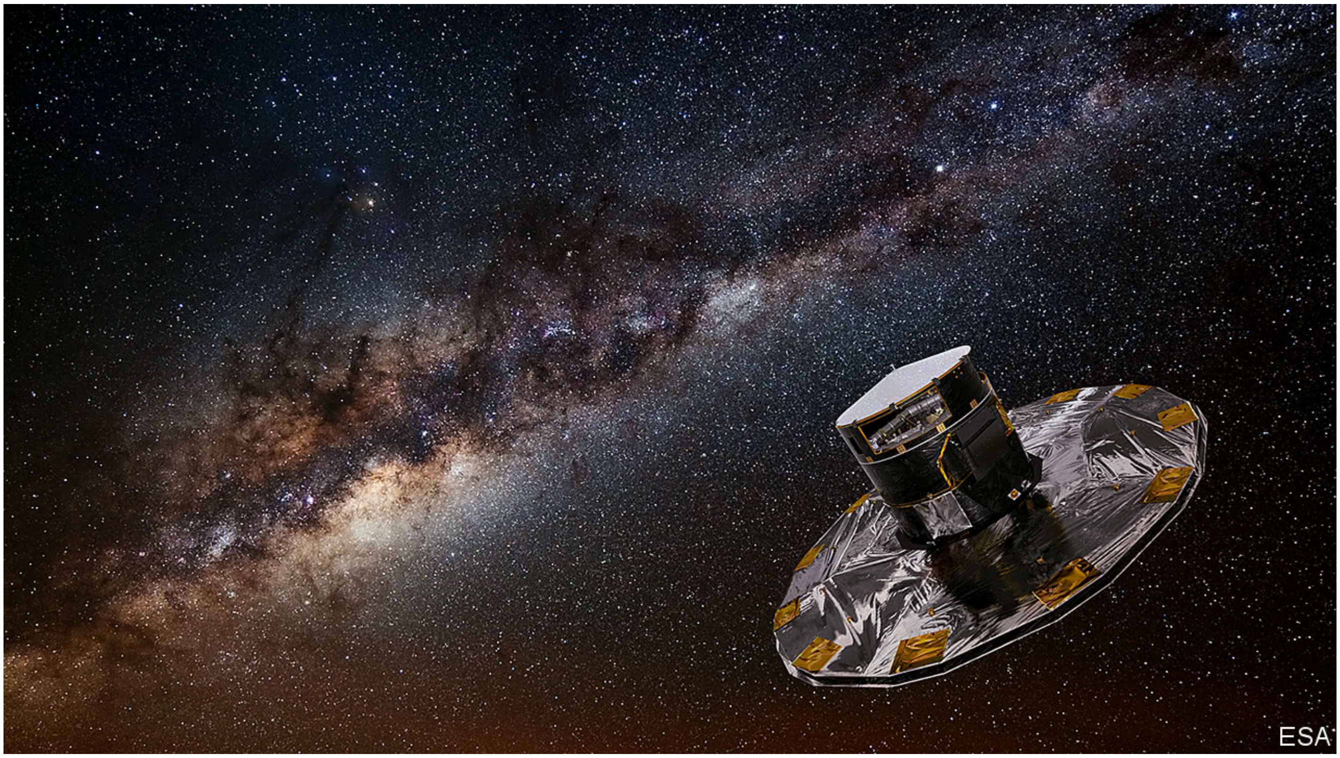
This article appeared in the Science and technology section of the print edition under the headline "A bigger killer in the making"

Into the unknown

For the first time, astronomers have a reliable map of the heavens

Discovering what's in the Milky Way

Print edition | Science and technology Apr 26th 2018



FOR something so enormous, astronomers know remarkably little about the Milky Way, Earth's home galaxy. They know its rough dimensions—somewhere between 100,000 and 180,000 light-years across. And they know that it contains 100bn stars—or perhaps 200bn, or maybe even twice that again.

For part of the galaxy, though, things are about to become much clearer. On April 25th the European Space Agency's *Gaia* satellite released one of the biggest chunks of data in the history of astronomy. Around 1.3bn stars, perhaps about 1% of the Milky Way's total, have had their position, brightness and motion measured accurately for the first time.

The result is a stellar atlas of unprecedented size and accuracy—as well as great beauty. Gerry Gilmore, an astronomer at the University of Cambridge and one of *Gaia*'s scientists, showed an audience in London a slice of space so thick with stars that they looked like grains of icing sugar poured onto a sheet of black paper. And unlike an ordinary map, which is fixed and unchanging, *Gaia*'s map moves. In the five years since its launch, the satellite has taken dozens of pictures of every section of sky, which means the stars can be tracked as they float through space. A video, exaggerated to make the motions clear, showed the thousands of stars in Dr Gilmore's image drifting across the heavens as they orbit around the centre of the galaxy.

Those movements will provide valuable clues about the forces that have shaped the structure of the galaxy, allowing astronomers to reconstruct its history. Thanks to a spectrometer aboard the satellite, many of *Gaia*'s stars can have their chemical compositions examined, which in turn will reveal their age.

The sheer number of observations should help almost every corner of astronomy, from the Milky Way's companion dwarf galaxies (rich repositories of dark matter, a mysterious substance that makes up about a quarter of all the stuff in the universe) to supernovas. White dwarfs, for instance, are the shrunken, cooling and superdense remains of sun-sized stars that have run out of hydrogen to fuse. Until now, astronomers had reliable information for only a dozen or so. *Gaia*'s new data will boost that to 26,000. Similarly enormous hauls of data are expected for everything from exoplanets to Kuiper Belt objects, which are dark and distant piles of rubble left over from the formation of the solar system and which circle the sun beyond the orbit of Neptune.

The data could even help resolve some fundamental disputes. Dark energy is a mysterious force that seems to be accelerating the rate at which the universe is expanding. The speed of that expansion can be determined in two ways. One uses the cosmic microwave background radiation, which is the faint afterglow of the Big Bang. The other relies on measuring the speed at which distant objects recede. The two give answers that differ by a few percentage points. By improving the accuracy with which distances are known, *Gaia* might remove that discrepancy—or, even more intriguingly, confirm that it is real.

The present data dump is only the satellite's second (the first, a much smaller release, took place in 2016). At least two more are planned over the next few years. Indeed, there is so much data that, rather than try to analyse it themselves—normal practice for any scientific project—*Gaia*'s controllers have made it all immediately available for anyone to use. The first data release, says Dr Gilmore, has been generating an average of one scientific paper a day for the past two years. And that was merely the rumble that heralds an avalanche.

This article appeared in the Science and technology section of the print edition under the headline "Into the unknown"

Time to deliver

Early-morning births are genetically programmed

The small hours provided an evolutionary advantage

Print edition | Science and technology Apr 26th 2018

THE notion that nothing good happens after midnight does not seem to apply to times of birth. Around the world the peak hours for vaginal births that have not been induced by drugs fall between 1am and 7am; the numbers then dwindle throughout the rest of the day. This has led many scientists to believe that giving birth during the early morning offers some sort of evolutionary advantage, perhaps gained long ago when hunter-gatherer mothers and their infants would benefit from having their group reunited during the small hours to help with care and to defend them against any predators.

The problem with this theory is that almost all the information on the timing of human births comes from modern, urban settings, such as clinics and hospitals, which could produce artificial conditions that skew the variation in timings. Not so, it turns out. As Carlye Chaney of Yale University shows in the *American Journal of Physical Anthropology*, early-morning births are common to communities with both modern and traditional lifestyles.

The mothers that Ms Chaney and her colleagues chose to study live in Formosa, a rural province in Argentina. They were divided into two groups that were considered to be both culturally and genetically distinct. One group consisted of 1,278 women from the Criollo population, a people of mixed Spanish and indigenous heritage who live relatively modern lives and typically engage in small-scale farming and cattle-ranching. The second group was made up of 1,110 women who belonged to the Wichí and Toba/Qom populations, two of the traditionally nomadic hunter-gatherer peoples who also reside in the Formosa region. Because of Argentine health reforms in the 1980s, which encouraged—and sometimes forced—childbirth to take place in a formal medical setting, all the women in the study gave birth in the delivery room of a rural hospital that recorded the events. Ms Chaney included only full-term births and ignored all Caesarean sections, miscarriages, drug-induced and pre-term births.

If a modern way of life plays a part in favouring early-morning births, Ms Chaney speculated that she would see such timings dominate in the results for the Criollo women, but feature less prominently among the results for the Wichí and Toba/Qom. Not so. The data and additional analysis make it clear that there is no statistical difference in the average birth time found between the two groups. Both showed a surge in births between 2am and 3am, and a big trough around 5pm. More specifically, the average time of birth for the Criollo was 6.34am and that for the Wichí and Toba/Qom was 4.18am.

Ms Chaney believes that the mechanism driving the tendency for expectant mothers to give birth during the early morning is likely to be melatonin, a hormone which is known to increase at the onset of labour and is predominantly produced by the body between midnight and 5am. That mechanism may well have come about, Ms Chaney suspects, because it was advantageous to go into labour when most help was to hand. Today that means more work for the night shift.

This article appeared in the Science and technology section of the print edition under the headline "Time to deliver"

The water witch

Using AI to trace leaking pipes

Saving millions of litres

Print edition | Science and technology Apr 26th 2018

OLD hands at some water companies still on occasion whip out a pair of dousing rods or find a Y-shaped twig to search for a leak in an underground pipe. Dousing, or water witching as it is known in America, has no basis in scientific fact. A somewhat more reliable method involves using acoustic equipment called geophones to listen for escaping water. The trouble is it takes an experienced ear to distinguish the sound of a leak from the normal gurgle of water passing though pipes, let alone to predict from that sound where any trouble might be found. As this is a problem of pattern recognition, which is something that artificial intelligence can be good at, a Brazilian startup has used AI to develop an acoustic device that makes tracing leaks a lot easier.

Almost 37% of the water pumped into Brazil's supply network disappears, because of leaks, faulty meters returning an inaccurate reading or theft. That amounts to 6.5bn cubic metres in wasted water a year, worth some 8bn Brazilian real ($2.3bn) in forgone revenue, according to some estimates. Stattus4, based in Sorocaba, São Paulo state, reckons its portable leak-detection tool can not only indicate if water is going missing but also identify the different sorts of losses and where they might be.

The company's system, called Fluid, consists of a long hand-held probe on the end of which is a sensor. An operator places the sensor against an accessible area of pipework in, say, a culvert or under a manhole cover, for about 15 seconds to record vibrations in the water flowing through the local network. This sample is relayed to a smartphone app, which analyses the recording using a database stored on a cloud computer. This is a bit like how a smartphone music-recognition app, such as Shazam, works, says Marília Lara, a co-founder of the company. (The snatch of water music that Fluid listens to, however, also includes a range of frequencies which are inaudible to the human ear.)

With enough samples, the company says it is possible to match sounds captured in one place to those of a leak a bit farther along the pipework, say. An illegal connection might be detected from the vibrations caused by an outflow where one is not supposed to be.

A pilot version of the system is in use at ten water companies, which are providing 800 new sound samples a day into a database that numbers over 40,000 already. The idea is that Fluid can be used to quickly narrow down the location of any water losses, allowing operators using geophones to pinpoint the exact site. In one case, in Votorantim, a city in São Paulo state, it would have taken the local water company two years to survey its network of pipes using two operators armed with geophones.

With three Fluid devices looking for potential loss points it was possible to reduce that time to four months, claims Stattus4. And unlike dousing, there was no need for a splash of good fortune.

This article appeared in the Science and technology section of the print edition under the headline "The water witch"

Intellectual life in France
In search of lost times

In search of lost times

The death—or reinvention—of the French intellectual

An inquiry at the old haunt of Sartre and de Beauvoir

Print edition | Books and arts Apr 28th 2018

Left Bank: Art, Passion and the Rebirth of Paris, 1940-1950. By Agnès Poirier. *Henry Holt; 352 pages; $30. Bloomsbury Publishing; £25.*

The End of the French Intellectual: From Zola to Houllebecq. By Shlomo Sand. *Verso; 304 pages; $29.95 and £20.*

FOR aspiring and often penniless intellectuals, the Café de Flore on the left bank in Paris, with its Art Deco interior and bow-tied waiters, was once, recounts Agnès Poirier, "a university".

"Conversations were not loud; the air was serious, books stood between glasses, and the lighting was decidedly dim…Men wore corduroy jackets, turtlenecks, dirty trench coats, their hair a little too long, while women wore no make-up. Nobody was dressed fashionably, but everyone had style."

"Left Bank"—Ms Poirier's delightful account of the writers, artists and painters who shared beds, cigarettes and column inches on a few streets in the 1940s—returns frequently to the Café de Flore. Simone de Beauvoir used it as her letter-box, its warmth a reprieve from the unheated hotel room she lived in on the nearby rue de Seine. She and Jean-Paul Sartre (pictured), plus their coterie of anti-bourgeois writers and muses, wrote and smoked at its tables, a short step from Sartre's little apartment on the rue Bonaparte. Manuscripts were edited there, and a radical philosophy born. It was, in short, the epicentre of French intellectual life.

Today, the Café de Flore sits next to a Louis Vuitton store. Outside on the boulevard Saint-Germain on a warm spring morning, a valet-parking attendant polishes a black Mercedes. A couple of retired American tourists eat Caesar salads in silence. Russian teenagers pose for selfies in the sun, then run off without ordering. The waiters, like well-trained extras, shrug.

The Café de Flore still trades on its literary heritage. It runs an annual book prize. The *carte* is designed to resemble the austere cream book covers used by Gallimard, which published Sartre, de Beauvoir and Albert Camus. But these days the signature apéritif is a glass of champagne with caviar. The only writers who frequent the place, says the day manager, tend to be celebrities with deep pockets. Is it just too pricey for aspiring artists? "Probably."

Of course, many great cities have seen their former bohemian quarters transformed by inflated property prices and consumerism. Upcoming writers in the French language today are more likely to be found in edgier parts of the city, or in Brazzaville or Dakar, than among the antiques and luxury brands of the left bank. Still, the Café de Flore serves as a metaphor for a recurring concern: the alleged evanescence of the French intellectual.

The latest to turn this topic over is Shlomo Sand, an Israeli historian. His book, "The End of the French Intellectual", begins in nostalgia. Mr Sand confesses to a bygone "idealisation of Parisian intellectuals", the "heroes" of a youth spent as a doctoral student in the city in the 1970s. Those who now pass for French public intellectuals, he argues, are a pale version of the likes of Emile Zola, André Gide, Camus, Sartre and Michel Foucault. The current cast comprises a second-tier type of on-screen personality, of a sort that Pierre Bourdieu, one of the old school, has described as "fast thinkers who offer cultural 'fast food'."

Having dismissed such writers, Mr Sand devotes a lot of space to them. He is particularly exercised by Éric Zemmour, a reactionary essayist, and Alain Finkielkraut, a formerly left-wing philosopher turned critic of multiculturalism. More interesting is the historical context Mr Sand gives to the role of the French public intellectual, the man of letters who is at once literary and *engagé*. Yet a convincing explanation for this figure's decline, previously chronicled by historians such as Tony Judt and Sudhir Hazareesingh, is elusive.

One factor may be that in recent decades French thinking has become too introspective, in parallel with society. Parochialism has tended to prevail over universalist ambition. Another, says Gaspard Koenig, a liberal thinker, is that "academia in France has largely closed itself off from public debate," as it has elsewhere. The public intellectual, at once producer of serious research and participant in a wider conversation, is increasingly a rarity. A further reason may have less to do with impoverished output than outsiders' expectations. Some of the latest ground-breaking work in France is emerging not in philosophy but in fields English-language publishers watch less closely, such as economics.

The most globally influential French work in recent years has been Thomas Piketty's "Capital in the 21st Century". Indeed, Mr Piketty, who both challenges economic theory and advised a Socialist candidate, Benoît Hamon, in last year's presidential election, may be the closest the country now has to a public intellectual. His book was a worldwide bestseller. Yet it took over a year for an English-language publisher to put out the latest work by Jean Tirole, another French economist and Nobel-prizewinner. Based at the Toulouse School of Economics, far from Paris, Mr Tirole also reflects the more disparate geography of French intellectual life today.

Back at the Café de Flore, as dusk falls, the clientele shifts. Off go the tourists with their backpacks and bottles of water. In steps a woman in a black shift dress, who sits down to read *Le Monde* at a corner table. Later, a well-known and politically active investment banker takes a seat on the terrace. Fragments of intense conversation hang, along with cigarette smoke, in the air.

The Flore is not Paris, and Paris is not France. But the moment the locals recolonise the café at night is a reminder that this neighbourhood remains home to much of the capital's elite—a group that continues to shape the country's intellectual mood. The waifs and radicals may be gone, but the atmosphere in the Flore and beyond is more highbrow than the doomsayers imply. Attendance rose this year at the annual Paris book fair. Regional literary festivals are thriving. Philosophy is still a compulsory part of the school curriculum.

And last year the French elected a president who has a degree in philosophy and can cite Molière by heart. France may have lost its great intellectuals, but it has certainly not lost its intellectualism.

This article appeared in the Books and arts section of the print edition under the headline "In search of lost times"

Die another day

How Marvel's superhero films exploit the genre's limitations

They work because the audience is in on the joke

Print edition | Books and arts Apr 26th 2018

EARLY in "Avengers: Infinity War", one of the heroes stares almost directly into the camera and declares, "Look, it's not overselling it to say that the fate of the universe is at stake." Ostensibly he is cajoling another movie-star hero, Robert Downey junior's Iron Man, to come with him. But the real audience for this moment of winking self-awareness is on the other side of the screen. It is a wry acknowledgment of the dramatic limitations of a genre that Disney dominates as utterly as the most fearsome comic-book villain. Naturally the fate of the universe is at stake. Equally, though, the fate of the Universe—the Marvel Cinematic Universe (MCU)—is not.

Superhero flicks are unavoidably formulaic. The heroes are difficult to kill not because of their superpowers, but because they serve a higher power, an industrial blockbuster economy. The superstars each get their screen time, in a loose correlation to their importance to fans. Their defeats are ephemeral, even when they die (or appear to). They are part of the ineluctable journey to a climactic battle, which in turn points the way towards more films.

Given these constraints, "Infinity War", the 19th film in the MCU, is a remarkable achievement. It manages to weave together several action storylines, each carried by a subset of familiar heroes. Together, on Earth and other distant planets, they seek to thwart a villain's Malthusian quest to wipe out half the population of the universe. Despite the grave nature of this mission, "Infinity War" is also one of the funniest MCU sagas. Some main characters perish, and most others are frequently at risk of doing so, but the heroes never stop making fun of each other, their adversaries and the carnage around them.

And it works. The filmmakers—Kevin Feige, the maestro of Marvel Studios, Anthony and Joe Russo, the directors, and Christopher Markus and Stephen McFeely, the writers—have worked out that it is much more enjoyable and sensible to call attention to the rules of their play-universe than to pretend that they do not exist. One-line quips and witty repartee would be dangerously distracting in actual mortal combat, but everyone knows most of the combat is not mortal, even by the absurd standards of action films. That is why one character muses aloud about whether the death of another is real "this time". During another sequence Spider-Man asks, "Why does somebody always have to die in this scenario?" Even a hero's last gasp is played for laughs.

These gags work because the audience is in on the joke. They know the rules of the MCU, and the stakes, before they walk into the cinema, suspending disbelief of their own accord. To pretend otherwise would be an insult, and set the film up to fail. A rival comic-book series, the DC Entertainment Universe, has taken itself more seriously, with much poorer results. "Justice

League", DC's own superhero-ensemble movie, earned about as much at the North American box office ($229m) as "Infinity War" is projected to take in its first weekend alone.

By contrast, MCU's embrace of the genre's limitations helps stave off fatigue. That most MCU enthusiasts will be excited to see "Infinity War" is a coup in itself. It is less a work of art than of commerce, but it proves there is artistry in the post-modern trick of making a superhero film fly.

This article appeared in the Books and arts section of the print edition under the headline "Die another day"

Once were warriors

When weapons can think for themselves

Paul Scharre explores a dystopian prospect with daunting implications

Print edition | Books and arts Apr 26th 2018

Army of None: Autonomous Weapons and the Future of War. By Paul Scharre. *W.W. Norton & Company; 448 pages; $27.95.*

ARTIFICIAL intelligence (AI) is on the march, for good and ill. The AI that makes possible self-driving cars and diagnoses diseases more accurately than doctors will save lives. The AI that does jobs better than workers may be a more mixed blessing. But AI that might give machines—"killer robots"—the responsibility for deciding how wars are fought, and who gets killed, is a science-fiction nightmare. Paul Scharre, a former army ranger, explores this dystopian prospect in "Army of None".

Mr Scharre interviews the engineers building autonomous weapons and the strategists preparing for their arrival. He sees first-hand what to expect from these technologies, such as swarms of small, low-cost drones locked in aerial combat, manoeuvring with superhuman co-ordination. The speed of these developments, he finds, both excites and disturbs the military establishment. The generals know they are entering an era in which algorithms will determine success on the battlefield, and humans may be unable to keep up with the pace of combat.

A key distinction, Mr Scharre says, is between new weapons that are equipped with fairly "narrow" autonomy, and will carry out a specific task more effectively than humans, such as an anti-ship missile that has been programmed to select its targets; and future systems (perhaps 20 years away) endowed with "general" AI. Weapons with narrow autonomy that are able to activate themselves—for example to respond to a cyber-attack at the speed of light—will pose some risks of escalation. But when combined with human-controlled systems, as in a squadron of drones orchestrated by a manned aircraft, they may improve precision and situational awareness, and be capable of better split-second analysis than people, who are prone to fear, rage and exhaustion.

Fully autonomous weapons which can plan, solve problems and extrapolate from experience are something else; they will need a human only to order the start of a mission (maybe not even that). Here Mr Scharre thinks the dangers and moral issues are so profound that it is in humanity's interest to seek ways of controlling the technology. Unlike campaigners against "killer robots", he does not believe they can simply be banned. Instead, he argues for ensuring a minimum degree of human involvement in their operation and compliance with international law.

That sounds comforting. But arms-control agreements work only when there is reliable verification. The essence of autonomy, writes Mr Scharre, is software rather than hardware, making transparency very difficult. Liberal democracies may insist on “meaningful” human oversight, but will every country be as fastidious? And given the ubiquity of AI, what use might terrorists, devoid of compunction, make of it?

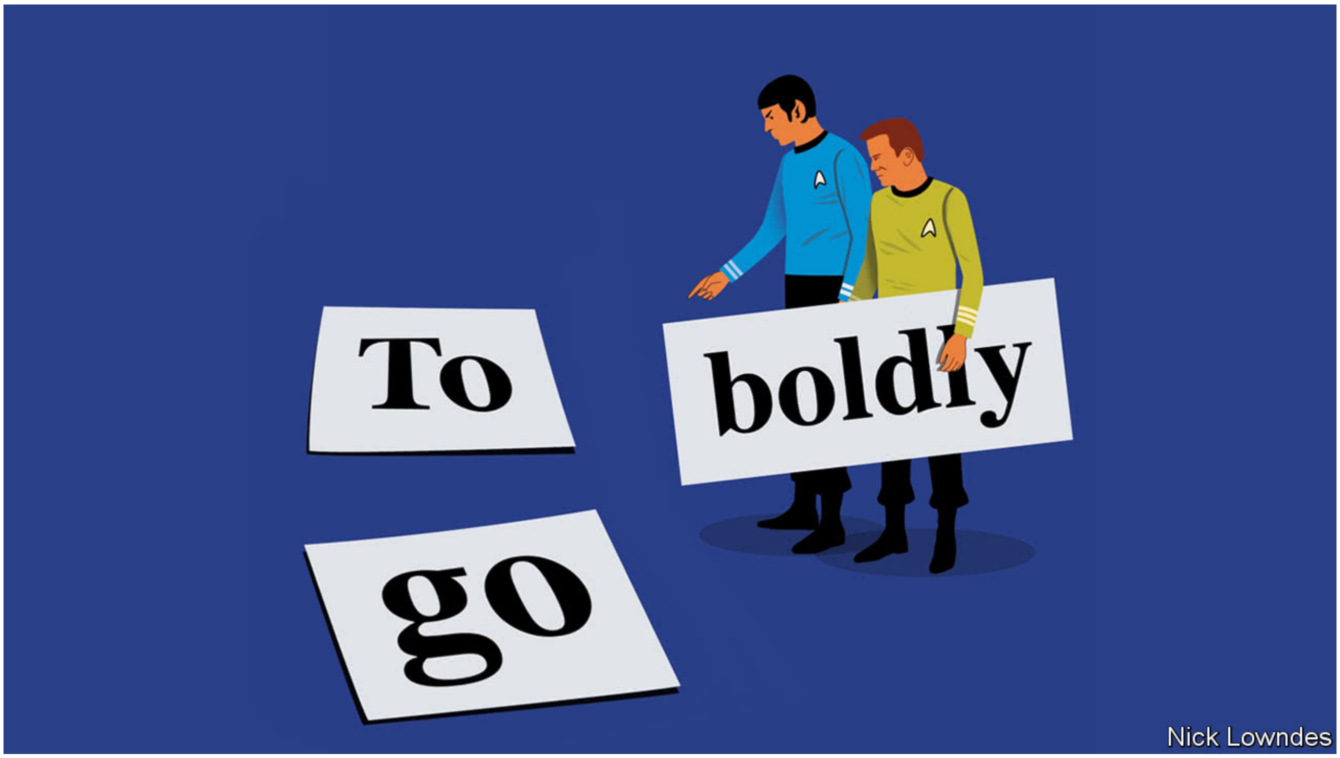
This article appeared in the Books and arts section of the print edition under the headline ”Once were warriors”

Johnson

The ban on split infinitives is an idea whose time never came

To boldly go where grammarians have feared to tread

Print edition | Books and arts Apr 28th 2018



GEORGE BERNARD SHAW was once so angry with a subeditor that he complained to the newspaper. "I ask you, sir," Shaw wrote, "to put this man out." The cause of his fury? The editor had insisted on "correcting" split infinitives. "Set him adrift and try an intelligent Newfoundland dog in his place," Shaw fulminated, "without interfering with his perfect freedom of choice between 'to suddenly go', 'to go suddenly' and 'suddenly to go'."

This spring a new edition of *The Economist*'s style guide is published*. Many of its changes are of a kind only a copy-editor would notice; but on an issue that has set teeth grinding for centuries, it marks a sea-change that Shaw would have appreciated. It says infinitives may be split.

Those who believe the split infinitive is a grammatical crime will see yet more evidence that standards are in a death spiral. Those who have never seen anything wrong with it will be chagrined that we ever forbade it. The second lot have the better argument. The new guide says that sometimes splitting the infinitive is the best, or even only, option.

John Comly is the first known writer to issue a ban on the split, saying in 1803 that: "An adverb should not be placed between a verb of the infinitive mood and the preposition 'to' which governs it." At the time this practice was not common, even though such splits had arisen in English almost as soon as "to" started appearing with infinitives. They crop up, for example, in "Sir Gawaine and the Green Knight" in the 14th century.

The split had declined in the early-modern period. Shakespeare split just one infinitive, the King James Bible none. Samuel Johnson wrote "Milton was too busy to much miss his wife", but the usage really took off again in the 19th century. Samuel Taylor Coleridge, Matthew Arnold, Anthony Trollope, Mark Twain, George Eliot, Henry James, Thomas Hardy, Theodore Roosevelt and Rudyard Kipling all split infinitives. Data from Google Books confirm a 19th-century surge in "to" followed by an adverb.

But Comly's "rule" was out there, even as great writers ignored it. It made its way into other popular grammars of the 19th century until it became something every educated person thought they knew. Only in the early 20th century did the best grammarians begin fighting back. H.W. Fowler called it both a "fetish" and a "superstition" in his magisterial usage dictionary of 1926.

The persistence of the "rule" is the true curiosity. One explanation is that, like the dangling participle, the split infinitive has a catchy name, making the rule easy to pass on. Another is that it is easy to spot; noticing something between "to" and a verb is a gratifyingly simple task. A third is the shadow of classical languages. Infinitives are single words in Latin and Greek, so early-modern authors who were influenced by them may have unconsciously avoided splitting the two-word English counterpart. But “to” is not really part of the infinitive, much less an inseparable one. In *I can come*, “come” is an infinitive with no “to”. The split is thus not even a real phenomenon, much less one to shun.

Some writers, having abided by the rule for so long, will never manage to discard it. Fine. But the lazy remedy, merely to move a modifier one word left or right, is worse. Constantly to do this results in an odd, jarring rhythm. (Robert Burns wrote “to nobly stem tyrannic pride” because it has a pleasingly punchy beat to it.) And the “move it left or right” manoeuvre often means that the modifier ends up modifying the wrong thing, or creating an ambiguity. “She decided to gradually retire” is clear. But moving “gradually” left changes the meaning, while moving it right creates confusion: a gradual decision or a gradual retirement?

There are better ways to reword splits, and our style book recommends that since they annoy so many readers, where they can be avoided altogether, writers should do so. Sound advice, but it comes with two caveats. One is that we get almost as many letters about sentences tortured to avoid the split as we do about split infinitives themselves. The other is that writers should not make a habit of dodging the truth merely because it is unpopular among a dedicated minority of readers. There is nothing wrong with a split infinitive. It is time to utterly and decisively reject a rule that should never have been on the books in the first place.

*The Economist Style Guide. Public Affairs; 288 pages; $11.99. Profile Books; £9.99

This article appeared in the Books and arts section of the print edition under the headline ”Doing the splits”

Adrift on the wine-dark sea

In times of crisis, writers turn to Homer

Madeline Miller is the latest author to rework his epics to address contemporary themes

Print edition | Books and arts Apr 26th 2018

Circe. By Madeline Miller. *Little, Brown and Company; 400 pages; $27. Bloomsbury Publishing; £16.99.*

ON THE face of it, the dominant literary forms of the modern age and the classical one—the novel and the epic poem—are almost opposites. Where epics deal in types, novels depict individuals; where epics deliver action, novels provide motives and psychology. Epics look outward, at the fate of nations and the sweep of history; novels delve into the fabric of everyday life. Novelists have long regarded these differences as enticing, turning to Homer for their plots, setting modern sensibilities loose in his world or applying its lessons to their own. Writers tend especially to enlist Homer at times of crisis or uncertainty. Times like now.

Homer's "Odyssey" gave James Joyce a framework for "Ulysses", the age-old solidity of the original anchoring the divagations of Leopold Bloom on a single day in early 20th-century Dublin. Two slaughters are part of the novel's context: Troy and the first world war, which broke out just as Joyce began his book. Robert Graves used the "Odyssey" as a way of comprehending the wreckage of post-1945 Europe. In his novel "Homer's Daughter", he draws on an old idea that the epic's real author was a woman to sketch the poet-princess Nausicaa, a female saviour for a world in which men have failed.

One of the latest to turn to Homer is Madeline Miller, whose first book "The Song of Achilles", published in 2011, whittled the "Iliad" into a gay love story narrated by Achilles's paramour Patroclus. That book won the Orange Prize for fiction. Her new novel, "Circe", views the "Odyssey" from the perspective of the goddess-witch upon whose enchanted island Odysseus stays for a year. In giving voice to one of Homer's marginalised female characters she is emulating Margaret Atwood. In Ms Atwood's novella "The Penelopiad" (recently reissued), Odysseus's wife Penelope, now a shade in Hades, relates her life and his travels, revising his reputation.

Circe earns only a few dozen lines in the original Greek. The shape and structure of a novel allow Ms Miller to launch imaginative forays into the poem, adding flesh to the goddess's bones. She depicts Circe as the nymph-child of the sun god Helios; then as she meets and falls in love with Odysseus; and after he abandons her. Ms Miller calls upon a lost, post-Homeric epic of uncertain authorship, the "Telegony", for the material for her final act. Odysseus is dead and Circe, Penelope and their sons, Telegonus and Telemachus, seek to fashion a new world with its own notion of heroism, embracing mortality instead of reaching for divinity. "I thought once that gods are the opposite of death," Circe says, "but I see now they are more dead than anything, for they are unchanging."

Among the pleasures in these adaptations is perceiving new facets in familiar tales. Amit Chaudhuri's novel of 2015, "Odysseus Abroad", refracts both the "Odyssey" and "Ulysses" in its portrayal of a Telemachus-figure, Ananda Sen, a Bengali poet, lost and lonely in the streets of London. The critic George Steiner saw the "Odyssey" as "the epic of the displaced person. The cities are down, and survivors wander the face of the earth as pirates or beggars." Here Mr Chaudhuri imagines the great diasporas of the 20th century as a series of overlapping and interconnected Odysseys. The ordinariness of his tale and its unexceptional heroes—Ananda and his uncle Radhesh, an avatar for Odysseus—implies that, in the end, everyone is wandering and shipwrecked.

Exile, homesickness, lust, love: Homer's preoccupations are the central themes of many, perhaps most lives as they are lived now. Another that modern authors have reworked is war. In his novel "Ransom" (2009), the Australian writer David Malouf focuses on a specific moment in the "Iliad", rather than reaching beyond the text as Ms Miller does. He lingers on the climactic passages in which Achilles kills Hector, a Trojan prince, and Priam, the king, comes incognito to beg the Greek hero for the return of his son's body. The sparse, deadpan prose imbues these scenes with extraordinary intensity.

Like "The Song of Achilles", "Ransom" conveys how little war has changed at the level of the heart. It is easy to see reflections of contemporary wars in these pages, just as in the best novels that chronicle the modern conflicts in Iraq and Afghanistan—such as "The Yellow Birds" by Kevin Powers and Roy Scranton's "War Porn"—echoes of the "Iliad" abound.

Return to Troy

If novelists look to Homer for characters and scenes to inhabit, they also rely on him as a guide, and a means of importing the reach of epic to the circumspect form of the novel. His depth and stature invest their work with *enargeia*, a quality the British poet Alice Oswald translates as "bright unbearable reality", a sense of collective and eternal significance beyond the merely transient. There is a moral dimension, too. As Adam Nicolson, another British author, says in his study of Homer, "The Mighty Dead", his poems are about "the choices people must make when faced with the deepest challenges of their lives". They present "an encyclopedia of moral choice"; a stable reference in a turning world.

There is an apparent paradox in the way Homer always feels timely and is therefore timeless. Writers and readers find in his epics whatever they are looking for, whether that is a lesson about the place of the individual in the chaos of war, or the perils of nostalgia, or the agony of unrequited love. Over the centuries his poems have become interwoven with all Western storytelling, not just those books that explicitly rework them. As the French author Raymond Queneau concisely put it: "Every great work of literature is either the 'Iliad' or the 'Odyssey'."

This article appeared in the Books and arts section of the print edition under the headline "Adrift on the wine-dark sea"

Output, prices and jobs

Print edition | Economic and financial indicators Apr 26th 2018

Output, prices and jobs

% change on year ago

	Gross domestic product				Industrial production	Consumer prices			Unemployment rate, %
	latest	qtr*	2018†	2019†	latest	latest	year ago	2018†	
United States	+2.6 Q4	+2.9	+2.8	+2.5	+4.3 Mar	+2.4 Mar	+2.4	+2.4	4.1 Mar
China	+6.8 Q1	+5.7	+6.6	+6.4	+6.0 Mar	+2.1 Mar	+0.9	+2.3	3.9 Q1§
Japan	+2.0 Q4	+1.6	+1.5	+1.2	+1.6 Feb	+1.1 Mar	+0.2	+1.0	2.5 Feb
Britain	+1.4 Q4	+1.6	+1.5	+1.5	+2.2 Feb	+2.5 Mar	+2.3	+2.5	4.2 Jan††
Canada	+2.9 Q4	+1.7	+2.2	+1.9	+2.4 Jan	+2.3 Mar	+1.6	+2.0	5.8 Mar
Euro area	+2.8 Q4	+2.7	+2.4	+2.1	+2.9 Feb	+1.3 Mar	+1.5	+1.5	8.5 Feb
Austria	+2.9 Q4	+1.6	+2.7	+2.3	+5.1 Feb	+1.9 Mar	+1.9	+2.0	5.2 Feb
Belgium	+1.9 Q4	+2.1	+1.9	+1.8	+0.1 Feb	+1.4 Mar	+2.3	+1.8	6.4 Feb
France	+2.5 Q4	+2.8	+2.2	+1.9	+4.0 Feb	+1.6 Mar	+1.1	+1.5	8.9 Feb
Germany	+2.9 Q4	+2.4	+2.5	+2.2	+2.4 Feb	+1.6 Mar	+1.6	+1.6	3.5 Feb‡
Greece	+1.8 Q4	+0.4	+1.6	+1.9	-1.9 Feb	-0.2 Mar	+1.7	+0.8	20.6 Jan
Italy	+1.6 Q4	+1.3	+1.5	+1.3	+2.5 Feb	+0.8 Mar	+1.4	+1.2	10.9 Feb
Netherlands	+2.9 Q4	+3.1	+2.8	+2.5	+4.1 Feb	+1.0 Mar	+1.1	+1.5	4.9 Mar
Spain	+3.1 Q4	+2.7	+2.8	+2.3	+3.1 Feb	+1.2 Mar	+2.3	+1.4	16.1 Feb
Czech Republic	+5.5 Q4	+3.2	+3.3	+2.8	+2.7 Feb	+1.7 Mar	+2.6	+2.2	2.4 Feb‡
Denmark	+1.3 Q4	+3.7	+1.9	+2.0	+0.5 Feb	+0.5 Mar	+1.0	+1.3	4.1 Feb
Hungary	+4.4 Q4	+5.2	+3.7	+2.7	+3.9 Feb	+2.0 Mar	+2.7	+2.5	3.8 Feb§††
Norway	+1.4 Q4	-1.1	+1.9	+1.8	-1.3 Feb	+2.2 Mar	+2.4	+2.1	4.0 Jan‡‡
Poland	+4.4 Q4	+3.6	+4.2	+3.4	+1.9 Mar	+1.3 Mar	+2.0	+1.9	6.6 Mar§
Russia	+0.9 Q4	na	+1.9	+1.9	+0.9 Mar	+2.4 Mar	+4.2	+3.1	5.0 Mar§
Sweden	+3.3 Q4	+3.5	+2.7	+2.4	+6.7 Feb	+1.9 Mar	+1.3	+1.8	6.5 Mar§
Switzerland	+1.9 Q4	+2.4	+2.1	+1.9	+8.7 Q4	+0.8 Mar	+0.6	+0.6	2.9 Mar
Turkey	+7.3 Q4	na	+4.2	+4.1	+9.9 Feb	+10.2 Mar	+11.3	+9.9	10.8 Jan§
Australia	+2.4 Q4	+1.5	+2.8	+2.8	+1.6 Q4	+1.9 Q1	+2.1	+2.1	5.5 Mar
Hong Kong	+3.4 Q4	+3.3	+2.8	+2.4	+0.7 Q4	+2.6 Mar	+0.5	+2.0	2.9 Mar‡‡
India	+7.2 Q4	+6.6	+7.2	+7.5	+7.1 Feb	+4.3 Mar	+3.9	+4.8	6.2 Mar
Indonesia	+5.2 Q4	na	+5.4	+5.5	-3.5 Feb	+3.4 Mar	+3.6	+3.7	5.5 Q3§
Malaysia	+5.9 Q4	na	+5.5	+5.4	+3.0 Feb	+1.3 Mar	+4.9	+2.9	3.3 Feb§
Pakistan	+5.4 2018**	na	+5.4	+5.2	+5.5 Feb	+3.2 Mar	+4.9	+5.7	5.9 2015
Singapore	+4.3 Q1	+1.4	+3.0	+2.9	+8.9 Feb	+0.2 Mar	+0.7	+0.9	2.1 Q4
South Korea	+2.9 Q1	+4.4	+2.9	+2.9	-6.4 Feb	+1.3 Mar	+2.2	+1.8	4.5 Mar§
Taiwan	+3.3 Q4	+4.3	+2.5	+2.0	+3.1 Mar	+1.6 Mar	+0.2	+1.3	3.7 Mar
Thailand	+4.0 Q4	+1.8	+4.0	+3.4	+4.6 Feb	+0.8 Mar	+0.8	+1.1	1.3 Feb§
Argentina	+3.9 Q4	+3.9	+2.9	+3.2	+6.1 Mar	+25.6 Mar	na	+21.1	7.2 Q4§
Brazil	+2.1 Q4	+0.2	+2.7	+2.9	+2.8 Feb	+2.7 Mar	+4.6	+3.4	12.6 Feb§
Chile	+3.3 Q4	+2.6	+3.2	+3.5	+8.9 Feb	+1.8 Mar	+2.7	+2.4	6.7 Feb§‡‡
Colombia	+1.6 Q4	+1.1	+2.5	+3.1	+1.5 Feb	+3.1 Mar	+4.7	+3.3	10.8 Feb§
Mexico	+1.5 Q4	+3.2	+2.1	+2.4	+0.7 Feb	+5.0 Mar	+5.4	+4.3	3.3 Feb
Venezuela	-8.8 Q4~	-6.2	-15.3	-3.8	na	na	na	12,615.2	7.3 Apr§
Egypt	nil Q4	na	+5.1	+5.4	+12.3 Feb	+13.3 Mar	+30.9	+16.9	11.3 Q4§
Israel	+3.0 Q4	+4.1	+3.9	+3.3	+6.9 Jan	+0.2 Mar	+0.9	+0.9	3.8 Feb
Saudi Arabia	-0.7 2017	na	+1.0	+2.0	na	+2.8 Mar	-0.7	+4.4	5.8 Q3
South Africa	+1.5 Q4	+3.1	+1.9	+2.0	+0.8 Feb	+3.8 Mar	+6.1	+5.0	26.7 Q4§
Estonia	+5.0 Q4	+9.2	+4.0	+3.5	+1.8 Feb	+2.8 Mar	+2.8	+3.5	5.3 Q4§
Finland	+2.2 Q4	+2.5	+2.3	+2.2	+3.4 Feb	+0.8 Mar	+0.8	+0.9	8.8 Mar§
Iceland	+1.5 Q4	+2.6	+4.1		na	+2.8 Mar	+1.6		2.4 Mar§
Ireland	+8.4 Q4	+13.3	+4.5	+3.6	+3.5 Feb	+0.2 Mar	+0.7	+0.8	6.1 Mar
Latvia	+4.2 Q4	+2.0	+3.1	+3.9	+8.7 Feb	+2.2 Mar	+3.4	+2.8	8.1 Q4§
Lithuania	+3.9 Q4	+5.5	+3.7	+3.5	+8.8 Mar	+2.7 Mar	+3.1	+3.2	9.2 Mar§
Luxembourg	+1.7 Q4	-0.4	+3.4		+5.0 Feb	+1.1 Mar	+1.7		5.7 Mar§
New Zealand	+3.2 Q4	+1.5	+3.2	+2.1	+2.0 Q4	+1.1 Q1	+2.1	+1.7	4.5 Q4
Peru	+2.2 Q4	-1.3	+3.7	+3.9	+0.3 Feb	+0.4 Mar	+4.0	+1.5	7.0 Mar§

Trade, exchange rates, budget balances and interest rates

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Trade, exchange rates, budget balances and interest rates

	Trade balance latest 12 months, $bn	Current-account balance latest 12 months, $bn	Current-account balance % of GDP 2018†	Currency units, per $ Apr 25th	Currency units, per $ year ago	Budget balance % of GDP 2018†	Interest rates 3-month latest	Interest rates 10-year gov't bonds, latest
United States	-830.6 Feb	-466.2 Q4	-2.7	-	-	-4.6	2.36	2.98
China	+409.5 Mar	+164.9 Q4	+1.3	6.32	6.89	-3.5	3.98	3.20§§
Japan	+39.6 Feb	+194.1 Feb	+3.7	109	111	-4.9	-0.03	0.04
Britain	-178.4 Feb	-106.7 Q4	-3.9	0.72	0.78	-2.7	0.75	1.59
Canada	-20.3 Feb	-49.4 Q4	-2.6	1.29	1.36	-2.0	1.69	2.37
Euro area	+281.6 Feb	+469.5 Feb	+3.1	0.82	0.92	-1.0	-0.33	0.63
Austria	-6.3 Jan	+7.7 Q4	+2.4	0.82	0.92	-0.6	-0.33	0.72
Belgium	+26.3 Feb	-0.8 Dec	-0.2	0.82	0.92	-1.1	-0.33	0.87
France	-69.2 Feb	-14.4 Feb	-1.0	0.82	0.92	-2.4	-0.33	0.84
Germany	+283.9 Feb	+310.4 Feb	+7.8	0.82	0.92	+0.8	-0.33	0.63
Greece	-22.8 Feb	-2.2 Feb	-1.4	0.82	0.92	-0.2	-0.33	3.97
Italy	+56.4 Feb	+53.2 Feb	+2.7	0.82	0.92	-2.0	-0.33	1.78
Netherlands	+64.5 Feb	+84.9 Q4	+9.5	0.82	0.92	+0.7	-0.33	0.78
Spain	-29.4 Feb	+25.5 Jan	+1.7	0.82	0.92	-2.6	-0.33	1.25
Czech Republic	+18.4 Feb	+1.9 Q4	+0.7	20.9	24.6	+0.8	0.90	1.80
Denmark	+8.7 Feb	+24.3 Feb	+7.7	6.12	6.81	-0.7	-0.29	0.64
Hungary	+9.3 Jan	+4.0 Q4	+1.9	257	286	-2.6	0.03	2.56
Norway	+19.9 Mar	+20.2 Q4	+6.3	7.97	8.55	+4.9	1.14	2.00
Poland	-0.7 Feb	+0.3 Feb	-0.2	3.48	3.87	-2.2	1.50	3.10
Russia	+122.0 Feb	+41.7 Q1	+2.9	62.3	56.1	-1.0	5.44	8.13
Sweden	-1.6 Feb	+17.1 Q4	+4.2	8.56	8.77	+0.6	-0.37	0.79
Switzerland	+31.8 Mar	+66.6 Q4	+8.6	0.98	0.99	+0.8	-0.73	0.18
Turkey	-84.8 Mar	-53.3 Feb	-5.5	4.10	3.59	-2.8	14.6	12.6
Australia	+6.4 Feb	-32.3 Q4	-2.2	1.32	1.33	-1.2	2.14	2.87
Hong Kong	-62.6 Feb	+14.3 Q4	+4.5	7.85	7.78	+0.8	1.52	2.25
India	-160.3 Mar	-39.1 Q4	-2.1	66.9	64.3	-3.5	6.16	7.74
Indonesia	+8.1 Mar	-17.3 Q4	-2.0	13,921	13,281	-2.5	5.45	6.80
Malaysia	+24.4 Feb	+9.4 Q4	+2.8	3.91	4.37	-2.8	3.70	4.19
Pakistan	-36.5 Mar	-16.6 Q1	-5.0	116	105	-5.5	6.41	9.00†††
Singapore	+46.2 Mar	+61.0 Q4	+21.2	1.33	1.39	-0.7	na	2.55
South Korea	+92.8 Mar	+71.7 Feb	+5.0	1,081	1,125	+0.7	1.65	2.76
Taiwan	+17.6 Mar	+84.1 Q4	+14.2	29.6	30.1	-0.8	0.66	1.03
Thailand	+11.8 Mar	+49.3 Q4	+10.4	31.5	34.4	-2.3	1.11	2.56
Argentina	-9.8 Mar	-30.8 Q4	-5.0	20.3	15.4	-5.5	22.4	4.19
Brazil	+66.5 Mar	-8.3 Mar	-1.2	3.51	3.16	-7.0	6.22	7.86
Chile	+10.1 Mar	-4.1 Q4	-0.6	605	661	-2.1	0.30	4.38
Colombia	-7.9 Feb	-10.4 Q4	-2.9	2,821	2,897	-2.0	4.88	6.47
Mexico	-11.5 Feb	-18.8 Q4	-1.8	19.1	18.9	-2.3	7.84	7.59
Venezuela	-36.2 Oct~	-17.8 Q3~	+2.1	66,870	10.1	-15.5	15.4	8.24
Egypt	-34.7 Feb	-9.3 Q4	-4.0	17.7	18.0	-9.8	18.4	na
Israel	-18.3 Mar	+10.5 Q4	+3.5	3.59	3.65	-2.4	0.10	1.87
Saudi Arabia	+43.4 2016	+15.2 Q4	+3.7	3.75	3.75	-7.3	2.36	na
South Africa	+4.2 Feb	-8.6 Q4	-2.7	12.5	13.1	-3.6	6.90	8.29
Estonia	-1.9 Feb	+0.8 Feb	+2.3	0.82	0.92	-0.3	-0.33	na
Finland	-2.6 Feb	+2.2 Feb	+0.9	0.82	0.92	-0.7	-0.33	0.78
Iceland	-1.6 Mar	+0.9 Q4	+4.5	101	106	+1.2	4.68	na
Ireland	+50.9 Feb	+42.8 Q4	+7.4	0.82	0.92	-0.2	-0.33	1.04
Latvia	-3.0 Feb	-0.1 Feb	-0.2	0.82	0.92	-1.2	-0.33	na
Lithuania	-2.8 Feb	nil Q4	+0.8	0.82	0.92	+0.6	-0.33	1.10
Luxembourg	-7.4 Feb	+3.3 Q4	+4.7	0.82	0.92	+0.9	-0.33	na
New Zealand	-2.2 Feb	-5.5 Q4	-2.7	1.42	1.44	+1.0	2.04	2.91
Peru	+6.3 Feb	-2.7 Q4	-1.8	[illegible]	[illegible]	-3.5	3.21	na

The Economist commodity-price index

Print edition | Economic and financial indicators Apr 26th 2018

The Economist commodity-price index

2005=100

	Apr 17th	Apr 24th*	% change on one month	% change on one year
Dollar Index				
All Items	155.0	154.8	+2.4	+10.0
Food	157.7	157.4	+0.5	+5.4
Industrials				
All	152.2	152.2	+4.5	+15.5
Nfa†	141.1	142.5	+2.6	+4.0
Metals	157.0	156.3	+5.3	+20.7
Sterling Index				
All items	197.0	201.7	+3.7	+1.0
Euro Index				
All items	156.1	157.6	+3.9	-1.6
Gold				
$ per oz	1,343.7	1,328.4	-1.1	+4.8
West Texas Intermediate				
$ per barrel	66.5	67.7	+3.8	+37.5

Sources: Bloomberg; CME Group; Cotlook; Darmenn & Curl; FT; ICCO; ICO; ISO; Live Rice Index; LME; NZ Wool Services; Thompson Lloyd & Ewart; Thomson Reuters; Urner Barry; WSJ. *Provisional
†Non-food agriculturals.

Economist.com

Remittances

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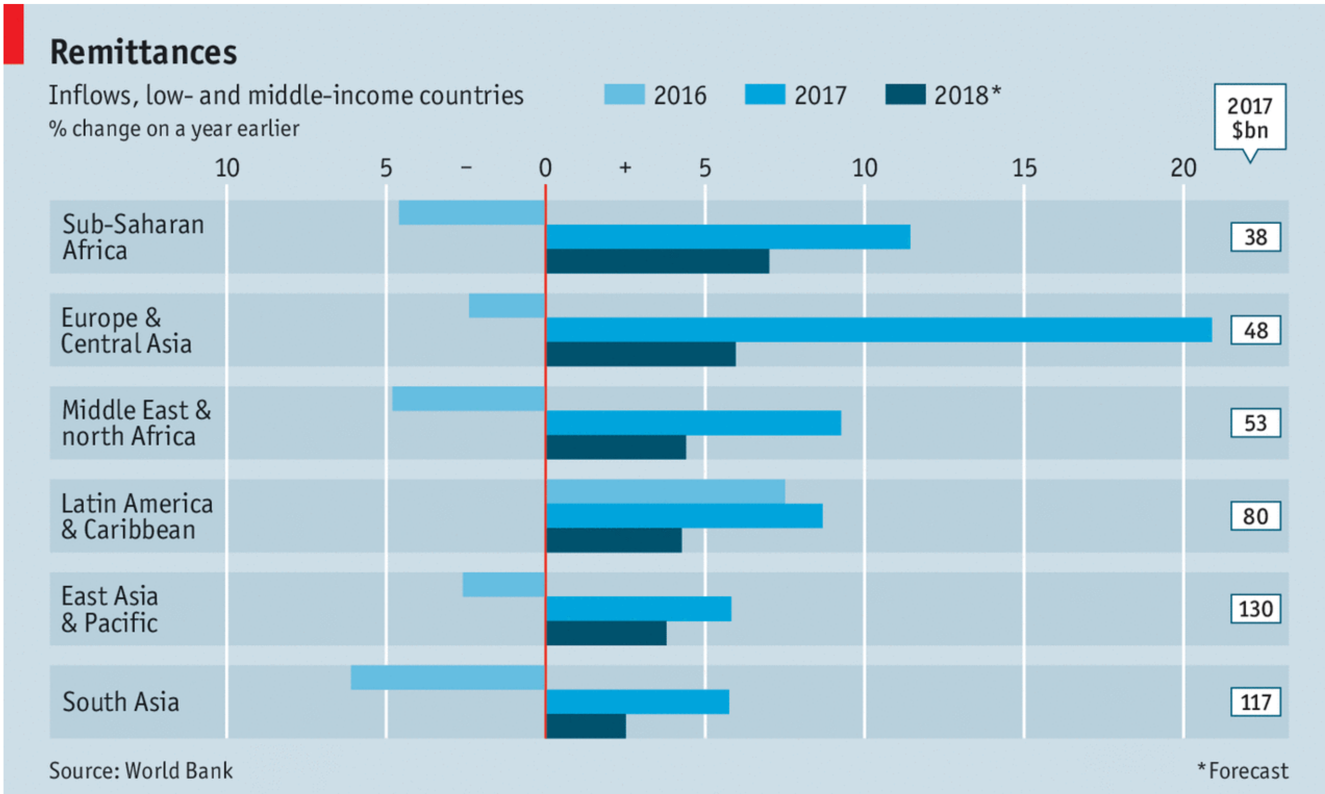

Economist.com

Migrants from low- and middle-income countries sent home $466bn in 2017, an increase of 8.5% on the year before. That followed two consecutive years of decline. Remittance inflows increased in all regions last year; the same is expected in 2018, albeit at a slower pace. The rebound has been driven partly by faster global growth, and partly by better employment prospects for migrants in oil-exporting economies. Remittances are now worth more than three times the value of official development assistance, which came to $159bn last year. India remains the top recipient in dollar terms; inflows totalled $69bn. As a share of GDP, Kyrgyzstan comes top: remittances were a staggering 35% of output in 2017.

Markets

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Markets

	Index	% change on		
			Dec 29th 2017	
	Index Apr 25th	one week	in local currency	in $ terms
United States (DJIA)	24,083.8	-2.7	-2.6	-2.6
United States (S&P 500)	2,639.4	-2.6	-1.3	-1.3
United States (NAScomp)	7,003.7	-4.0	+1.5	+1.5
China (SSEA)	3,265.4	+0.9	-5.7	-2.9
China (SSEB, $ terms)	320.3	nil	-6.3	-6.3
Japan (Nikkei 225)	22,215.3	+0.3	-2.4	+0.6
Japan (Topix)	1,767.7	+1.0	-2.7	+0.2
Britain (FTSE 100)	7,379.3	+0.8	-4.0	-1.1
Canada (S&P TSX)	15,509.8	-0.1	-4.3	-6.9
Euro area (FTSE Euro 100)	1,211.4	-0.4	+0.1	+1.5
Euro area (EURO STOXX 50)	3,485.8	-0.1	-0.5	+0.8
Austria (ATX)	3,443.4	-0.2	+0.7	+2.1
Belgium (Bel 20)	3,893.1	-0.4	-2.1	-0.8
France (CAC 40)	5,413.3	+0.6	+1.9	+3.3
Germany (DAX)*	12,422.3	-1.3	-3.8	-2.5
Greece (Athex Comp)	825.9	-1.9	+2.9	+4.3
Italy (FTSE/MIB)	23,801.2	+0.2	+8.9	+10.4
Netherlands (AEX)	551.7	-0.3	+1.3	+2.7
Spain (IBEX 35)	9,858.0	nil	-1.9	-0.5
Czech Republic (PX)	1,121.7	-0.6	+4.0	+5.7
Denmark (OMXCB)	875.1	-1.4	-5.6	-4.4
Hungary (BUX)	38,050.0	-1.8	-3.4	-3.0
Norway (OSEAX)	952.2	-0.8	+5.0	+7.7
Poland (WIG)	59,243.6	-2.1	-7.1	-7.2
Russia (RTS, $ terms)	1,137.6	-1.5	-1.5	-1.5
Sweden (OMXS30)	1,557.3	+0.3	-1.2	-5.6
Switzerland (SMI)	8,741.0	-1.0	-6.8	-7.7
Turkey (BIST)	107,401.4	-4.2	-6.9	-13.9
Australia (All Ord.)	6,009.4	+0.9	-2.6	-5.5
Hong Kong (Hang Seng)	30,328.2	+0.1	+1.4	+1.0
India (BSE)	34,501.3	+0.5	+1.3	-3.3
Indonesia (JSX)	6,079.8	-3.8	-4.3	-6.8
Malaysia (KLSE)	1,851.9	-1.5	+3.1	+6.6
Pakistan (KSE)	45,718.3	+0.5	+13.0	+7.9
Singapore (STI)	3,568.0	+0.3	+4.9	+5.4
South Korea (KOSPI)	2,448.8	-1.3	-0.8	-1.7
Taiwan (TWI)	10,560.0	-2.7	-0.8	-0.4
Thailand (SET)	1,779.5	+0.4	+1.5	+4.8
Argentina (MERV)	29,946.8	-5.0	-0.4	-7.4
Brazil (BVSP)	85,044.4	-0.9	+11.3	+5.3
Chile (IGPA)	28,494.3	+0.3	+1.8	+3.6
Colombia (IGBC)	12,316.6	-0.1	+7.3	+13.5
Mexico (IPC)	48,058.2	-2.1	-2.6	-0.2
Peru (S&P/BVL)*	21,357.2	nil	+6.9	+6.8
Egypt (EGX 30)	18,122.0	+2.4	+20.7	+21.2
Israel (TA-125)	1,325.8	-1.5	-2.8	-6.1
Saudi Arabia (Tadawul)	8,233.1	+1.1	+13.9	+13.9
South Africa (JSE AS)	56,987.2	-1.3	-4.2	-5.1
Europe (FTSEurofirst 300)	1,491.7	-0.3	-2.5	-1.1
World, dev'd (MSCI)	2,076.7	-2.2	-1.3	-1.3
Emerging markets (MSCI)	1,140.3	-3.0	-1.6	-1.6
World, all (MSCI)	506.3	-2.3	-1.3	-1.3
World bonds (Citigroup)	955.1	-1.9	+0.5	+0.5
EMBI+ (JPMorgan)	807.4	-1.4	-3.4	-3.4
Hedge funds (HFRX)	1,2[illegible].9§	-0.8	-0.7	-0.7
Volatility, US (VIX)	17.8	+15.6	+11.0	(levels)

Avicii
When it's all over

When it's all over

Avicii (Tim Bergling) died on April 20th

The Swedish DJ and musician was 28

Print edition | Obituary Apr 26th 2018

ONCE he started the music—flinging up his right arm, while his left hand worked the decks to bring it flooding, then crashing in—the crowd in the hall could not resist. Caught up with him, they would shudder, pulse, sway, dance, then go "completely apeshit", pumping their arms, buckling their half-naked bodies. He usually viewed it from above, a seething mass of sweaty shoulders, whiplashing hair and imploring hands, cut into sections by laser lights or masked by drifting dry ice. Relentlessly the oontz-oontz-oontz-oontz of a bass beat, Avicii's signature, took them over. Wildly happy, his mostly millennial worshippers left the world behind.

"Taking them on a journey" was what he felt he did—a skill that led him to perform for gatherings of thousands all over the globe, headlining the festivals of electronic dance music in Europe, America and Australia, becoming a staple in the glitzy EDM nightclubs of Las Vegas, playing the Hollywood Bowl and electrifying the close of the World Cup. The energy of his music could carry ravers anywhere. Like the nerdy clerk in the video for "Levels" (2011), his breakthrough hit, his fans could dance crazily round the office in a perfect storm of paper. Or like the plump, fed-up girl in the video for "I Could be the One" (2013), they could be wafted to a paradise island full of feasting, fun sex and rides on white horses along the beach. Forget desk-drudgery, crashing banks, Middle Eastern wars. They could be there.

And they all looked to him to perform this miracle. The DJ was once a figure on the side, half-hidden behind the decks, just a means to the beats. But he, though in jeans and T-shirt and backwards baseball cap like some technician, was a superstar of the club scene. He could earn $250,000 a night, and in 2014 *Forbes* estimated his earnings at $28m. The perks were good, too. Girls threw their bras at him, adoring his snub nose and platinum hair. The partying was continuous. Every time he flashed a "C" sign to his bodyman, Felix, during a show, another glass of champagne would be put into his hand.

Lowest hell

It was not bad for a quiet, shy boy from Stockholm who would have been happy just making remixes in his bedroom, posting them online and doing the odd small gig. But at 18 he fell in with Ash Pournouri, a club promoter, who said he could turn him into "the biggest artist". Together they made about 100 tracks, mostly riffs on tunes by other writers, underpinned with that mesmerising four-chord beat of deep house, the sound he loved, and layered with synthesiser effects. He also wrote his own songs, such as "Wake Me Up", borrowing from whatever interested him, even folk, country and bluegrass. Cool inspirations came almost organically. To him, all music was there for the mixing.

Yet learning to DJ confidently in public took 18 months, and his stage-name was the Buddhist term for lowest hell, as if he recoiled from the start. He didn't enjoy people looking at him, with the acne marks on his face. Before shows he was almost unbearably nervous, smoking one cigarillo after another. Online stuff hurt. Critics accused him of doing nothing on stage but fiddling with the volume on prerecorded playlists, otherwise just jiggling and smiling. How was that difficult?

He admitted to Jessica Pressler of *GQ* magazine that yes, volume control was a lot of it. And yes, the playlist was planned, not adjusted moment by moment in the old style. He then scrambled to defend his art, explaining how carefully he had to work out beforehand how to build up energy in a set, how to fade expertly out and in, how to keep the crowd so into it that they wouldn't, couldn't leave. It was good; stars like Madonna and Coldplay lined up to work with him. Nonetheless, doubts pricked. He felt only reasonably happy, confessing that when that stupid bright light was on him, it felt so awkward.

Lucid moments became rarer as he jetted from city to city and club to club. His diet became Bloody Marys at the airport, wine on the plane, Dom Pérignon during the shows. In 2016, after severe pancreatitis and the removal of his gall bladder and appendix, he gave up performing live. But the hints were already there in the lyrics for "Wake Me Up", which he had played at Earl's Court in 2014 in a whirl of eight layers of lasers and a diamond-shaped screen that reflected light as fractals:

> I tried carrying the weight of the world
> But I only have two hands.

The hints were also there in the video for "Feeling Good" in 2015, his version of a song recorded by Nina Simone, in which Volvo used him to drive a new car to places where he could wander at sunset, gloomy in a woolly hat, among sand dunes and wintry fields. This, said the voice-over, was "the chance to be just—Tim". Most of the time, he turned away from the camera.

He had too little left for the life of a real person, he wrote in an online letter to his fans. He wanted to go back to creating music in his studio, where it all made sense. Meanwhile, as 2018 began, he posted pictures on Instagram of himself playing with his dog, exploring flea markets and contemplating empty, leafy lanes. Every photo shouted happy escape, but never so loudly—never so persuasively—as his beats had shouted it, not all that long ago.

This article appeared in the Obituary section of the print edition under the headline "When it's all over"