The Economist

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Politics this week

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Italy's general election resulted in a badly hung parliament, with none of the three main political groupings close to a majority. Populist parties did better than expected, winning more than half the vote. Weeks of uncertainty lie ahead, though either one of the two big populist parties—the Five Star Movement and the Northern League—looks sure to end up in power. See article .

In **Germany** the Social Democratic Party's membership voted to approve a new coalition government with Angela Merkel's Christian Democrats, paving the way for Mrs Merkel to start her fourth term as chancellor later this month. See article .

British police said a nerve agent had been used to try to murder Sergei Skripal, a former **Russian spy**, and his daughter. Mr Skripal had been jailed in Russia for passing secrets to British intelligence, but he was released in 2010 under a swap arrangement for the return of Russian agents. The attack is reminiscent of the fatal poisoning in London of Alexander Litvinenko in 2006, probably on the orders of the Russian government. See article .

Time to talk?

During a meeting with South Korean envoys, Kim Jong Un, **North Korea's** dictator, opened the possibility of talks with America about ending his country's nuclear programme and suggested he would suspend missile tests once negotiations began. Donald Trump welcomed the "possible progress". Seasoned observers poured oceans of scepticism over Mr Kim's remarks, wondering if it was a strategy to weaken Chinese and Russian support for sanctions. See article .

In **South Korea** Ahn Hee-jung resigned as governor of the province of South Chungcheong after his secretary accused him of raping her several times. Mr Ahn had been tipped to run for president in 2022. The secretary said she was inspired by South Korea's #MeToo movement, which has played a part in the resignations of several other prominent figures. See article .

An outbreak of violence directed at Muslims prompted the government of **Sri Lanka** to declare a state of emergency for the first time since the end of the country's civil war in 2009. The unrest was allegedly sparked by the killing of a Buddhist man by a group of Muslims in the city of Kandy. Communal tensions have risen over the past year, fanned by Buddhist nationalists. See article .

Australia and **East Timor** ended a dispute over their maritime border that had carried on since East Timor's independence from Indonesia in 2002. They signed a treaty setting the boundaries, which opens the way for both countries to share the spoils from gasfields in the Timor Sea.

Against the backdrop of maritime territorial disputes and nervousness about America's increased focus on the Pacific, the Chinese government said it would increase **defence spending** by 8%, to 1.1trn yuan ($175bn). It is the biggest rise in years, though the amount China actually spends on defence is much higher than the official figure.

China set its target for economic growth this year at 6.5%. Last year GDP grew by 6.9%.

Her day in court

Judicial authorities in **Argentina** said Cristina Fernández de Kirchner, a former president, would face trial on charges of covering up Iran's suspected role in the attack on a Jewish centre in Buenos Aires in 1994 that killed 85 people. Ms Fernández is not under arrest.

Brazil's supreme court said President Michel Temer's bank accounts could be scrutinised in an investigation into possible corruption involving port permits. Another court denied a petition by Luiz Inácio Lula da Silva, a former president, to be allowed to stay out of jail while he appeals against a 12-year sentence.

Venezuela's electoral authorities postponed a presidential election scheduled for April 22nd until May 20th. Most of the opposition intends to boycott the poll, believing it will be rigged by the socialist president, Nicolás Maduro.

Police in **Honduras** arrested a senior company executive in connection with the murder in 2016 of Berta Cáceres, an environmental activist. Roberto David Castillo Mejía was president of the hydroelectric company building the dam that Ms Cáceres was protesting against. Prosecutors say he helped plan her murder.

No let up

The regime of Bashar al-Assad in **Syria** stepped up its assault on rebel-held Eastern Ghouta. The bombardment has already killed hundreds of people in recent weeks. A UN convoy, stripped of medical supplies, was allowed to deliver aid to civilians, but had to cut its mission short because of shelling. A Russian military transport plane crashed near the Syrian coast, killing 39 people.

Rex Tillerson, America's secretary of state, tried to improve relations with **Africa**, two months after Donald Trump reportedly used foul language to disparage African countries. Ahead of a week-long trip to the continent, Mr Tillerson promised

$533m in new aid. He also criticised China's dealings with Africa, saying it relied on "opaque contracts, predatory loan practices and corrupt deals that mire nations in debt".

Voters in **Sierra Leone** braved long queues to pick a new president. Ernest Bai Koroma, the incumbent, has completed his maximum two terms in office. Over a dozen candidates hope to replace him. The winner's first task will be to turn around the economy, which has yet to recover from an Ebola epidemic and a commodities slump.

His next gig

The UN secretary-general, António Guterres, appointed Michael Bloomberg as his special envoy on **climate change**. The former mayor of New York has a brief to chivvy governments into meeting targets for reducing greenhouse-gas emissions. He already jointly oversees an effort to get American cities, states and businesses to reduce their emissions in line with the Paris accord on climate change, which America is in the process of withdrawing from.

The March 5th deadline, by which time the Trump administration had wanted the Deferred Action for Childhood Arrivals programme to end, came and went. Federal courts have put those plans on hold, leaving around 800,000 of the programme's **Dreamers**, immigrants who came to America illegally as children under 16, in some uncertainty about their future.

Business this week

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Donald Trump's intent to impose tariffs of 25% and 10% on steel and aluminium imports precipitated talk of a new **trade war**. China warned that it would retaliate in an "appropriate" way, but the announcement also rattled America's allies. Republicans pushed back against the idea in an open letter. Paul Ryan, the Speaker of the House of Representatives, publicly called on the White House to drop the plan. The Aluminium Association, representing 114 American companies, was also opposed, warning that tariffs could cause job losses in downstream manufacturing. See article .

A few days after Mr Trump issued his proclamation **Gary Cohn** resigned as the president's chief economic adviser. Mr Cohn, who had been in the job since the start of the Trump administration, had strong misgivings about the tariffs. See article .

Fortress America

The American government said it would look into potential national-security concerns over **Broadcom's** hostile takeover bid for **Qualcomm**. Based in Singapore, Broadcom has been pursuing a reluctant Qualcomm for months, offering $142bn in what would be the tech industry's biggest-ever acquisition. This week the Committee on Foreign Investment in the United States ordered Qualcomm to postpone a shareholders' meeting to discuss the offer while it investigates the implications of transferring its chipmaking technology to an overseas rival. Broadcom went on the offensive, criticising Qualcomm's board for "secretly" requesting an official review by the committee. See article .

CVS Health, America's largest chain of pharmacies, issued $40bn-worth of **bonds** across several maturities, one of the biggest sales of corporate debt to date. It is using the proceeds to fund its proposed $69bn takeover of Aetna, a health insurer.

Renault's share price surged amid a flurry of reports that **Nissan** wanted to buy the French government's 15% stake in the carmaker, which would be a prelude to a full merger. Nissan and Renault have operated a strategic alliance since 1999. They, and the government, denied the reports.

Dieter Zetsche, the boss of **Daimler**, welcomed the recent investment by Geely, a Chinese carmaker, in his company, but said any working alliance would require the backing of BAIC, Daimler's current partner in China. Mr Zetsche also scotched press reports in Germany that Daimler had been alarmed by the speed at which Geely accumulated its 9.7% stake.

Its bricks are not clicking

Lego reported its first decline in annual profit for 13 years. In 2017 pre-tax profit fell by 18% to DKr10.2bn ($1.7bn), despite cutting nearly a tenth of its worldwide workforce in an attempt to "reset" the business. The Danish toymaker said that last year had been "challenging" but hoped the improvement in sales in its established markets in the fourth quarter could be maintained and provide the building blocks to increase revenue in 2018.

South Africa's economy grew by 1.3% last year, helped by a better performance than had been expected at the end of the year. Rebounding from drought in 2016, the country's agriculture industry expanded by 37.5% in the fourth quarter compared with the previous three months. Trade was also buoyant. Cyril Ramaphosa's inauguration as president has raised expectations that the government will contemplate serious economic reforms.

AXA, a French insurance company, offered $15.3bn to buy **XL Group**, which has its headquarters in Bermuda. The deal strengthens AXA's pivot towards commercial insurance and away from life insurance and savings.

Following last October's revelation that the safety-inspection records on some aluminium, copper and steel products it had shipped to customers had been forged, **Kobe Steel** purged its senior management ranks and said its chief executive would resign. The Japanese steelmaker also acknowledged that the practice of falsifying safety data stretched back 50 years.

We chat a lot

WeChat reached a new milestone of 1bn user accounts (its users often operate two accounts). Launched in 2011 by Tencent, one of China's internet giants, the Chinese social network now hosts a wide range of online services in addition to its messaging features, such as food deliveries and bank payments.

Jeff Bezos topped the *Forbes* annual list of **billionaires** for the first time with an estimated net worth of $112bn. Mr Bezos owns 16% of Amazon, which saw its share price soar in value last year. There are now 2,208 billionaires in the world, worth $9.1trn in total with an average net worth of $4.1bn. Because of the decline in the value of his properties in Manhattan, Donald Trump tumbled 222 places in the ranking to 766. He is worth $3.1bn.

KAL’s cartoon

Print edition | The world this week Mar 10th 2018

Tariffs
The threat to world trade

The threat to world trade

The rules-based system is in grave danger

Donald Trump's tariffs on steel and aluminium would be just the start

Print edition | Leaders Mar 8th 2018

DONALD TRUMP is hardly the first American president to slap unilateral tariffs on imports. Every inhabitant of the Oval Office since Jimmy Carter has imposed some kind of protectionist curbs on trade, often on steel. Nor will Mr Trump's vow to put 25% tariffs on steel and 10% on aluminium by themselves wreck the economy: they account for 2% of last year's $2.4trn of goods imports, or 0.2% of GDP. If this were the extent of Mr Trump's protectionism, it would simply be an act of senseless self-harm. In fact, it is a potential disaster—both for America and for the world economy.

As yet it is unclear exactly what Mr Trump will do (see Briefing). But the omens are bad. Unlike his predecessors, Mr Trump is a long-standing sceptic of free trade. He has sneered at the multilateral trading system, which he sees as a bad deal for America. His administration is chaotic, and Gary Cohn's ominous decision on March 6th to resign as the president's chief economic adviser deprives the White House of a rare free-trader, signalling that it has fallen into protectionist hands. Not since its inception at the end of the second world war has the global trading system faced such danger.

Rough trade

This danger has several dimensions. One is the risk of tit-for-tat escalation. After the EU said it would retaliate with sanctions on American goods, including bourbon and Harley-Davidson motorbikes, Mr Trump threatened exports of European cars.

The second danger springs from Mr Trump's rationale. The tariffs are based on a little-used law that lets a president protect industry on grounds of national security. That excuse is self-evidently spurious. Most of America's imports of steel come from Canada, the European Union, Mexico and South Korea, America's allies. Canada and Mexico look set to be temporarily excluded—but only because Mr Trump wants leverage in his renegotiation of the North American Free-Trade Agreement, which has nothing to do with national security. Mr Trump is setting a precedent that other countries are sure to exploit to protect their own producers, just as spuriously.

It is not clear whether other countries can respond legally when national security is invoked in this way. This puts the World Trade Organisation (WTO) into a rat trap. Either Mr Trump will provoke a free-for-all of recrimination and retaliation that the WTO's courts cannot adjudicate, or the courts will second-guess America's national-security needs, in which case Mr Trump may storm out of the organisation altogether.

The WTO is already under strain. The collapse of the Doha round of trade talks in 2015, after 14 fruitless years, put needed reforms on hold indefinitely. Disputes that might have been swept into a new trade round have fallen to the WTO's dispute-resolution machinery, which is too slow and too frail to carry the burden. The WTO has not kept pace with economic change. Investment is increasingly tied up in intangibles, such as patents and copyright, rather than physical assets, such as steel mills. Rules drafted for rich, market-led economies cannot always police state capitalism. The implicit subsidies China gives its producers were a cause of global gluts in industrial metals. No wonder that the world's second-biggest economy has been the focus of so much anger.

Whatever the WTO's problems, it would be a tragedy to undermine it. If America pursues a mercantilist trade policy in defiance of the global trading system, other countries are bound to follow. That might not lead to an immediate collapse of the WTO, but it would gradually erode one of the foundations of the globalised economy.

Everyone would suffer. Mr Trump seems to think trade is a zero-sum affair, in which a deficit is a sign of a bad deal. But the vast improvement in living standards after the second world war went hand in hand with a rapid expansion in world trade over eight trade rounds, each of which lowered barriers. Imports are in fact welcome, because they benefit consumers and spur producers to specialise in what they do best.

Without the WTO, cross-border trade would continue—it is unstoppable—but the lack of norms and procedures would leave disputes to escalate. The fewer the rules, the more scope for mercantilist mischief and backsliding. Trade policy could be captured by special interests. Military power would hold greater sway in trade disputes than economic fair play. Transnational investment could drain away. As a vast continental economy, America would lose less from this than other countries. It would nonetheless lose a lot, including a pillar of the system that has underpinned its post-war political influence.

How should the world get out of this bind? Even as Mr Trump behaves with astonishing irresponsibility, others must keep their heads. Some may impose limited retaliation—that, after all, is how to treat bullies, and the threat to local manufactures will strengthen the hand of Republicans pressing Mr Trump to relent. But such action must be proportionate and limited. A tit-for-tat war with America would be disastrous.

Back to basics

The more important task is to shore up support for trade. It would be comforting to think there is global backing to fix the WTO. But just now, there is not. The only new trade deals on offer are regional, such as the Trans-Pacific Partnership (TPP), an 11-country pact signed this week that sets out to be a blueprint for trade modernisation. Although Mr Trump abandoned it, he has hinted he may reconsider, which would be a start.

The best way to help the WTO would be for its other members to co-ordinate any action, including bringing in a WTO complaint about Mr Trump's tariffs. Even though that may burden the WTO's court, it would be a vote of confidence in the idea that the global economy should be governed by rules.

The world is a long way from the 1930s, thank goodness. Yet ignorance and complacency have put the trading system in grave danger. Free-traders need to recognise that the WTO can help keep markets open in the face of protectionist lobbying, at home and abroad. It is vital they make the intellectual case for rules-based trade. That will not be easy. For the first time in decades, their biggest foe is the man in the Oval Office.

This article appeared in the Leaders section of the print edition under the headline "The threat to world trade"

Talks with North Korea

Treat Kim Jong Un's nuclear offer with caution

His demands are a non-starter

Print edition | Leaders Mar 10th 2018

AFTER months when the prospect of a nuclear war on the Korean peninsula seemed all too real, it is a relief that America and North Korea may soon start talking to each other. A flurry of diplomacy has paved the way for negotiations. North Korean athletes and cheerleaders attended the Winter Olympics in Pyeongchang; South Korean officials went to Pyongyang and met the North Korean dictator, Kim Jong Un. However, when Mr Kim suggested on March 6th that talks might lead to him giving up his nuclear weapons, diplomats were astonished. The Trump administration's policy towards North Korea of "maximum pressure and engagement" has been all about the pressure. Here, many feel, is a chance to try some engagement.

That must be right. But past experience suggests that an ocean of scepticism is warranted (see article). In the past North Korea has used nuclear talks to win concessions and money in return for commitments it has then broken. Mr Kim, who inherited his throne from his equally despotic father and grandfather, may also have inherited their duplicity.

Despite his macho posturing, Mr Kim is feeling the sanctions that America has applied as punishment for his testing of missiles and nuclear devices. China's unwillingness to risk the collapse of the North Korean regime has limited the bite of the sanctions, but new restrictions imposed by the UN are taking a toll. One sign was the scaling back of North Korea's winter military exercises, apparently to save fuel as imports of oil and refined petroleum products have become scarcer.

The rumours in Washington about a bloody-nose strategy to punish Mr Kim for testing nuclear weapons may also have got the dictator's attention. The administration denies having talked in those terms, but Mr Kim cannot rule out that President Donald Trump will order a pre-emptive strike on his nuclear facilities. The communist god-king knows he would have to respond, and for all his braggadocio he knows that escalation could lead to his own demise, as well as his regime's. Asked what had brought Mr Kim to the negotiating table, Mr Trump said: "Me." For once, he may be right.

Nonetheless Mr Kim surely feels that he would enter talks from a position of strength. He already has a missile with the range to strike the United States and will probably soon be able to equip it with a thermonuclear warhead. He also has the conventional and nuclear firepower to devastate Seoul, South Korea's thriving capital. No one really wants to fight him.

Don't hold your breath

The chances of the talks getting anywhere remain low. When Mr Kim suggests he would give up his nukes for the right security guarantees, he means the withdrawal of American forces from the south and the start of a process to reunite the peninsula on his terms. Neither is going to happen—rich, democratic South Korea is not about to throw in its lot with a North still run by a tyrant. Still, Mr Kim hopes to divide the South from its American ally by making offers that will play well in Seoul, such as opening new lines of communication, bringing separated families together and co-operating on humanitarian projects. At the very least, he will be betting that he can give China and Russia the cover they need to relax sanctions.

America needs to show its allies (and China) that it is open to talks, while making clear that the demands North Korea is making in exchange for denuclearisation are unacceptable. Even if talks result only in measures that reduce tension and the risk of nuclear miscalculation, they will have been worthwhile. Alas, the State Department has just lost its point man on North Korea and it still has no ambassador in Seoul. Dealing with a despot requires diplomacy—and diplomats.

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Italy votes for irresponsibility

Why Europe should be worried

With populists in the driving seat, Italy is heading for trouble

Print edition | Leaders Mar 10th 2018

THE election was bound to be messy. But on March 4th Italian voters came up with a result that has surpassed the worst predictions, and cast a pall over not only Italy but the rest of the European Union, too.

Both chambers of parliament are hung, with no easy or quick way for anyone to achieve a majority (see article). More alarming is that half of the voters—fed up with high unemployment, stagnant wages, uncontrolled immigration and a self-serving political class—voted for the two main populist parties, the Five Star Movement (M5S) and the Northern League. Both are hostile to the EU and especially the euro, and both campaigned on lavish tax and spending promises that Italy cannot afford. Mathematically, no government can be formed without one of them. The previously governing Democratic Party (PD) lost well over half its seats, eliminating the option of a centrist coalition. The PD's drubbing was in part a rebuke to the vainglory of its leader, Matteo Renzi, who was trying again to become prime minister, despite losing a referendum on constitutional change in 2016. But the vote is also a rejection of the PD's attempt at economic reform, which Italy needs but apparently cannot stomach.

The PD may yet play the role of kingmaker. But the available kings are disturbing. M5S backs an unaffordable universal basic income and wants to scrap pension reforms. Its nebulous aims include transforming Italy into a direct digital democracy. It is led by a 31-year-old with no administrative experience and owes an unclear degree of allegiance to its founder, Beppe Grillo, a part-time comedian who began his political career with the cry of *vaffanculo!* (fuck off!) to the establishment.

The other king is no more appealing. The right-wing alliance that won 37% of the vote is dominated by Matteo Salvini, leader of the Northern League, whose party overtook Forza Italia, led by Silvio Berlusconi, a former prime minister whom we once called "unfit to lead Italy". Mr Salvini has shifted the League, which once advocated secession by the rich north, into a hard-right party allied with Marine Le Pen's National Front in France. He has called the euro a "crime against humanity" and has threatened the mass deportation of migrants who are stuck in Italian limbo because no one else in Europe will let them in. He also favours a budget-destroying 15% flat tax.

For the PD, the choice is between hemlock and cyanide. But refusing to give even limited support to either risks an even more gruesome possibility: an alliance between the League and M5S. Right now that seems unlikely. The League's traditional hostility to the poorer south, where M5S is strongest, makes such a pact hard. But unless the PD does a deal with someone, it may yet happen. Faced with deadlock, President Sergio Mattarella could seek to appoint a short-lived technocratic government. Or Italians may be asked to vote again. Neither option will solve much. Scheming to keep the populists out will only strengthen them; better to expose their empty promises by giving them some responsibility for governing. Whatever the outcome, Italy's public finances will probably weaken, while structural problems that have dragged down productivity and growth will remain untreated.

Far beyond Italy's shores

This dismal result will be felt across Europe, where the rise of populists and the weakening of mainstream parties has become a theme. In Germany last weekend the centrists clung on to power, after members of the Social Democratic Party approved a new "grand coalition" with Angela Merkel's Christian Democrats. Their coalition agreement includes measures to strengthen euro-zone governance, potentially providing more cash for infrastructure, a permanent fiscal backstop for its resolution mechanism for troubled European banks, and money to assist with structural reform.

This programme was always a hard sell to frugal north Europeans. In the light of Italy's vote for irresponsibility, it has become a much harder one. How many Germans want to shoulder more liabilities so that Italians can retire earlier?

The euro zone's third-largest economy has low growth and public-sector debt of about 130% of GDP. It is also too big to bail out. Italy poses a systemic risk to the euro unless it can reform itself. And on the evidence of last weekend, it can't.

This article appeared in the Leaders section of the print edition under the headline "A vote for irresponsibility"

Stop, thief!

Malaysia's PM is about to steal an election

American officials say he already stole millions from taxpayers

Print edition | Leaders Mar 10th 2018

IN MOST countries a government that allowed $4.5bn to go missing from a state development agency would struggle to win re-election. If some $681m had appeared in the prime minister's personal account around the same time, which he breezily explained away as a gift from an unnamed admirer, the task would be all the harder. An apparent cover-up, involving the dismissal of officials investigating or merely complaining about the scandal, might be the last straw for voters. But in Malaysian elections, alas, voters do not count for much.

Under any reasonable electoral system, the coalition running Malaysia would not be in office in the first place. The Barisan Nasional, as it is known, barely squeaked back into power at the most recent election, in 2013. It lost the popular vote, earning only 47% to the opposition's 51%. But thanks to the shamelessly biased drawing of the constituencies, that was enough to secure it 60% of the 222 seats in parliament.

This ill-deserved victory, however, occurred before news broke of the looting of 1MDB, a development agency whose board of advisers was chaired by the prime minister, Najib Razak. America's Justice Department has accused him and his stepson, among others, of siphoning money out of 1MDB through an elaborate series of fraudulent transactions. Much of the money went on luxuries, it says, including paintings by Picasso and Monet, a private jet, diamond necklaces, a penthouse in Manhattan and a gambling spree in Las Vegas. In February Indonesia seized a $250m yacht that the Americans say was bought with Malaysian taxpayers' money. Authorities in Switzerland and Singapore have also been investigating.

Mr Najib denies any wrongdoing—and of course he has loyal supporters. But his administration has not tried very hard to clear things up. Only one person has been charged in connection with the missing billions: an opposition politician who leaked details of the official investigation after the government had refused to make it public.

All this is unlikely to have improved Mr Najib's standing with voters. Yet an election must be held by August. Faced with the risk of losing power, the government is rigging the system even more brazenly. Parliament will soon vote on new constituency boundaries. The proposed map almost guarantees Mr Najib another term, despite his appalling record.

How to rig an election

One trick is gerrymandering, drawing constituency boundaries so that lots of opposition voters are packed into a few seats, while ruling-party supporters form a narrow majority in a larger number. Lots of this goes on in Malaysia, as elsewhere: the new boundaries put two opposition bastions in the state of Perak into the same seat. Gerrymandering is made even easier by another electoral abuse called malapportionment. This involves creating districts of uneven populations, so that those which support the opposition are much bigger than those that back the government. That means, in effect, that it takes many more votes to elect an opposition MP than it does a government one. The practice is so unfair that it is illegal in most countries, including Malaysia, where the constitution says that electoral districts must be "approximately equal" in size.

Nonetheless, the constituencies in the maps proposed by the government-appointed election commission range in size from 18,000 voters to 146,000 (see article). The Barisan Nasional controls all the 15 smallest districts; 14 of the 15 biggest ones are in the hands of the opposition. The average Barisan seat has 30,000 fewer voters than the average opposition one. And this is the election commission's second go at the maps—the first lot were even more lopsided.

Unfortunately, the electoral boundaries are not the only way in which the system is stacked against the opposition. The media are supine. The police and the courts seem more interested in allegations of minor offences by opposition figures than they are in the blatant bilking of the taxpayer over 1MDB and the open violation of the constitution at the election commission. The latest budget seems intended to buy the loyalty of civil servants, by promising a special bonus to be disbursed just after the likely date of the election.

But these biases, as bad as they are, are not the same as fiddling constituencies. As long as the electoral system is fair, Malaysians will be able to judge the government and vote accordingly. But a rigged system will rob their votes of meaning. That is the point, of course. Mr Najib may be venal, but he is not stupid. He fears that most voters would not return him to office if given a choice, so he is taking their choice away.

This article appeared in the Leaders section of the print edition under the headline "Stop, thief!"

Early warning

African countries are borrowing too much

The dangers of reckless lending and feckless borrowing

Print edition | Leaders Mar 8th 2018

TWO decades ago much of sub-Saharan Africa was frozen out of the global financial system. Reckless lenders had lent too much to feckless (and often unelected) governments. Crooked officials had stolen billions, stashed their loot abroad and left their fellow Africans with the bill.

Places such as Ghana (with a public debt of more than 120% of GDP) and Mozambique (more than 200%), could not cover the interest payments on existing loans, never mind service new ones. Unable to borrow, such countries could not invest in roads, ports, schools and clinics. Pop stars and preachers campaigned for relief from "odious debt" that dictators imposed on their people. The IMF responded with a "heavily indebted poor countries" (HIPC) scheme, wiping out many of the debts of 36 countries, 30 of which were in Africa.

Its success was remarkable. With the slate wiped clean, most African countries have been able to tap international markets for finance (see article). Helped by new loans and much better monetary policies, most sub-Saharan African economies have revived. Since 1990, three-quarters of them have posted at least ten years of uninterrupted growth (one-third have managed 20 years of it). Millions of children now attend schools financed with such loans. Millions more have had their lives saved because of vaccinations or clinics paid for with borrowed money.

Too much of a good thing

Bad old habits have returned, however. As investors search desperately for yield, they have piled into African bonds. In 2013-16 the ratio of public debt to GDP in sub-Saharan Africa, as defined by the IMF, increased by an average of five percentage points a year for countries that do not produce oil, and eight for those that do. It is now above 50% in half of the countries in the region. That is modest by rich-world standards, but commercial interest rates are much higher in Africa. Since 2013 the number of countries that the IMF deems to be in "debt distress" or at high risk of it has doubled to 14.

This is hurting. Zambia now spends more on debt service than on education. Governments' insatiable appetite for debt is crowding out other borrowers. Local banks often find it easier to buy government bills than to do the hard work of assessing the creditworthiness of local businesses, which are asked to pay ruinous interest rates of 20-30%. The fate of banks is thus tied to the health of the government's finances, making the whole financial system brittle. Africa is not yet in a debt crisis. But if these increases are left to run for just a few more years, many African countries may find themselves stuck back in the debt trap they so recently escaped.

How then to avert such a crisis? The first step is for African governments to start tightening their belts. They should improve tax collection and borrow only to invest, not to fatten the pay of civil servants (as Ghana did) or to buy warships (as Mozambique did). Across sub-Saharan Africa, governments need to achieve fiscal consolidation of about 3-5 percentage points of GDP over the next five years, the IMF reckons.

Yet borrowers are only half the problem. Banks have been happy to arrange bond issues or loans for governments riddled with corruption despite warning signs that the money might be stolen. Many people suspect that is because they blithely expect the IMF to step in with bail-outs and austerity programmes that will mean that their lending is protected. And countries such as China have underwritten loans for infrastructure projects to project soft power and to keep their own construction firms busy.

Curbing this moral hazard will not be easy. Rising global interest rates will limit borrowing, but increase the risk of default. Some creditors ought to suffer losses—for example, those who threw money at obviously dubious state-owned ventures in Mozambique. The occasional default would make creditors more careful about handing out their money in future. But if too many countries were to stop paying loans, then risk premiums would rocket throughout Africa and starve the region of credit. That calls for organisations such as the IMF to speak out. They should resist the temptation to be tactful, and instead issue unambiguous warnings when countries are straying. It takes two to dig a debt trap, but only one to warn that it is time to stop shovelling.

This article appeared in the Leaders section of the print edition under the headline "Rearing its odious head once more"

On China, ad-blockers, job licences, meritocracy, merlot
Letters to the editor

Letters

Letters to the editor

On China, ad-blockers, job licences, Scotland, meritocracy, merlot

Print edition | Letters Mar 10th 2018

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

Chinese society

"Banyan" accused China of racism based on a misinterpretation of a sketch in a televised Chinese New Year gala (February 24th). The criticisms of China's policies towards Africa and ethnic minorities, and the use of the labels "social Darwinism" and "neocolonialism", are unfounded, biased and lack respect for historical facts.

China has the longest continuous history of all ancient civilisations in the world. The standard writing of Chinese characters was already in place as early as the Qin dynasty in 221BC. Those who claim that "no standard Chinese existed" in the 19th century should have at least heard of the terracotta warriors.

China is firmly opposed to racism in all forms. Chinese culture values the harmonious coexistence between different ethnic groups and cultures. The Chinese nation itself is proudly born out of thousands of years of integrating diverse ethnic groups and does not provide a breeding ground for racial discrimination or parochial nationalism. Throughout China's history it never colonised, plundered or enslaved any vulnerable nation. In line with this peaceful tradition, China is committed to working with global partners to build a community with a shared future for mankind.

The facts speak for themselves about China's co-operation with Africa. In developing its relations with African countries, China acts on the principles of sincerity, practical results, affinity and good faith, and values friendship, justice and shared interests. China is always doing its best to provide assistance to African countries, and has made a unique contribution to Africa's independent and sustainable development. The enduring and vigorous friendship between China and Africa is rooted in equality, sincerity, win-win co-operation and common development.

History is a mirror that one must look into in order to take off the spectacles tinted with political bias and get the facts straight. One should respect the history of China's development and its relations with Africa, appreciate the ethnic harmony and social stability in China and recognise that China and African countries are equal partners working for a common development.

ZENG RONG
Spokesperson of the Chinese embassy
London

Minus ads

Google's adoption of an ad filter in its Chrome browser may well have led to a deteriorating relationship between advertisers and publishers ("Give me a break", February 17th). Chrome's new filter is a step in the right direction, offering users protection from some of the worst adverts and encouraging better ad formats. However, traditional ad-blockers will remain necessary for consumers, as Google's technology will filter only 16% of ads, and let through some formats, such as most interstitial and video ads, that are the prime drivers of ad-blockers.

BEN WILLIAMS
Communications manager
Adblock Plus
Cologne

Qualified for the job

Calling for an end to job licensing, you referred to Milton Friedman, stating that "you can tell who benefits from licensing by watching who lobbies for it—and rarely is that consumers" ("Licence to kill competition", February 17th). But although we may safely assume that those who lobby for a certain form of licensing do so because they stand to gain from it, it does not automatically follow that the rest of society will lose. That is a likely outcome only if the licensing policy degenerates merely to stifling entry and protecting incumbents. A clever licensing policy would tackle the underlying problem, which is mostly one of asymmetric information, in the interest of consumers. Making licences temporary and tradable should go some way in this direction.

We should have no illusion about consumers ultimately paying for the licence through the price charged for the licensed service. The goal of a good licensing policy, however, is to make sure that, through competition for licences, this fee is forced down to the cost of obtaining the qualification required.

WILHELM KOHLER

Professor of economics

University of Tübingen

I attained a licence to be a drug and alcohol counsellor in Massachusetts, for which I completed college work, two internships, over 3,000 supervised hours and a master's degree. I was informed that transferring my licence between states would not be an issue. Unfortunately, that was not the case.

When I moved from Boston to Charlotte I was told I had to retake much of my education, some, if not all, of my supervised hours, and probably some of my master's. I didn't have time to do that; I needed a job and resorted to clerical work. America is in the grip of an opioid epidemic, yet licences for addiction treatment are not transferable.

GILLIAN COX

Charlotte, North Carolina

Scottish populism

* Your briefing on European populism (A dangerous waltz , February 3rd) rightly pointed out that there was a setback for the rise of populism in 2017. You could also have included another notable case in point, namely, the Scottish National Party's loss of 21 seats in Britain's general election in 2017. Scotland had previously seen a steep increase in support for populist nationalism in the run up to the independence referendum in 2014 and its aftermath. Many hope we are now seeing an equivalent decline.

KEITH HOWELL

West Linton, Scottish Borders

An influential book

Whatever its intentions, the effect of Michael Young's "The Rise of the Meritocracy" has been to entrench an elite (Bagehot , February 10th). Published 60 years ago, it was intended to justify destroying Britain's grammar-school system, which was seen as creaming off able working-class children. So Labour brought in comprehensive schools but left private education untouched, which the middle classes turned to in droves.

The big flaw in Young's thesis is that ability does not descend necessarily from generation to generation. It has left us not with meritocracy, but mediocracy.

MICHAEL TAYLOR

Oxford

Ralf Dahrendorf had an answer to an overly optimistic reliance on academic results:

> "When it comes to leadership, many qualities other than a first-class degree come into play. As far as institutions are concerned, we should not allow any one criterion to determine who gets to the top and who does not. Diversity is a better guarantee of openness than even merit, and openness is the real hallmark of a liberal order."
>
> CHRISTOPHER STEHBERGER
>
> *Traunstein, Germany*
>
> **If anyone orders merlot...**
>
> Your observation that tourists travel to Hawke's Bay in New Zealand to "slurp merlot" could have been lifted straight out of Paul Giamatti's classic savaging of that vintage "rancid tar and turpentine" in "Sideways" (" Bigger than the army ", February 10th). Only tourists on their way to the souvenir shop in overcrowded wineries drink merlot.
>
> Any serious aficionado of the grape knows that New Zealand produces the world's most elegant pinot noir. Mr Giamatti's character in the film describes how this variety "can only grow in these really specific, little, tucked away corners of the world...its flavours, they're just the most haunting and brilliant and thrilling and subtle and... ancient on the planet".
>
> JOHN DRISCOLL
>
> *Singapore*

* Letters appear online only

The looming trade war
Massive attack

A tariffically bad idea

The looming global trade war

America is setting dangerous new precedents as it tries to curb imports

Print edition | Briefing Mar 8th 2018

PRESIDENT Donald Trump does not follow through on everything he says or tweets. Sometimes he blithely ignores past statements, sometimes he seamlessly reverses himself. For a while, hopes that tariffs of 25% on steel imports, and 10% on aluminium, which the president announced on March 1st, might not actually come to pass hung by that thread.

The thread snapped on March 6th when Gary Cohn, an investment banker, resigned from his post as Mr Trump's chief economic adviser. For months Mr Cohn had been fighting Peter Navarro, Mr Trump's trade adviser, and Wilbur Ross, his commerce secretary, over the proposed tariffs. His departure could only mean he had been beaten, and that a formal declaration of the tariffs will follow shortly, quite possibly soon after *The Economist* went to press on March 8th. The measures, it appears, may not be as sweeping as originally suggested; in particular, Canada and Mexico may be exempt. But they are worrying enough.

As Mr Trump originally described them, the tariffs would apply to some $46bn of trade, roughly 2% of America's goods imports. That would make them Mr Trump's biggest act of protectionism to date. But the size of the provocation is not what is most worrying: the way it was done, and the belief that inspired it, both matter more.

Mr Trump's previous trade restrictions, like the tariffs on solar panels and washing machines he announced in January, had precedent. They were part of a recognised process, the sort of thing the World Trade Organisation (WTO) deals with routinely. This latest move is on the pretext of national security, and that makes it much harder for other countries to respond to it without setting aside the rules themselves.

It also makes it clearer than ever that, unlike many other subjects on which Mr Trump is wrong but not terribly invested, trade is an area of his policy ignorance that he cares about deeply. He appears genuinely to believe that tearing up the rules on which international trade is based will make America great again, and that the trade war which could well follow is an easily winnable part of the process.

Protection

Membership of the WTO means forgoing the option of squeezing foreign rivals with trade restrictions. In return it provides secure access to foreign markets along with specific remedies should you feel you are the victim of dodgy trade practices.

Among these remedies is the option of imposing new tariffs if you find yourself facing imports that are surging, subsidised or being sold below cost. America's steel industry has a long history of receiving such protection. In March 2002, for example, George Bush imposed a safeguard tariff—the sort of blanket duty that is used against surges in imports—of up to 30% on steel. He backed down, but defensive tariffs still apply to three-fifths of American steel imports (see chart 1).

What is unprecedented about the new tariffs is thus not their purpose. Nor is it their likely impact. Ronald Reagan's protectionist policies distorted the world economy more than Mr Trump's latest actions are likely to in and of themselves, says Douglas Irwin, a trade expert at Dartmouth College. It is the legal rationale being used to justify them that stands out. Mr Trump is using Section 232 of the Trade Expansion Act of 1962, which provides for action based on a threat to national security. This has previously been used in just a handful of cases, mostly related to oil.

Reports released by Mr Trump's commerce department on February 16th found that Section 232 could be used to restrict steel and aluminium imports because America's armed forces and "critical industries" need a domestic supply of steel which imports are putting at risk. This is bunkum. Gary Hufbauer of the Peterson Institute for International Economics, a think-tank, notes that the administration's aim of having domestic steelmakers working at 80% or more of their capacity has nothing to do with how much speciality steel is actually used by the defence department: the report was "totally cooked".

Jennifer Hillman of Georgetown University, who has been both a commissioner on the United States International Trade Commission and a judge on the WTO's appellate body, finds the national-security justification particularly questionable given that most of the steel imports come from Canada, the European Union (EU), Mexico and South Korea (see chart 2). The steel tariffs will barely scrape China, the Trump administration's greatest trading—and putative military—foe. Adding to the sense that the national-security argument is a sham is the fact that the tariffs on aluminium—where imports from Russia and China matter more—are less than half what they are on the steel made by allies.

America's trading partners think these tariffs break WTO rules. In a normal situation, the WTO would offer them a way to complain. The standard procedure is that the judges in Geneva get to say whether a tariff violates the WTO commitments of the country imposing it. If they find that it does, the countries hit by the tariffs can retaliate in ways of their own devising with the WTO's blessing, up to a certain limit. In the case of Mr Bush's steel tariffs, the EU took aim at exports from politically salient states, such as orange juice from Florida.

There is, though, a snag. Article XXI of the WTO treaty allows a member to raise any tariffs "it considers necessary for the protection of its essential security interests" even if there is no evidence that imports are surging, subsidised or sold below cost. Invoking Article XXI allows you to do anything you like, and thus endangers the whole system—which is why, given that the system is one which members have chosen to join and which they value, it is very rarely invoked. It is a nuclear option.

The power of Article XXI puts countries which might challenge Mr Trump's tariffs in a jam. If they do not make a case at the WTO but retaliate anyway, they have given up the high ground and things will probably escalate. If they neither challenge nor retaliate, they keep the moral high ground—but Mr Trump will claim victory, which will be galling, and will quite possibly be emboldened to go further. This will also be the case if they challenge and the court sides with America—which, given the broad exception for national security that Article XXI provides, is quite likely. And if they challenge and win they will have brought about the unedifying spectacle of a panel of judges in Geneva telling a sovereign nation that they know where its security interests lie better than its president does. That would not go down well.

All this helps explain why, on the dozen or so occasions in the past 70 years when Article XXI has been invoked, the issue has never gone far enough for the court to have to make a ruling. By appealing to national security, rather than making a case of the sort the court normally rules on, Mr Trump is blocking the mechanism that sanctions limited retaliation and thus stops trade disputes from blowing up.

You could see this as tactically astute. But it sets a terrible precedent. If a country of America's heft gets away with justifying protection on blatantly spurious national-security grounds, what is to stop members like India or China doing the same? Bad behaviour has spread in the past. In 1956 America had its agricultural sector exempted from rules limiting state support—only to see the European Community, as the EU then was, using the same exception a few years later to create its common agricultural policy, a grotesquely distorting system of subsidies that American negotiators went on to spend decades trying to curb.

Tariffying possibilities

All this comes when the rules-based trading system is already stalled and thus vulnerable. The WTO, and before it the General Agreement on Tariffs and Trade (GATT), used to update themselves every so often through rounds of negotiation designed to spread the benefits of trade wider in ways on which all could agree. This process meant some issues got solved, and those that did not could plausibly be put off to the next round. But disagreements between rich and poor countries over whether the poor should get special treatment in the name of development mean that no new round has been completed for more than 20 years. Things that really ought to be dealt with have thus just kept piling up.

Muddling along with the status quo might have been acceptable if global trade had stayed pretty much the same, too. But it didn't. China, which joined the WTO in 2001, brought to the party a model of trade-distorting state-infused capitalism beyond anything the existing rules had been shaped for.

Desperately in need of new rules but unable to create them, the WTO has been disappointing many of its members, perhaps none more so than America. Digital trade remains outside the WTO system. Services are inconsistently covered. Without new rules, its judges have found themselves interpreting the ambiguities in old ones in a way that looks to some like overreach. The organisation has been able to do little to stop China's state-owned enterprises from exporting the surpluses created by their subsidised overcapacity, thus overwhelming producers elsewhere.

Lawyers like Robert Lighthizer, the United States Trade Representative, grumble that the WTO has allowed China to take advantage of everyone else and its outdated rules have stopped America protecting itself. The WTO's judges have repeatedly ruled that America's trade defences are tougher than can be justified given the commitments it has made.

With enough squinting, you can draw an intellectual path between America's mostly reasonable diagnosis of the WTO's problems and some of its actions. For example, Mr Lighthizer is trying to force change on the body's judicial arm by blocking appointments to its court of appeals. He claims that he is trying to reform, not break, the system.

It is harder to connect the WTO's shortcomings with Mr Trump's tariffs. Massive overcapacity (which now, admittedly, is being reduced somewhat) means that China really is a problem. But anti-dumping and countervailing duties have already shut most Chinese steel out of the American market. And the tariffs will alienate WTO members with which America might otherwise make common cause. In December 2017 America, the EU and Japan released a joint statement saying that they would work together to combat "market distorting and protectionist practices"—by which they meant "China". That looks harder now. To add to the incoherence, America is no longer pursuing a WTO case against Chinese aluminium subsidies started by Barack Obama's administration in 2017. Instead of helping keep China's rise within the rules, Mr Trump is providing a distraction from it.

War games

How bad is all this? Mr Irwin says that people sometimes view the history of the post-war trading system with rose-tinted glasses. When Reagan was using America's clout to bully his trading partners into "voluntary export restraints" which exploited gaps in the GATT's regulations, many worried the world was shifting to a trading system anchored in brute power, not multilateral rules.

That said, Mr Irwin continues, Reagan always believed in the system; ultimately, his frustration was that it was too weak. His trade-retaliation efforts were always supposed to be temporary—a crude means towards a stronger system. This aggression was one of the reasons why, in the 1990s, countries signed up to stronger rules under the WTO. Mr Trump is no such believer.

For a better parallel, look not to the 1980s but to the 1920s and 1930s. When the House passed the first bit of the legislation which eventually became the infamous Smoot-Hawley Tariff Act in 1929 America's economy was growing and unemployment was low. By the time President Herbert Hoover passed it in 1930 the world had slumped into recession. The ensuing trade war made a dire situation worse.

A better parallel is not a perfect one. The world is not about to return to the 1930s. But there is still scope for a lot of harm, in the steel industry and beyond.

American steel imports account for about a third of the country's steel use, and around 7% of the world's total trade in the metal. According to the commerce department a tariff of 24%—the level it recommended—would have been enough to crimp imports by a third in 2017, equal to roughly 10% of demand.

What does that mean for jobs? An analysis by the Trade Partnership, a consultancy, predicts that increases in the price of steel and aluminium under these tariffs will, in the short-term, create 33,000 metal-making jobs and destroy 179,000 metal-dependent ones. Mr Trump is thus screwing over two Rose Bowls of people for the sake of one Fenway Park. In the context of the whole economy, though, such numbers are not that big. America added more than 2m net jobs during the past year.

At the scale of the national economy, the direct costs of the tariffs are expected to be minor; they will have a very small effect on growth, as they will on individual consumers. An official study of President Bush's somewhat smaller safeguards estimated their net negative effect on GDP to have been a paltry $30m (0.0003%).

The real danger to America comes with the second- and even third-round effects. Mr Navarro said on March 2nd that he thought exporting countries would turn the other cheek, concerned over losing access to America's other markets. That may be true for some, perhaps even including China. But in other cases Mr Navarro's view seems naive.

The biggest question is over Canada and Mexico, the other two members of the North American Free-Trade Agreement (NAFTA). In 2016 Canada sold 88% of its steel exports to America, Mexico 73%; a continent-wide web of supply chains links all three economies. Under Mr Bush's steel safeguards, both neighbours were exempt. Some of the steel and aluminium companies arguing for protection have been fighting for Canada to be excluded this time, too. The White House has seemed to promise carve outs for Canada and Mexico, and perhaps other allies. But Mr Trump has tweeted that such exemptions would depend, perhaps in the long term, on the other two countries giving him the concessions that he wants in NAFTA renegotiations. Both the Canadian and Mexican governments have said that, if hit by tariffs, they will strike back quickly and decisively.

The EU—which sells more steel to America by value, if not by volume, than anyone else—has also said it will retaliate, and has been specific about how. It has promised to launch a formal WTO dispute, and is poised to impose its own steel safeguard measures should it face a surge of imports turned away from America. "If the EU does not act, our steel industry will pay the bill for protectionism in the US," warned the head of WV Stahl, Germany's steel-industry trade group.

The EU has also drawn up a list of American exports it would hit with a "reciprocal" 25% tariff for a total of €2.8bn ($3.5bn) It includes cranberries, €400m of bourbon, and Harley-Davidson motorcycles. Bourbon is made in Kentucky, the home state of Mitch McConnell, the Republican leader in the Senate. Harleys are made in Wisconsin, the home state of Paul Ryan, Speaker of the House—which is also, as luck would have it, America's top cranberry producer. As Jean-Claude Juncker, president of the European Commission, puts it, "We can also do stupid."

In fact, the EU's strategy is more intelligent than Mr Juncker makes it sound. Its officials have calculated that, if the Americans had called the steel tariff a safeguard, under WTO rules the EU would have been entitled to retaliate within 90 days to the tune of €2.8bn, because some of its steel exports to America have not been rising. If the WTO judges were to ignore America's national-security folderol—and there may yet be some legal precedent for their disagreeing with a member state about the nature of the tariffs it is raising—they could well rule the EU's proposed retaliation proportionate and legitimate.

Ms Hillman calls this approach clever, as Mr Trump's tariffs are "going to function much more like a safeguard than anything else." By sticking to the spirit of the law the EU can claim to be a defender of the rules-based system, while attacking one of Mr Trump's two weaknesses (beyond ignorance) as a trade warrior: the congressional Republican leadership, which is already much more keen on free trade than he is, and would rather Mr Cohn had carried the day in the White House. The other weak spot is the stockmarket, which is already jittery, and could get a lot more so if signs of a trade war get much stronger.

No protection

Ideally the EU's cunning plan would save the day before the judges in Geneva have to come to any potentially explosive decision about Article XXI. But its strategy is untested. And Mr Trump seems likely to take even a proportionate retaliation badly. He has said that he would meet such a response with tariffs on cars. Given that America imported €38bn of cars from the EU in 2016 that would be a big escalation.

He has fairly free rein in such matters. The constitution vests powers over trade in Congress. But some of it has been shifted to the executive, in part because no one ever thought the president would be more protectionist than Congress. Section 301 of the Trade Act of 1974 gives the president retaliatory rights if a trading partner discriminates against America. Mr Trump could use it against European cars. The administration is also considering a Section 301 action which would allege, it is said, that Chinese technology companies have stolen $1trn or more from America. If that goes ahead, it will open up a far larger second front in the nascent global trade war. If Mr Trump decides to go for broke, the International Emergency Economic Powers Act of 1977 allows the president to declare a national emergency and impose restrictions on all forms of international commerce.

If the worst happened and America did retreat from the rules-based system, its other 163 members would be unwilling to follow, even under provocation. The system is far from perfect. Frustrations with its rules can be seen in the proliferation of separate trade agreements, and are clear in the rising pressure on its judicial arm as its negotiating one lies broken. But the secure market access, freedom from trade discrimination, and limits on escalation that the system offers its participants have in large part been realised, as the astronomical rise in global trade over the past half century bears witness. For all the pressures imposed by China's emergence, lifting millions of people out of poverty is not to be sniffed at. Members like India, South Africa and China have been tugging at the pages of the WTO's rule book. But only one person wants to tear it up.

On March 1st Mr Lighthizer unveiled the Trump administration's trade agenda. It admiringly quotes George Washington saying that "there can be no greater error than to expect, or calculate upon, real favours from nation to nation." The first president, it points out, advised that trade agreements should be "temporary," and "abandoned or varied, as experience and circumstances shall dictate." This embrace of unreliability and uncertainty suits Mr Trump to a T. It is the opposite of everything the rules-based system stands for.

This article appeared in the Briefing section of the print edition under the headline "Massive attack"

It ain't necessarily so

Five things Donald Trump thinks about trade that are not true

And one that is

Print edition | Briefing Mar 10th 2018

AMERICA'S president has a winners-and-losers perspective on most, perhaps all, transactions. He thus believes that **persistent trade deficits are by definition a problem**.

This is wrong. The willingness of other countries to send America more stuff than America sends back to them has meant that for most of the past four decades Americans have been able to consume more than they produce. That is, without question, a good position to be in. It also means that America owes money to the rest of the world, in the form of low-yield bonds. The rest of the world likes holding these, and America benefits from selling them. Americans earn more on their foreign investments than foreigners earn on American bonds.

America could have made much better use of this line of cheap credit than it has. But that is America's problem, not the trading system's.

Having taken against it, Mr Trump thinks **America's trade deficit can be fixed by tariffs**. But studies of tariffs show that though they reduce trade, they do not reliably increase the tariff-raising country's trade balance. In part this is because if imports fall, foreigners will get fewer dollars, and the dollar will gain value through scarcity. A strong dollar makes American exports less appealing, so they drop just as imports do, and the deficit persists. Mr Trump also thinks his steel and aluminium **tariffs will mean less unemployment**. This is highly unlikely. A lot more jobs hinge on using these metals than providing them; higher prices hurt those jobs. And better technology has seen employment in steel and aluminium industries fall much faster than production. Increased production will not necessarily provide more jobs making metal in the long term.

Mr Trump has also argued that if another country has higher tariffs on American goods than America has on its goods, **America should be able to raise its tariffs**. This goes against the "Most favoured nation" rules of the World Trade Organisation (WTO), which require a country to extend tariff cuts agreed with one country to everyone else. This principle of non-discrimination is supposed to stop countries from bullying their trading partners by threatening tariff increases, and protect them from being discriminated against. To abandon this principle would be to abandon the WTO.

Bringing down the WTO might not matter to America if, as Mr Trump has tweeted, **trade wars are easy to win**. He seems to base this on the fact that America buys more than it sells, so its trading partners have more to lose. But although most households buy more from their local supermarket than they sell to it, they would not be better off growing their own food. Blocked imports, higher prices and broken supply chains would harm America's economic potential.

Yet one of Mr Trump's beliefs on free trade is true. **The people who voted for him do not like it**. Just over half of all Americans think free trade is a good thing. But white Americans, older Americans and less-educated Americans are all less likely to think so than their typical fellow citizen.

This article appeared in the Briefing section of the print edition under the headline "It ain't necessarily so"

Republicans and business
Made out of glue

Made out of glue

Donald Trump may make some businessfolk cringe

But a full-scale migration to the Democrats remains a long way off

Print edition | United States Mar 8th 2018

TELL an Atlantan that you're about to drive from their city to Birmingham, Alabama, around two hours west, and he may joke: "Don't forget to set your watch back 50 years." In the middle of the last century the cities were equally prosperous, more or less: Birmingham from iron and steel, Atlanta from consumer-facing companies. But during the civil-rights era Atlanta changed with the times, billing itself as "the city too busy to hate", while Birmingham became "Bombingham", infamous for violent racist attacks that killed, most notably, four little girls in a Baptist church. In the ensuing years Atlanta became a global city, while Birmingham stagnated.

On March 1st, Randall Woodfin, Birmingham's young Democratic mayor, tried to steal a march on Atlanta. "Hey, @Delta," he tweeted. "It's me again. Birmingham is open for business. Call me." That was after Georgia's Republican-controlled legislature passed a bill stripping Delta—Georgia's fifth-biggest private employer—of a $50m tax break, as punishment for the company bowing to consumer pressure and ending discounts for members of the National Rifle Association (NRA). Populist Republicans pushed through the bill over the objections of the party's pro-business wing. Atlanta is in the running for Amazon's coveted second headquarters (see article). Some Atlantans worry that Amazon may not want to come to a state that uses its power to punish companies for politics it dislikes.

With populists ascendant, many pro-business Republicans feel, as one longtime Republican in the finance industry puts it, "disenfranchised completely [and] abandoned by this president". Last week President Donald Trump vowed to impose hefty tariffs on steel and aluminium, a decision opposed by virtually all America's most successful companies and most mainstream economists. Gary Cohn, one of the administration's leading pro-business voices, resigned on March 6th. Democrats see a chance to peel away their rival's socially moderate, well-educated voters, and in so doing claim the "pro-business" mantle from Republicans. Both parties are likely to find themselves disappointed: Republicans because their party's rift shows no signs of healing, Democrats because they will find it hard to please both their base and disaffected Republicans.

Congressional Republicans who managed a few words of oblique criticism when Mr Trump called African nations "shithole countries" and white supremacists in Charlottesville "very fine people" suddenly found themselves jolted by the tariffs, as by Mr Trump's alarming belief that "trade wars are good and easy to win." Paul Ryan, the House Speaker, urged the White House "not to advance this plan", while Rand Paul, ordinarily aligned with the Senate's populist wing, predicted that America would lose a trade war (Europe's threatened retaliatory tariffs against bourbon would hit his home state of Kentucky hard). Republicans are said to be considering attempts to block the tariffs through legislation, though that will be tough.

Those who voted for Mr Trump also voted for the tariffs he vowed to impose. He has turned his party against trade; from 2015 to 2017 the share of Republicans who viewed free-trade agreements positively fell from 56% to 36%, and many businessmen share the president's view that foreign countries, especially China, have broken the rules. Many also cheer his tax cuts and deregulatory instinct. And while some American multinationals favour open markets, plenty of smaller businesses may well support a little protectionism if it helps them compete with big-box stores crammed with cheap Chinese tat. Still, as Juleanna Glover, a corporate consultant who has worked for several prominent Republicans, notes, "I don't know that anyone other than the Trump administration thinks trade war is a good idea."

Anything that you might do

Business groups have grown increasingly anxious. Craig Hill heads the Iowa Farm Bureau; his state produces more pork, corn and soyabeans than any other, and exports much of it. If China retaliates against American agriculture, Iowa will suffer. Asked whether Republican anti-trade sentiment could lead Mr Hill's group to endorse Democrats, he turns coy. "We will see," he says. There's been a lot of benefits to this administration in the reduction of regulation...but when it comes to trade this is very concerning."

Business in Texas and North Carolina has taken on the party's socially conservative wing, with mixed results. In 2016 North Carolina's legislature, over business's objections, passed a bill requiring transgender people to use toilets that correspond with the sex on their birth certificates. In 2017, after some companies cancelled planned investments in the state and others moved big events elsewhere, the legislature repealed the measure.

Last year 16 states considered similar bills. None has yet passed, but the recriminations linger in Texas. Joe Straus, the business-friendly speaker of the Texas House, blocked a bill from coming to the floor, where it would probably have passed. But after the session ended Mr Straus announced his retirement, and Texas's socially conservative governor backed primary challengers to Mr Straus's remaining allies.

The powerful Texas Association of Business has backed primary challengers to some incumbent conservatives such as Bob Hall, a state senator who believes, among other things, that bike paths are a UN plot and that a former opponent was controlled by Satan. But, says Mark Jones, a political scientist at Rice University, in safely conservative districts "establishment candidates haven't figured out how to win Republican primaries...If you say Bob Hall is an idiot because he thinks the UN wants to take over the Alamo, well, a majority of Republican voters in [his district] believe that the UN wants to take over the Alamo."

The only way for establishment candidates to find their footing, argues Mr Jones, is for extremist Republicans to start losing otherwise winnable elections. That is precisely what happened in Alabama and Virginia, where Republicans' rightward drift impelled prosperous, educated suburbanites who might otherwise have voted Republican into switching parties or staying home. Yet many business groups still find it hard to embrace Democrats. In Alabama, faced with a choice between a Democrat and a man credibly accused of molesting under-age girls, local business lobbies sat the election out rather than switch sides.

Ideologues often mix poorly with business, which by nature is responsive and pragmatic. The Trump administration may sneer at climate change, for instance, but Walmart and General Motors do not. In recent weeks several big companies have cut ties with the NRA under pressure from gun-control advocates. The tech sector is overwhelmingly Democratic. A Trumpist Republican party, meanwhile, is often hostile to experts, empiricism and well-educated voters.

But cancelling discounts and raising the age for gun purchases hardly constitutes a full-scale political realignment. The tech industry aside, mistrust of Democrats and their regulatory zeal remains widespread among business bigwigs. The party's ascendant left wing has much the same hostility to free trade as Mr Trump, and it also favours higher taxes and a $15 minimum wage. The centre is open, but if Democrats decide to appeal exclusively to their base and ignore centrist voters, that's how it will stay. "Careful business people don't have a party right now," says Ms Glover. "One side is skewing single-payer health care, the other is skewing anti-gay and pro-gun, and no one is serving as the steward of pro-growth competitiveness policy."

This article appeared in the United States section of the print edition under the headline "Made out of glue"

A tale of two Washingtons

It make sense for Amazon to build its second HQ near Washington

The federal government is a big client of the web giant

Print edition | United States Mar 8th 2018

HQ Trivia has become one of America's most talked-about smartphone games, with players making a daily habit of answering obscure multiple-choice questions in the hope of winning cash prizes. Meanwhile Amazon, the e-commerce giant, has drawn Americans into a different guessing game—about which site the Seattle-based company will choose for its second headquarters. Around 240 cities and regions applied for that honour last year, and the firm has culled its list to 20 possible places. Government officials from across the country (and Toronto) are cosying up to the tech giant, which has promised to hire as many as 50,000 new employees and invest $5bn in building and operating its new campus over the next 15 years or so.

Three of the 20 finalists are in the Washington, DC area, including the city itself, northern Virginia and Montgomery County, Maryland. Beltway-dwellers are abuzz with speculation that Amazon will cross the Potomac. Rumours spread wildly and frequently in the capital, but there is cause to believe these. In early March delegates from Amazon reportedly spent a week touring possible sites in the area and meeting with government officials. Jeff Bezos, Amazon's boss and America's richest man, already owns a home in Washington, DC, as well as a newspaper, the *Washington Post*. This would make more frequent jaunts between Seattle and the DC area relatively painless.

Amazon's cloud business, Amazon Web Services (AWS), also already has a home of sorts in the area. Herndon, Virginia, a town that is less than a ten-minute drive from Washington's Dulles airport, houses the largest number of AWS employees in America outside of Seattle, according to one person close to the company. Several prominent government agencies, including the Central Intelligence Agency, are clients of AWS, which has an early lead in providing cloud services to the government and handling top-secret data.

In coming years the American government will serve as an important source of growth for AWS and its rivals, as more departments shift their data to the cloud. The government accounts for around 5% of the $1.6trn spent globally each year on technology, according to Forrester, a research firm. This year the Department of Defence is expected to sign a ten-year contract for cloud computing, in a deal said to be worth billions, and tech firms are competing fiercely to be picked. Just as "beltway bandits"—firms that do lots of business with the government and include two big defence contractors, Lockheed Martin and BAE Systems—find it worth their while to have headquarters close by, so will tech firms keen to win large government contracts.

However, in the next five years the government will not only be a huge potential source of business for Amazon, but also its biggest threat. As the e-commerce and cloud-computing giant grows and pushes into new businesses, including financial services, home security and logistics, it will come under even more scrutiny from regulators. Amazon has already beefed up its official lobbying efforts in the capital, but being a local employer could be helpful. Having 50,000 employees going to the same country clubs and putting children in the same schools as government officials is a shrewd strategy if Amazon wants to fend off government attacks, says Blair Levin, a former official at the Federal Communications Commission.

If such attempts at exerting soft power in Washington are not enough to win over government officials, Amazon will at least have a back-up plan. Having two headquarters would make it possible to separate AWS from Amazon's retail operation with very little hassle, if regulators ever suggest breaking up the giant firm into separate parts. The mighty firm is sure to make enemies in the years ahead, and not just among the finalists who lose out on wooing Amazon to their states.

This article appeared in the United States section of the print edition under the headline "A tale of two Washingtons"

Pennsylvania's special election

Conor Lamb is likely to lose PA-18

That is still consistent with the idea of a Democratic wave

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WHEN Tim Murphy resigned from his post as the representative for Pennsylvania's 18th congressional district, Republicans had a heavy load lifted from their shoulders. Mr Murphy, publicly a social conservative, was caught sending text messages to his mistress urging her to have an abortion. His re-election campaign would have road-tested the proposition that partisanship covers all sins. The outlook for Republicans was looking good for the special election that takes place on March 13th to replace him, until it wasn't. Republican state representative and Harrisburg insider Rick Saccone will face off against a former marine and assistant US attorney, Conor Lamb. Republicans have spent more than $9m to preserve control of a district President Donald Trump won by 20 points. They have reason to worry even that sum might not be enough.

Since Mr Murphy's resignation in October, there have been 49 special elections to state legislatures and Congress. Democrats in these contests have on average performed 14 percentage points better than Hillary Clinton did in the 2016 election. Democrats flipped control of 12 Republican-held seats in these elections. If this pattern holds true in Pennsylvania's 18th district, Mr Saccone would win by six points. That in a seat deemed so safe that Mr Murphy ran unopposed in 2014 and 2016.

Mr Lamb has been touting his credentials as a captain in the Marine Corps, a solid strategy for a rural, white district. He has also taken advantage of support from Democratic figures like Joe Biden to capitalise on the party's apparent edge in voter mobilisation. He took a bipartisan stance on gun reform after the massacre at a Florida school in late February, saying he would not support a ban on assault weapons and would focus instead on expanding background checks and mental-health reform. Meanwhile Mr Saccone has followed identikit Trumpian messaging on immigration, taxes and health care.

The National Republican Campaign Committee (NRCC), the Republican Party's fundraising arm for contests in the House of Representatives, has spent $3,516,845 on outside advertisements to support the Saccone campaign. According to an analysis of campaign finance data by *The Economist*, that is more than the NRCC spent in 70% of the congressional districts they targeted in 2016. In stark contrast, the Democratic Congressional Campaign Committee has spent just $312,500 on the contest, setting up an interesting test of how much money really matters.

What is already clear is that the NRCC's 11-to-one fundraising advantage is not increasing Mr Saccone's chances of winning by anything like that margin. According to the average of polls taken since February 12th, Mr Lamb is running two percentage points behind Mr Saccone. These polls are consistent with the idea of a nationwide Democratic wave. Mr Saccone may have a slight lead in the district, but not nearly as large as it should be given recent history.

Democrats have scored many wins since their crippling loss in the 2016 presidential election. Several of those districts swung like the pendulum in a grandfather clock. What remains to be seen is how well the changes observed at state level relate to those near the top of the ticket. Yet even if Mr Saccone wins, as polls suggest he will, his expensive victory will be short-lived. After redistricting ordered by Philadelphia's Supreme Court takes effect in May, the seat may not even exist in its current form in November.

This article appeared in the United States section of the print edition under the headline "Oscillate wildly"

Eastern promise

New York's gargantuan development is shifting its centre westward

The east side has plans to wrest it back

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THE far west side of Manhattan's midtown is a hive of activity. Lorries buzz in and out ferrying materials, cranes dot the skyline. Construction workers in hard hats shout instructions at each other and exchange cheerful gibes. Each week the cityscape changes as new high-rises get taller. New Yorkers, who once had little reason to go to the parcel of land called Hudson Yards, are starting to see a new glossy neighbourhood emerge.

For decades this part of Manhattan was not just on the wrong side of the tracks, it was the tracks. About 30 commuter train tracks pass though it. The surrounding area of decrepit warehouses was neglected for half a century. It took a 300-acre rezoning in 2005 by Michael Bloomberg, then the mayor, for things to change. The area stretching from 30th to 41st Street and from 8th to 11th Avenues had been zoned for manufacturing, which has all but disappeared from Manhattan. A failed Olympic bid served as a catalyst for development for Mr Bloomberg, who worried about white-collar jobs migrating to New Jersey. He persuaded the city to pay for an extension of a subway line, the first expansion of the transport system in three decades.

The result is Hudson Yards, the largest private property development by square footage in America's history. The 28-acre (11-hectare) site will be complete by 2025. By then, 125,000 people will work, visit or live in Hudson Yards, which includes five office high-rises, eight residential buildings and a retail complex with 100 shops and restaurants. The new district will have more office space than Palo Alto, California. One of the new towers will have an observation deck higher than the Empire State Building. A public school is in the works, as well as 14 acres of public open space. "It's a city within a city," says Stephen Ross, head of Related, the project's developer. Brookfield, another developer, is building its own eight-acre megaproject called Manhattan West. Its six buildings have attracted tenants like the National Hockey League and Skadden, Arps, a law firm. Boston Consulting Group, L'Oreal, a cosmetics company, KKR, a private equity firm and BlackRock, the world's biggest asset manager, are all heading west.

That means leaving behind thousands of square metres of empty floor space in Midtown East, once the most coveted site for offices and still the city's most expensive commercial space. More than 300 of the 400 buildings in the district were built before 1961. Their average age is 73. To keep up with other neighbourhoods, landlords will have to update their buildings and offer concessions, incentives and rent discounts to attract tenants keen to cater to the preferences of their employees.

The 73-block area got a boost last summer when the city council agreed to a re-zoning plan, allowing the development of 6.5m square feet of new office space. After considering moving to Hudson Yards, JPMorgan Chase, America's biggest bank, announced last month that it had decided to stay on the east side. It intends to demolish its 60-year old home and build a new 70-storey high-rise on Park Avenue. Other plans are sure to follow, but it will take time to build out the area, perhaps as long as two decades. In the meantime, JPMorgan and others will try to snap up the air rights of properties such as St. Patrick's Cathedral and Grand Central Station. (Air rights refer to the empty space above a property. Churches and landmark buildings generally cannot build up, but they can sell or transfer the right to build higher.)

Manhattan once had two main business districts, says Keith DeCoster of Savills Studley, a brokerage. Midtown East competed with the city's financial district for decades. Now, including Hudson Yards and the Flatiron district, it has four.

This article appeared in the United States section of the print edition under the headline "Eastern promise"

A desert mirage

Food deserts may not matter that much

Demand, not supply, looks like the key to healthier eating

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ON WEDNESDAYS, Saturdays and Sundays in Santa Monica, a wealthy ocean-front city next to Los Angeles, residents toting canvas bags stock up on organic kale, locally caught seafood and exotic grains at farmers' markets. If they cannot find the type of carrot or kumquat they are after among the tented stands, they can round out their shopping at the half-dozen grocery stores within a few miles of them.

Fifteen miles away in South Los Angeles, an impoverished area, the pickings are far slimmer. On Manchester Boulevard, one of the neighbourhood's main corridors, there are many liquor stores, a Domino's Pizza and a chicken joint called "Wingstop" that accepts food stamps, but few grocery stores. In the past residents have complained that those supermarkets that do exist truck in rotten food from wealthier neighbourhoods. (The supermarkets deny this.)

This disparity in the availability of wholesome food is often cited to explain why the wealthy eat more healthily than the poor. Santa Monica drowns in crisp vegetables, South Los Angeles in crisp bags. It is only logical that residents of the former would eat more fibre and less sugar than residents of the latter. Similar dynamics play out far beyond southern California. Low-income bits of the country are more likely to be "food deserts", defined by the United States Department of Agriculture as places where one-third of the population lives at least one mile away from the closest supermarket in urban areas and at least ten miles away in rural areas.

But a study by Hunt Allcott of NYU, Rebecca Diamond of Stanford, and Jean-Pierre Dubé of Chicago Booth suggests the disparity in how the rich and poor buy groceries is caused more by demand than supply. Supply gaps are real and glaring, the study concedes. More than half (55%) of ZIP codes with a median income under $25,000 have no supermarkets, compared with 24% of ZIP codes across America as a whole. But, the researchers showed, introducing low-income populations to the same grocery shopping conditions enjoyed by high-income ones reduces nutritional inequality by only 9%. The remaining 91% of the nutritional gap, the academics contend, can be accounted for by differences in demand.

To reach this conclusion, the authors looked at two things. Using data about grocery purchases from 60,000 households and sales at 35,000 stores between 2004 and 2015, they first analysed what happens when new supermarkets open in poor areas. Then they looked at how poor households' grocery shopping habits change when they move into neighbourhoods with healthier options. In both cases, they found little impact on the nutritional value of grocery purchases.

This raises an obvious question: what about plain old cost? The study finds that there is little price difference for categories other than fresh produce. Excluding fresh fruits and vegetables, the economists calculate that healthy foods such as plain yogurt and high-grain bread are actually 8% less expensive than unhealthy foods. The researchers conclude that preference, which is partly informed by education and nutritional knowledge, is a much more significant factor in how people decide what to buy at the grocery store. Changing that will be hard and will take time. Other research suggests the gap between the diets of rich and poor Americans is widening along with income inequality.

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Bruised and battered

Heroin in Philadelphia

The city plans to set up one of the country's first supervised drug-injection sites

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WHEN Brian Abernathy was first asked about setting up a supervised place for people to take drugs, his response was "Hell, no." The first deputy managing-director of the City of Philadelphia, who looks after public safety, says he still feels very uneasy about shooting galleries sanctioned by the city. But a visit to Vancouver, where safe-injection sites have operated since 2003, and to Seattle, which is considering the idea, persuaded him that the help they provide outweighs the risks of encouraging lawbreaking.

The idea is counterintuitive: in the next year the city will permit an NGO to provide a place for drug users to go and inject themselves with potentially lethal drugs, while trying to encourage them to seek treatment for their addiction. Staff will hand out clean needles and administer naloxone, a drug that temporarily reverses heroin's effect on the brain and jump-starts breathing in those who overdose.

The experiences at more than 100 injection sites in 66 cities around the world, including some in Canada, Switzerland and Germany, speak for themselves. Safe-injection sites reduce overdose deaths by as much as one-third in the immediate vicinity and lessen injection-related infections and the transmission of diseases such as HIV and hepatitis C and B. They help addicts to seek treatment for their addiction and other medical problems, as well as providing a point of access to municipal housing and social services. And they make neighbourhoods ravaged by drugs safer, by reducing drug use and the disposal of drug equipment in public places.

Philadelphia, with its fine-art museums, grand avenues and imposing statues of heroes of the war of independence, is perhaps the most cruelly affected of big cities by the opioid epidemic. In 2016 deaths from drug overdoses increased from 702 in the previous year to 907, or 60 deaths per 100,000 residents, more than three times higher than in Chicago and four times more than New York. Around 80% of overdose deaths involved opioids, pain-relieving drugs that include both prescription painkillers such as OxyContin and illegal ones such as heroin. Most of the victims of opioids were men (nearly three times more than women), white (double the rate of African-Americans) and aged between 35 and 59. Last year was even worse: the city estimates that around 1,200 people died, four times the number of murders in a city once nicknamed "Killadelphia".

City officials do not have an answer to why the opioid scourge is hitting Philly so hard. Poverty is one reason. After decades of manufacturing jobs leaving the city, around a quarter of the population live below the federal poverty line. Availability of drugs is another. Philadelphia's dealers sell the cheapest and purest heroin on the east coast, perhaps even in the country. It is piped in by Sinaloa, the Mexican "cartel" led until recently by Joaquín "El Chapo" (Shorty) Guzmán, who is awaiting trial in a jail in Manhattan. Addicts travel to Philadelphia from New York and New Jersey and even states in the Midwest to stock up on white-powder heroin and fentanyl, a synthetic opioid, which is around 50 times more potent than heroin and 100 times more powerful than morphine.

Jim Kenney, Philadelphia's progressive mayor, is trying to use every tool he can to get the epidemic under control. Last summer the city and Conrail, a railway company, cleared out *El Campamento*, an open-air heroin market and shooting gallery beneath sunken railway tracks in the Kensington neighbourhood that every day saw scenes of pain and desolation reminiscent of a painting by Hieronymus Bosch. He set up a task force that came up with 18 recommendations to fight the scourge, including the introduction of supervised injection sites, a media campaign about the risks of opioids and more education about access to and use of naloxone.

The voices of friends

In January Philadelphia filed a lawsuit against manufacturers of prescription opioids seeking to halt the companies' "deceptive" marketing practices and to get them to pay for the rocketing cost to the city of treating addicts. According to the city's health department, one in three adults has received a prescription for opioids in the past 12 months and one in seven, or some 168,000 residents, are now taking them.

The introduction of safe-injection sites, which has also being announced in San Francisco and discussed in Baltimore and New York, was by far the most controversial of the mayor's recommendations. The state's attorney-general, Josh Shapiro, opposes them because he says they are illegal. On the other hand Larry Krasner, the city's district attorney, promises not to prosecute users or staff at the sites as he considers them helpful. Yet the best argument for such spaces, says Eva Gladstein of Philadelphia's city government, is that they could save up to 76 lives a year. Moreover, they could contain the cost of the epidemic, estimated at $26m a year, by saving up to $1.9m a year in costs related to treating skin infections and hundreds of thousands of dollars thanks to fewer trips to hospital and a reduced use of ambulances and emergency rooms.

Supervised drug-use sites are not a silver bullet, but they help to keep needles clean and off the streets. No one has ever died in a legal shooting-gallery. And most crucially, says Susan Sherman at Johns Hopkins University, one of the authors of a report on the costs and benefits of such sites, they connect people to recovery. Between 2003 and 2006 46% of drug users at Vancouver's Insite, North America's first legal safe-injection site, entered rehab.

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Lexington

Jared Kushner appears to be in trouble

And the upside of ignoring norms on nepotism has yet to materialise

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WHEN asked to bend an anti-nepotism law so that President Donald Trump could put his son-in-law Jared Kushner and daughter Ivanka in the White House, the Department of Justice produced a sinuous argument. Trouncing decades of legal precedent, it ruled that the law did not apply to White House staff. It also reasoned that, as Mr Trump would consult his relatives in any case, it made sense to make them official advisers because then they would come under conflict-of-interest laws.

Despite some huffing from ethics wonks, this drew little criticism. Nepotism was not the biggest worry about Mr Trump's looming presidency. Indeed Mr Kushner and his wife were considered a virtuous influence on him. Mr Trump's campaign had mostly been run by oddballs and third-raters—like Sam Nunberg, who went on a cable-television news rampage this week after he was subpoenaed by Robert Mueller, the special counsel investigating Trump World. "Javanka", by contrast, were handsome celebrities with metropolitan views and, in Mr Kushner's case, an eerie sense of self-possession that hinted at brilliance, or moral purpose, or both. Traditional Republicans and foreign diplomats vied for his mobile-phone number, even as they smirked at his hubris in taking on huge responsibilities: relations with China and Mexico, overhauling government IT and more. Some even speculated that Mr Kushner, an orthodox Jew and family friend of Israel's prime minister, Binyamin Netanyahu, might bring peace to the Middle East. He had got Mr Trump elected, after all.

A year on, the talk in Washington is of a new gilded age, with Mr Kushner as a kind of Jay Gould with better suits. Ever since he and his wife entered the White House they have treated the government rulebook as something for the little people to worry about. Like Mr Trump, they retained large business interests, which they have allegedly used their political careers to advance. Ms Trump parades her jewellery and fashion lines at official functions, a ploy that was rewarded when China granted her company three trademarks on the day its leader dined with her at Mar-a-Lago. Shortly before and after Mr Trump's election, Mr Kushner allegedly pressed foreign investors, from Qatar and elsewhere, to bail out a heavily mortgaged skyscraper in his family's property portfolio at 666 Fifth Avenue, Manhattan.

He was unsuccessful, and he did take steps before entering the White House to dissociate himself from Kushner Companies. But he has prompted further suspicion by being so unforthcoming about his financial assets that he has had to make 39 revisions to his disclosures. He has also amended his responses to a national-security questionnaire, adding the names of over 100 foreign contacts, including a Russian banker who claimed to have discussed business opportunities with him (the administration said they discussed diplomatic relations). Because of these omissions, Mr Kushner, the administration's occasional secretary of state, has been denied access to sensitive intelligence and in any recent administration would have been fired. Yet all this looks trifling compared with the indiscretions he now stands accused of.

According to the *New York Times* Mr Kushner held meetings in the White House with the bosses of a bank and a private-equity firm, Citigroup and Apollo Global Management, around the same time as they were providing his family business with over half a billion dollars in loans. Both firms were also lobbying the government on policy matters. Citigroup wanted an easing of financial regulation. Apollo stood to benefit from an emerging tax bill and infrastructure plan. Mr Kushner allegedly discussed giving one of Apollo's bosses, Joshua Harris, a White House post. Mr Kushner says he has not advanced his business interests in office, which would be a crime. Yet his behaviour has created an appearance of conflict, which was hitherto a sackable offence, and has not escaped the notice of foreign spies. According to the *Washington Post*, American spooks are aware of officials in at least four countries, the United Arab Emirates, China, Israel and Mexico, airing schemes to take advantage of Mr Kushner's complicated financial affairs. Mr Mueller is also interested in the issue. According to press reports, he is looking at whether the business interests of the president's son-in-law, in particular his efforts to keep 666 Fifth Avenue afloat, influenced American policy.

Mueller's mulling it

Mr Kushner is in trouble enough without having the special counsel to worry about. The erstwhile Trump-whisperer is reviled by the media, increasingly ignored by Republican power-brokers and, it is said, mocked by the president, who feeds on weakness. Even before the latest allegations, Mr Kushner had little to show for a year with the federal government at his beck. He does not seem to have moderated Mr Trump much. Partly as a result, he has made little headway with his pet projects. His Middle East peace bid never did stand much chance in the face of Israeli and Palestinian obduracy. Nor has Mr Kushner thrived personally. He has displayed a businessman's exaggerated disdain for government, meddled naively in court politics and expressed few firm or original views. His self-possession now seems anchored more in a feeling of entitlement than steadfastness.

His appointment was not worth bending the law for. Indeed, it has shown how fragile are the guardrails that separate America from the sorts of nepotistic, corrupt regimes Mr Kushner formerly tried to do business with. There is a complacent view on that, too. Some insist that America's institutions are robust enough to protect it. But that ignores the fact that the prerequisite of any democratic institution is public trust, which was in dwindling reserve before Mr Trump's election, and has suffered further damage in the chaos of his administration. Almost half of Americans believe "corruption is pervasive in the White House". That, not Middle East peace or modernised government, is shaping up to be Mr Kushner's legacy.

This article appeared in the United States section of the print edition under the headline "No rose without a thorn"

Infrastructure in Latin America
Coming unstuck

Coming unstuck

Latin America needs an infrastructure upgrade

Governments risk wasting a golden opportunity to improve the region's transport, sanitation and energy systems

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THE Transnordestina railway is supposed to carry soya beans, iron ore and other commodities from farms and mines in Brazil's northeast to ports in Ceará and Pernambuco, and then on to markets in China. Brazil has spent more than 6bn reais ($1.8bn) on the project since work began a decade ago. But cows still amble along its unfinished tracks. In Lima and Bogotá workers can spend half as much time commuting as they do at the office. In Brito, a village on Nicaragua's Pacific coast, there are no paved roads, electricity or running water. "It's like we're still living in the era of Columbus," laments a fisherman.

Latin America is hobbled by its inadequate infrastructure. More than 60% of the region's roads are unpaved, compared with 46% in emerging economies in Asia and 17% in Europe. Two-thirds of sewage is untreated. Poor sanitation and lack of clean water are the second-biggest killer of children under five years old, according to the World Health Organisation. Losses of electricity from transmission and distribution networks are among the highest in the world. Latin America spends a smaller share of GDP on infrastructure than any other region except sub-Saharan Africa (see chart).

There are some bright spots. Chile's roads are better than those of Belgium, New Zealand and China, according to the World Economic Forum. Uruguay's electricity and telecoms outclass those in the United States and Canada. But in general, the quality of infrastructure is more of a drag on than a boost to Latin American economies. If the infrastructure of the region's middle-income countries were as good as that in Turkey and Bulgaria, their growth rates would be two percentage points higher than they are, according to McKinsey, a consultancy.

Recently a window of opportunity to upgrade it opened up. Global interest rates have been unusually low, which makes it cheap to raise money to repair old infrastructure or start new projects. Market-friendly presidents have taken office in several countries, including Brazil, Argentina and Peru. They have made improving infrastructure a priority. Pedro Pablo Kuczynski, Peru's president since July 2016, promised to turn the country into a "construction camp". Mauricio Macri, elected Argentina's president in 2015, launched an infrastructure plan called Plan Belgrano for the country's poorly connected north. His cabinet chief, Marcos Peña, calls it "the most ambitious in Argentina's history". In Colombia a promise to build rural infrastructure is part of the peace agreement between the government and the FARC, a leftist guerrilla group that had been at war with the state since 1964.

A window closes

But the region's governments have not made the most of the opportunity. A big setback was the Lava Jato (Car Wash) investigation, which began as a money-laundering case in Brazil and has engulfed the governments of a dozen Latin American countries. Odebrecht, a Brazilian firm that built highways, dams, power plants and sanitation facilities across the region, admitted to paying $788m in bribes. Its money financed political campaigns, including those of Colombia's president, Juan Manuel Santos and Juan Carlos Varela, now Panama's president. Mr Kuczynski has admitted that companies linked to him have taken (legal) payments from Odebrecht.

The scandal has left a trail of unfinished projects, frightened politicians and bureaucrats, and wary bankers. A $7bn contract with Odebrecht to build a pipeline to transport natural gas from the Amazon basin across the Andes to Peru's coast has been annulled and work has been suspended. Ruta del Sol 2, a 500km (300-mile) stretch of highway to help connect Bogotá to Colombia's Caribbean coast, has stalled. Panama's government cancelled a contract with Odebrecht for a $1bn hydroelectric project. Mexico's biggest scheme, a new airport near the capital, has been plagued by corruption allegations. Andrés Manuel López Obrador, the front-runner in Mexico's presidential election, scheduled for July 1st, has threatened to scrap it.

Governments also worry that a rise in interest rates will raise the cost of borrowing to build infrastructure and that a reduction in corporate tax in the United States, signed into law by Donald Trump in December, will pull capital away from Latin America. They are racing to get their infrastructure plans back on track before the opportunity passes.

The biggest need, say economists, is for roads, railways, ports and urban transport to speed exports and the travels of workers. To move sugar from Jujuy in northern Argentina to Buenos Aires by rail, a journey of 1,675km, takes 22 days, as long as it takes to ship it on to Hamburg. Cargo can take two days to journey from Bogotá to Santa Marta on the Caribbean coast; then it can wait as long to pass through customs.

A big difficulty in widening such bottlenecks is cumbersome procedures, legal hurdles and ponderous bureaucracies. A new airport near Cusco, Peru's most popular tourist destination, was proposed in the 1970s; a contract to build it was signed in 2014 but scrapped last year. Projects often impinge on indigenous lands, which can slow things down further. Conflicts over projects cause average delays of five years, according to a study by the Inter-American Development Bank.

Despite low interest rates, governments cannot borrow much to pay for infrastructure. Non-financial public-sector debt rose from 30.6% of GDP in 2008 on average in Latin America to 40.4% in 2016. In Brazil it reached a record of 74.4% last year. Brazil, Chile, Colombia and Peru have rules that limit public spending or borrowing.

Privacy, please

So governments must form partnerships with private enterprises, says Jose Fernandez, a former assistant secretary in America's State Department. They are no panacea. Public-private partnerships (PPPs) are open to abuse by construction firms such as Odebrecht, which make low bids to secure contracts and then renegotiate them to push up the cost, often by bribing a politician or two. More than three-quarters of Latin American PPP contracts in transport have been renegotiated within about three years of signing, according to José Luis Guasch, a professor of economics at the University of California.

PPPs require competent agencies and often government guarantees, as well as sophisticated domestic financial markets. In Chile, which has strong institutions and financial markets, most roads, ports and airports are operated by private companies. In most countries private participation is a complement to, rather than a substitute for, public money, the World Bank argues. The region's volatile politics makes investors wary. Michel Temer, Brazil's centrist president, is dogged by scandal and will not run in the presidential election in October. Mexico's election may bring the populist Mr López Obrador to power. In Peru congress is threatening to impeach Mr Kuczynski, who narrowly avoided impeachment once before.

Not all the news is bad. One reason for cheer is that infrastructure can be less expensive than governments think. With conventional policies, South America needs to spend $23bn-24bn a year to upgrade its electricity networks, according to the World Bank. But if the region manages demand better, introduces renewable sources of energy and promotes conservation, it can cut that cost to $8bn-9bn. Freight can be sped up and made cheaper by simplifying bureaucracy and improving regulation as well as by expanding roads. Latin America's trucking industry is now 15 times more concentrated than that of the United States, the World Bank says. Promoting competition would reduce costs.

A second source of encouragement is China. Its banks invest more in Latin America's infrastructure than the World Bank and IDB combined, according to David Dollar of the Brookings Institution, a think-tank in Washington. Last year Chinese companies invested at least $21bn in Brazil, not least in power plants and ports. Bolivia has a $10bn Chinese credit line to spend on motorways and hydroelectric dams. China has agreed to build two nuclear-power plants in Argentina. But some Chinese ideas, like a railway through the Amazon and a canal through Nicaragua to rival the Panama canal, may never materialise.

Latin American countries may be learning from their mistakes. The scandals are changing how business is done. Companies are increasing radically the number of compliance officers, says Brian Winter, vice-president for policy at the Americas Society and the Council of the Americas. New laws seek to bring more transparency and strike a balance between discouraging corruption and chilling investment. Legislation in Peru, for example, exempts from penalties firms that co-operate with anti-corruption investigators.

Some countries, including Colombia and Peru, have passed laws that make it harder to renegotiate PPPs. Brazil's plan for 34 partnerships in roads, ports and other projects seeks to reduce red tape by making sure that they have environmental licences before their details are announced.

Such reforms improve the chances that Latin America's president-builders will eventually realise their ambitions. Repairers are at work on the rail line through Jujuy. Peru's government hopes to find new investors in the gas pipeline this year. With the right policies, honestly executed, rolling stock, rather than livestock, could someday glide along the tracks of the Transnordestina railway.

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Nayib in '19

El Salvador's rising political star

The real winner in legislative and local elections was not on the ballot

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SOME voters sketched, scratched and scribbled on their ballots. The cleverest crossed out letters from the voting instructions to form dirty words. Photos of their handiwork appeared on Twitter on March 4th as Salvadoreans voted in municipal and legislative elections. One in ten voters defaced their ballots or left them blank. In a country where voting is obligatory, a record 58% stayed at home.

The right-wing opposition party, the Nationalist Republican Alliance (Arena), had a clear lead in valid votes. It won nine out of 14 major mayorships, including San Salvador, the national capital, and 37 of 84 seats in the national assembly. Arena's chairman said its success was a prelude to victory in next year's presidential election.

In fact, the election was a repudiation of the main parties, both of which are tainted by corruption. The real winner was a politician who was not running, belongs to no party and encouraged voters to spoil their ballots: Nayib Bukele, the outgoing mayor of San Salvador. He is now the front-runner for the presidency.

The Farabundo Martí National Liberation Front (FMLN) of President Salvador Sánchez Cerén saw its worst defeat since it ceased being a guerrilla army a quarter-century ago. It won just two mayorships of big cities and 23 seats in congress, eight fewer than before. On election night a drum kit sat unused on a stage outside FMLN headquarters while speakers blared lyrics made ironic by the day's events: "I know it's too late to beg forgiveness."

The FMLN first won power in 2009, promising economic reform, social change and less violence. It has failed to deliver. Under Mauricio Funes and then Mr Sánchez Cerén, GDP growth has averaged less than 2% a year, poverty has risen and El Salvador became the most murderous country in the world. Mr Funes has been in Nicaragua since 2016, when prosecutors started investigating him on suspicion of illegally enriching himself while he was president. Mr Sánchez Cerén barely appears in public. There are rumours he is ill.

Arena has its own corrupt politicians. Mr Funes's predecessor, Tony Saca, is awaiting trial for funnelling hundreds of millions of government dollars into his bank accounts. Most of the 13 legislators being investigated for corruption are or were from Arena. Eleven ran for re-election; all of them won.

So did Arena's candidate to be mayor of San Salvador, Ernesto Muyshondt. A member of the MS-13 street gang has testified that he paid $69,000 to the outfit in exchange for votes in the presidential election in 2014, when he was Arena's vice-chairman. The gang has family and other ties to about a tenth of the population.

Mr Muyshondt's victory was no triumph for Arena. He won with fewer votes than the party's losing mayoral candidate got in 2015. The party lost votes in the legislative election, too. It won only because voters were even more disgusted with the left than with the right. None of the smaller parties, which are also plagued by scandals, won more votes than the number of blank and spoiled ballots.

The only politician who had cause to cheer the high rate of abstention was Mr Bukele. Some voters spoilt their ballots by scrawling on them, "Nayib 2019". A slick 36-year-old businessman, Mr Bukele has enthralled the capital's voters with projects to revitalise poor neighbourhoods, progressive stances on social issues such as gay marriage and shrewd use of social media. The FMLN kicked him out in October (supposedly for "verbal aggression" against a city employee, but probably because rivals wanted him out of the way). He formed the New Ideas Movement. Since it was not yet a party, the group put forward no candidates in the elections.

Mr Bukele aims to become the first president in three decades who belongs to neither of the main parties. On the day after the elections he posted a video on Facebook in which he criticised pundits who declared Arena the winner. "They're analysing the scoreboard of a game that the population is no longer playing," he said. Three days later, the video had 1.5m views. If the presidential election were held tomorrow, polls suggest, Mr Bukele would win easily.

This article appeared in the The Americas section of the print edition under the headline "Nayib in '19"

Bello

The bumpy road ahead of Sebastián Piñera

The new president and the future of the Chilean model

Print edition | The Americas Mar 8th 2018

THE second presidency of Sebastián Piñera, a billionaire businessman turned politician, will begin on March 11th in seemingly auspicious circumstances. Mr Piñera won a resounding victory in a run-off election in December, with 55% of the vote. Chile's economy is growing at its fastest rate for two years and the price of copper, its main export, is rising. The 11-country Trans-Pacific Partnership, a trade deal from which Donald Trump opted out, is due to be signed in Santiago on March 8th. And a Chilean film has just won an Oscar.

Yet the sunny appearance may deceive. Mr Piñera, who was a successful but unpopular president of the centre-right in 2010-14, must deal with the conflicting pressures of restoring rapid economic growth by boosting private investment while trying to meet the demands of a society undergoing far-reaching change.

For two decades after the end of Augusto Pinochet's dictatorship in 1990, Chile offered a successful model of an open, free-market economy and gradual social reform under centre-left governments. Chileans became less poor, and millions of people went to university for the first time. Mr Piñera continued this approach. The economy boomed on his watch. But faced with a powerful student movement angry over the cost of higher education, he struggled politically.

His successor (and predecessor), Michelle Bachelet, swung to the left, adopting the students' demands. When one of her allies promised to take a *retroexcavadora* (the graphic Spanish word for a backhoe loader) to Pinochet's "neoliberal model" under which many public services are privately provided, she did not contradict him. Ms Bachelet pushed through reforms of tax, education and labour, all aimed at making society less unequal. To achieve this, she abandoned the consensual approach of her predecessors. However laudable her intentions, many of her reforms were polarising, technically flawed and unpopular.

Business took fright. Investment has fallen for the past five years. The economy averaged growth of just 1.8% a year under Ms Bachelet, compared with 5.3% under Mr Piñera. Her people blame low copper prices; her critics blame her reforms. It was Mr Piñera's economic record, and fear that Ms Bachelet's candidate would tack even further left, that brought him victory.

His main aim is to restore economic growth to 3.5-4% a year, the most the economy can now manage, says Felipe Larraín, who will be finance minister (as he was in 2010-14). A key measure will be improving Ms Bachelet's hugely complicated tax reform and gradually cutting the corporate income-tax rate from 27%, among the highest in Latin America.

"We want to build on what we have," says Mr Larraín. "There will be no *retroexcavadora*." The new president could not demolish Ms Bachelet's legacy if he wanted to. Unlike her, he will lack a majority in congress and will have to woo the Christian Democrats, centrists who belonged to Ms Bachelet's coalition.

She promised universal free higher education and banned top-up fees and profits in privately run but publicly financed schools. Mr Piñera is likely to tweak rather than scrap these changes. Free higher education would cost 3% of GDP. "We don't have that money, we're not Norway," says Mr Larraín, who inherits a much weaker fiscal situation than he left. The new government will focus on making most technical education free and allowing limited top-up fees and selection in schools. It also promises to put more public money into health care and the privately managed pension system.

Chile needs better schooling and worker training to raise productivity, diversify the economy and reduce inequality. The question facing Mr Piñera is whether he can sell his policies politically. Chile's success has made the country harder to govern. The student movement has waned, but not much. Unions were empowered by Ms Bachelet's labour reform. Her electoral reform has made congress more proportional, but weakened the stable two-coalition system of post-1990 politics. A new far-left group, akin to Spain's Podemos, won 20 of the 155 seats in the lower house of congress.

In his first government Mr Piñera often seemed to Chileans more the businessman—arrogant, impatient, unempathetic—who understood investors than the politician who cared about ordinary people. One source close to him insists he has mellowed. Some of his cabinet appointments look odd. He has placed Alfredo Moreno, a fellow tycoon, in charge of the social-development ministry, for example. But his team includes a core of experienced politicians. He will need them.

This article appeared in the The Americas section of the print edition under the headline "A bumpy road down south"

Malaysian politics
Tilting the playing field

Tilting the playing field

How Malaysia's next election will be rigged

Thanks to the wildly uneven size of constituencies, it takes more votes to a elect an opposition MP than a government one

Print edition | Asia Mar 8th 2018

"IF AN election is voters choosing politicians, gerrymandering is politicians choosing voters," explains Wong Chin Huat of the Penang Institute, a Malaysian think-tank, to a small group of concerned citizens. They are gathered in a windowless meeting room in Kuala Lumpur's decrepit centre to bemoan the Election Commission's (EC) redrawing of constituency boundaries. The new maps, Mr Wong explains, will help the ruling coalition, the Barisan Nasional, maintain its stranglehold on power after 44 years in office.

An election must be held by August. The last parliamentary session before the vote ends on April 5th. Before they adjourn, lawmakers are expected to vote on the new boundaries for their seats, which are filled on a first-past-the-post basis.

Malapportionment—the creation of seats of wildly unequal size—worries critics most. This involves packing urban and minority voters, who tend to support the opposition, into highly populated constituencies, while the largely rural and Malay backers of the Barisan Nasional occupy depopulated provincial seats. As a result, it takes more votes to get an opposition MP elected than it does to elect one from the ruling party. At the most recent election, in 2013, the Barisan Nasional won 60% of seats despite receiving a minority of votes, thanks mainly to this ploy.

Rather than making constituencies more balanced, the EC is making them even less so. In peninsular Malaysia there will be 15 parliamentary seats each containing more than 100,000 voters, according to Tindak Malaysia, an organisation that supports electoral reform. Fourteen of them are represented by members of opposition parties. All but one of 30 of the smallest constituencies, the tiniest of which has fewer than 18,000 voters, support Barisan Nasional (see chart).

The constitution says that constituencies should be "approximately equal" in size. It originally stipulated that, within each of Malaysia's states, they should not vary in size by more than 15%. Later this was amended to 33%. In 1973 the rule was abolished altogether. Since then malapportionment has been rife, but the latest electoral maps are particularly bad, says Maria Chin Abdullah, until recently the head of Bersih, an alliance of groups which campaigns for fair elections.

Gerrymandering adds to the problem. This involves redrawing constituency boundaries to pack opposition voters into a few seats, while ruling-party supporters form a narrow majority in a larger number. The EC at first produced maps for state assemblies that appeared to sort voters into ethnic ghettoes. The revised versions, although less racially divisive, remain partisan. One example is the suggestion that the seat of Beruas in Perak state, which went to the opposition at the last election, should absorb an opposition stronghold from an adjoining constituency. Concentrating opposition supporters in the one seat should more than double the incumbent's winning majority, but makes it harder for the BN's critics to compete next door.

The proposals have prompted lots of objections and several court cases, especially in swing states such as Johor and Perak. "The Election Commission has totally ignored us. They don't want to see us," says Ms Chin Abdullah, who has left Bersih to stand in the impending election as an independent. Judges, likewise, have refused to interfere, saying the constitution gives parliament the right to redraw the maps. One appeal is pending in Selangor, a state run by the opposition, but even the activists involved express little hope for their cause.

There are other concerns. The rolls seem to include voters living in unlikely places, like the middle of a palm-oil plantation or the toilet block of a factory. In Selangor alone, the EC does not seem to have addresses for 36,000 registered voters. Postal voting may also be a problem. The government allows certain categories of public employees to vote by post in case they cannot get to the polls on election day. They include police officers and soldiers. But Ambiga Sreenevasan, a lawyer and activist, points out that there is little oversight of the storage and counting of such votes. Nonetheless, the EC quietly added nine new categories of postal voters last year, including workers unlikely to be on the front lines of an emergency on election day, such as the staff of the Immigration Department. And then there is the indelible ink, designed to stain voters' fingers for a week to identify those who have already cast their ballots. A government minister admitted after the last election that the ink was too easily washed off.

Mr Najib, meanwhile, has been showering voters with handouts. Some 7m poorer Malaysians will receive three payments of up to 1,200 ringgit ($308) in total over the course of the year. Civil servants also received a special bonus in January and can expect another in June. But the government's zeal to diminish voters' say in the election suggests it does not have total faith in its ability to win them over.

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An explosive offer

North Korea says it is ready to talk to America

It even claims to be open to surrendering its nuclear weapons

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THE speed with which Kim Jong Un, North Korea's dictator, has developed missiles, now believed to be capable of hitting America, has been startling. Since the start of the year, the pace of diplomacy with the rogue state has been similarly rapid. On March 6th South Korean envoys returned from meeting Mr Kim in his capital, Pyongyang, with a message for America. He is willing, they said, to sit down and talk, even about denuclearising the Korean peninsula—an American condition for talks that North Korea had rejected just days before. The North has not contradicted the South Korean statement, although its media talk of "open-hearted" talks without mentioning denuclearisation.

The southern delegation's two-day visit came hot on the heels of North Korea's participation in the Winter Olympics in the South Korean resort of Pyeongchang, during which northern officials met Moon Jae-in, the South's president. This week the two sides agreed to hold a summit next month between Mr Moon and Mr Kim. The two leaders will also set up a hotline.

Chung Eui-yong, Mr Moon's national-security adviser, said Mr Kim had been exceptionally flexible, promising not to test any missiles during negotiations. Nor did he demand a suspension of joint military exercises by America and South Korea. It is striking that Mr Kim has agreed to meet on the South Korean side of the demilitarised zone between the two Koreas, whereas past South Korean leaders were forced to go to Pyongyang to meet Kim Jong Il, Mr Kim's father.

The North Korean leader was also exceptionally hospitable. He wined and dined the envoys at the headquarters of the Workers' Party, no less. His mysterious wife, Ri Sol Ju, was present too.

Some explain Mr Kim's sudden overture as a response to President Donald Trump's policy of "maximum pressure" on North Korea, which has involved heightening both rhetoric and sanctions against the regime. (When asked why Mr Kim had made his offer, Mr Trump answered "Me"). "Mr Kim wants to lower tensions on the Korean peninsula after last year," says Paik Hak-soon of the Sejong Institute, a South Korean think-tank.

Others deny that North Korea is offering to talk from a position of weakness. After all, Mr Kim has almost, but not quite, perfected a nuclear missile that can hit America—the point where he would have maximum leverage over Mr Trump. Most see the overture as a stratagem. North Korea has reneged on every deal it has ever signed. Most recently, in 2009, it backed out of an agreement struck in 2005 that offered it security guarantees, electricity from the South and other economic benefits in exchange for dismantling its nuclear programme. "Two words: Dad's playbook", Jung Pak, a former CIA analyst, tweeted.

Indeed, North Korea's offer to discuss denuclearisation came on the condition that "military threats against the North are resolved and the regime is secure." In the past North Korea has suggested it will not consider itself safe until America scraps its alliances with South Korea and Japan, and removes all its forces from the region—steps America would not countenance.

There is "no way in hell" that Mr Kim will give up his nuclear weapons, says Brad Glosserman of the Centre for Strategic and International Studies, an American think-tank, who thinks he is simply after money, a reduction of pressure and the prestige that comes with dialogue with America. Nuclear weapons are written into North Korea's constitution and Mr Kim seems to see them as essential to his survival. *Chosun Ilbo*, a South Korean daily, cautioned that the last time North Korea promised to denuclearise, it was a "deceiving stunt" used to "fool the world".

America has been cautious. Mr Trump welcomed "possible progress" but warned of "false hope". Still, even the many sceptics say Mr Trump should accept the North's offer. Talks might give some insight into its intentions and priorities. They might also calm, if only temporarily, a combustible situation that at points last year seemed ready to explode into an accidental nuclear war. Then again, Messrs Trump and Kim may not like mundane negotiations as much they appear to enjoy insulting each other's physiques and boasting about the size of their nuclear buttons.

This article appeared in the Asia section of the print edition under the headline "An explosive offer"

Arresting the messenger

Press freedom is waning in Myanmar

No law is too obscure as a tool to silence awkward journalists

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IT SOUNDS almost too ridiculous to be true. Two Burmese journalists are invited to dinner by the police, who hand them documents. As soon as they leave the restaurant, the pair are arrested by different policemen, apparently lying in wait. They are accused of breaking a colonial-era official-secrets law, enacted in 1923 and barely used since. In the early stages of the trial one of the policemen involved admits he burnt his notes. Another witness writes the name of one of the journalists on his hand, along with the street where the police say they arrested them, to help him remember what to say. The restaurant's owner says she never saw the two men, but then admits she would not have been able to see them from where she sits anyway.

Unfortunately, it is not fiction. Wa Lone and Kyaw Soe Oo, who work for Reuters, were jailed in December and denied access to lawyers for two weeks. On March 7th they were hauled into court for the latest hearing. If found guilty they could face a prison sentence of up to 14 years. Their trial demonstrates just how far press freedom, which had seemed to be improving, has retreated under the government of Aung San Suu Kyi, the democracy advocate whose National League for Democracy took over from a military regime in 2016.

At the time of their arrest Mr Wa Lone and Mr Kyaw were looking into the killings in September of ten men from the Rohingya Muslim minority in a village in Rakhine state. The report, published in February by Reuters while the two journalists were behind bars, suggests the army was responsible. In January the army released a statement acknowledging that soldiers had killed some captured "Bengali terrorists", although it claims they were under attack from 200 Rohingya militants at the time—a claim Reuters could not find anyone to corroborate. The documents the pair say they were handed by the police relate to the conflict in Rakhine, from which 700,000 Rohingyas have fled since August.

The trial is not an isolated incident. Ms Suu Kyi appears to have little regard for freedom of the press. By one count, 29 journalists have been arrested since she came to power, although most have been released. Others have faced online abuse and death threats from Buddhist nationalists. In November two foreign journalists were charged under a similarly obscure law, the Aircraft Act of 1934, for flying a drone over the parliament building. Defamation laws are also being used more often. Other forms of dissent are being squashed too. On March 5th hundreds of people marched in the city of Yangon against proposed legal changes that would make public protests even harder to organise. Even if Mr Wa Lone and Mr Kyaw are acquitted, or if the case is dropped, the message to journalists is clear: report on the army's misdeeds, and risk years behind bars.

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The governor and the secretary

A politician's downfall shows the strength of #MeToo in South Korea

Voters are in a progressive mood, but their leaders have not all caught up

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ON THE morning of March 5th Ahn Hee-jung, then still the governor of South Chungcheong, one of South Korea's richest provinces, made a speech in support of the country's "#MeToo" movement, which, as elsewhere, has encouraged women to speak out about sexual harassment. "We have been living in a male-dominated society where one's power defines rank. Violence that stems from manipulating this power is simply harassment and discrimination," he said. "Everyone should take part in the movement."

Eleven hours later, Mr Ahn's secretary heeded his appeal. On live television, Kim Ji-eun accused the governor of sexually harassing her for the past eight months and of raping her on four occasions. "The relationship was not consensual and I am sure he knew it," she said. Mr Ahn's office initially claimed that what had gone on was, indeed, consensual. But soon afterwards, he published a Facebook post in which he sought forgiveness for "foolish behaviour" and said that he would step down.

Mr Ahn's downfall is testament to the growing power in South Korea of "#MeToo", which Ms Kim credited with encouraging her to speak out. The movement has recently been gathering pace. In January Seo Ji-hyeon, a public prosecutor, was the first prominent woman to talk on television about her experience of harassment by a colleague.

"Her example was a big trigger," says Lee Na-young, a professor of sociology at Joongang University. "People thought, if this can happen to a powerful person just because she is a woman, then what about ordinary women?" In February Lee Yoon-taek, a famous theatre director and school friend of Moon Jae-in, the president, resigned after several women accused him of sexually harassing them.

Increasingly, women who come forward find they are being listened to. This is partly because the issue has gained traction around the world after the Weinstein scandal. But "#MeToo" also shows the recent progressive tilt of South Korean politics. The success of mass protests in bringing about the impeachment of Park Geun-hye, the previous president, has emboldened activists of all stripes. As part of a broader package of labour reforms, Mr Moon's government has toughened penalties for sexual harassment at work. In January Mr Moon himself expressed his support for "#MeToo" and called for a broader movement to promote women's rights.

Awkwardly, Mr Ahn is one of Mr Moon's closest political associates. Even worse, he is part of a generation of former democracy activists who tend to think of themselves as occupying the moral high ground on questions of social progress. Although he lost the Minjoo party's nomination for the presidency to Mr Moon last year, he was seen as a contender for the presidency in 2022. The party moved quickly to contain the damage, expelling Mr Ahn and apologising to the public.

The conservative opposition will find it difficult to exploit the case, being itself vulnerable to similar revelations, says John Nilsson-Wright, an expert on East Asia at Cambridge University. But South Koreans voting in elections for governors and mayors this summer will doubtless wonder whether other politicians are guilty of the sort of hypocrisy displayed by Mr Ahn. On the morning he resigned, an irate member of Minjoo expressed his anger by smashing a window of the governor's residence with a baseball bat. Others may express theirs in the polling booth.

This article appeared in the Asia section of the print edition under the headline "The governor and the secretary"

Emerging emergency

Anti-Muslim riots in Sri Lanka signal a new social fissure

Sinhalese nationalists may be looking for an enemy

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THE trigger was supposedly a road-rage incident, said to have involved members of Sri Lanka's Muslim minority, near the popular tourist destination of Kandy. A lorry driver from the country's biggest ethnic group, the Sinhalese, ended up dead. Angry Sinhalese mobs, urged on by Buddhist monks, began attacking mosques and businesses owned by Muslims, hurling rocks, burning tyres and setting fires, leading to at least two more deaths. In response Maithripala Sirisena, the president, declared an island-wide state of emergency on March 6th.

The emergency, which grants wide powers to the police and army, is preventive in nature and intended to reassure vulnerable groups, an aide to the president said. On March 7th authorities restricted access to social media to prevent the spreading of rumours and fomenting of further violence. Rajitha Senaratne, a cabinet spokesman, said the attacks had been organised, with many of the perpetrators bused in from other areas. He hinted that supporters of Mahinda Rajapaksa, a former president under whom Sinhala-Muslim clashes at Aluthgama in 2014 left several dead, were to blame.

Mr Rajapaksa, who relies strongly on Sinhalese nationalist backing, has enjoyed a recent resurgence in popularity. A new party he founded won 239 out of 340 contests at local elections on February 10th. In comments to media, he denied that the violence was part of a political conspiracy and blamed the government's failure to respond to social tensions.

It is the second time in as many weeks that violence has flared between Muslims and Sinhalese. On February 26th mobs rampaged in Ampara on the east coast after a video of a Muslim restaurant-worker confessing to adding "sterility pills" to food sold to Sinhalese women went viral.

Muslims make up close to 10% of the population, with a high concentration in Kandy and the east. Sinhalese Buddhists account for 70%. The mostly Hindu Tamils constitute around 13%.

The biggest faultline in Sri Lankan society remains between Sinhalese and Tamils. In 2009 the Sri Lankan army ended 26 years of war by defeating the Liberation Tigers of Tamil Eelam, who were fighting for an independent Tamil homeland in response to claimed discrimination by the Sinhalese. There is some mistrust between Sinhalese and Muslims too: many Sinhalese believe, wrongly, that the slightly higher birth rate among Muslims poses a threat to the continued demographic supremacy of the Sinhalese. But throughout the civil war Muslims and Sinhalese mostly coexisted peacefully.

Political analysts fear that Sinhalese extremists are trying to transfer lingering hostility against Tamils onto Muslims (most of whom speak Tamil as their mother tongue). Many are small businessmen, easily painted as exploiting poor Sinhalese. Tisaranee Gunasekara, a columnist, warns, "If we, the Sinhalese, fail Muslims as we failed Tamils, history will not forgive us, and will punish us with a new and a worse war."

This article appeared in the Asia section of the print edition under the headline "Emerging emergency"

The power and the furore

A state election stirs a row about renewable energy in Australia

Will wind and solar buoy the economy of South Australia, or sink it?

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A TUMBLEDOWN farmhouse from Australia's pioneering days has unlikely new neighbours. Giant wind turbines owned by Neoen, a French company, loom over it in the dusty red scrubland outside Jamestown, north of Adelaide, the capital of the state of South Australia. The world's biggest lithium-ion battery sits a stone's throw away. Elon Musk, a Silicon Valley entrepreneur, installed it last year through his company, Tesla, to store energy from the turbines and feed it back to the grid when other supplies run short. About 100km to the west, across the Spencer Gulf, Sanjeev Gupta, a British billionaire, is also pouring money into renewable energy. He is building solar and pumped-storage hydropower plants to revive a failed steelworks at Whyalla that he bought six months ago.

With just 7% of Australia's population, South Australia has become a testing ground for a political argument about how hard the government should push to replace fossil fuels with cleaner energy. The projects at Jamestown and Whyalla loom large in the state election on March 17th. The rest of Australia, too, is paying more attention than it normally would. The last coal-fired power station in South Australia closed two years ago. While the bigger eastern states still rely on coal for most of their electricity, South Australia now gets almost half of its power from wind and solar, the highest proportion in the country. (The rest comes mainly from gas.)

Jay Weatherill, the state's Labor premier, recently set an even higher renewable-energy target: 75% by 2025. The federal government, a coalition of the (conservative) Liberals and Nationals, has dismissed this as a "big experiment". Josh Frydenberg, the federal energy minister, likens Mr Weatherill to a "problem gambler chasing his losses". He says too much renewable power will lead to blackouts and push up power prices. Instead, his latest energy plan calls for reliable electricity from any source, although the details remain unclear. Critics see this scepticism as a bid to guarantee a future for coal, a big industry in Australia. The federal renewables target, about two-thirds lower than South Australia's, expires in 2020.

South Australia has long been connected to a grid encompassing four other states in eastern Australia with 40,000km of transmission lines. But in 2016 a freak storm disconnected it, leading to a statewide blackout. A smaller outage followed five months later. To Mr Weatherill, the drama meant the national electricity market was "failing". He launched a plan a year ago for South Australia to "take charge" of its own energy with A$550m ($430m) of public money, by building a gas-fired plant and financing green projects. Private investors are keen. Solar Reserve, a Californian company, will start work on a solar thermal power plant at Port Augusta, near Whyalla, this year. Tesla will build a "virtual power plant" by fitting 50,000 homes with solar panels and batteries.

Neoen now owns and runs the giant battery next to its 99 wind turbines on the edge of the Flinders Ranges, one of Australia's windiest places. The device started operating in December, in the middle of a hot summer, when demand for air-conditioning is high. Since then, says Franck Woitiez of Neoen, it has kicked in several dozen times in response to "unexpected failures" at coal-fired plants as far away as Queensland, in north-east Australia. The Australian Energy Market Operator, which oversees the national system, seems to approve of South Australia's initiatives. Audrey Zibelman, its head, says the battery is "faster than traditional generators" and dependable: "That's important to us."

The scale of foreign investment in South Australia's projects also seems to defy sceptics. Mr Gupta alone, through his company GFC Alliance, is spending about A$1bn on the Whyalla steelworks. He has also bought a majority stake in Zen Energy, an Australian renewables outfit, to power the works. He thinks South Australia can become a "hub of renewables industries".

But South Australia has higher wholesale electricity prices than other states. Its unemployment rate, 6%, is Australia's second-highest, partly because of the closure of its last car factory last year. Steven Marshall, the Liberal candidate for premier, says scrapping Mr Weatherill's renewable-energy targets would reduce power prices and so boost the local economy. He wants to focus instead on improving transmission lines to the rest of the country.

Mr Weatherill argues the reverse: that turning the state into a renewables powerhouse will mean more jobs and lower power prices. A recent poll showed more people approve of his renewable-energy target than disapprove. But the election could still be close. Labor has been in power for 16 years (with Mr Weatherill as leader for just over six). To further muddy the waters, Nick Xenophon, a former independent federal senator, is fielding candidates for SA-Best, his new state party, in most seats. His energy policy is woolly, and his support appears to be waning, but he could still take votes from both big parties. The field is confused enough, in short, that the result is unlikely to resolve the debate about renewables, whichever party ends up in charge.

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Banyan

In South Asia, Chinese infrastructure brings debt and antagonism

Indian hawks see unserviceable Chinese loans as a ploy to win control of strategic assets

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AT THE southern end of Laamu atoll in the Maldives, the palm-covered island of Gaadhoo guards the One and a Half Degree Channel, the passage for a good portion of the shipping from Africa to Asia. In 2015 Abdulla Yameen, the president, ordered Gaadhoo's several hundred villagers to move to the atoll's main island, Fonadhoo. Today Gaadhoo's jetty has crumpled into the sea, and copies of the imam's last sermons flutter about the floor of the abandoned mosque.

It does not look like a fulcrum of world events. Yet Gaadhoo, Maldivian politicians and foreign diplomats contend, will be the scene of the next stage of the Indian Ocean's great game. They say Mr Yameen has secretly promised the island to China, which will use it as a future military base. Excitable observers note that both India and America appear to be keeping an eye on the island. How else to explain the Indian air force pilots flying helicopters on behalf of the Maldives from the atoll's airstrip, or the nearby American-owned farm cultivating sea slugs for the Chinese market that is, surely, a CIA outpost?

China makes no secret of its interest in the Indian Ocean, which contains vital sea lanes along which a large share of its imports and exports pass. It has not been shy about trying to curry favour with littoral and island states through its Belt and Road Initiative, a massive project to invest in infrastructure along ancient and modern trading routes. The initiative is usually presented as a development scheme (see Free exchange) but has obvious geopolitical implications, too.

South Asia could certainly do with better infrastructure, especially of a sort that might boost regional trade. Although the subcontinent has fast-growing economies and a population of 1.7bn, it is the least integrated region in the world. According to the World Bank, intra-regional trade accounts for less than 5% of the total, compared with 35% for East Asia and 60% for Europe. Intra-regional investment is less than 1%. That makes China's promise to build lots of roads, ports and railways especially alluring.

In the Maldives, a tourist mecca, China Communications Construction Company (CCCC) is building a 1.3km bridge that will link the airport island with Malé, the capital. Passengers currently make the crossing on rickety launches. CCCC, which has also built the Maldives' longest road, all 18km of it, is overseeing a massive expansion of the airport and the construction of a 25-storey hospital as well. In Hambantota in southern Sri Lanka, China has built both a gleaming (if empty) airport and a huge port. It is also completing an expressway linking the two to the capital, Colombo, where it has expanded the container port as well.

The Chinese commitment is greatest in Pakistan, an old ally, in the form of the China-Pakistan Economic Corridor (CPEC). Over $60bn has been promised, mostly for power stations to improve the country's infamous electricity supply but also for roads, industrial zones, pipelines and a deepwater port at Gwadar.

Yet doubts are growing as fast as debts—China lends to countries rather than makes grants, and rarely at concessional rates. A condition of many loans is that Chinese companies get the business. A new paper by the Centre for Global Development in Washington, DC, identifies eight belt-and-road countries worldwide at "particular risk of debt distress". They include the Maldives, whose debt is probably over 100% of GDP, and Pakistan. (Other countries on the critical list include Djibouti, where China has its first overseas military base, Laos and Mongolia.)

The nature of the lending is usually murky. A Pakistani minister promises Gwadar will "benchmark" Singapore, but the port is controlled by a Chinese company, China Overseas Port Holding Company, about which almost nothing is known beyond a Hong Kong nameplate and the claim on its website to be "emerging and fast growing". Even before Mr Yameen shut down politics in the Maldives with a state of emergency last month, parliament had no oversight of contracts awarded to Chinese companies. "We have no idea how much we really owe," says one MP.

Sri Lanka offers an idea of what happens next. The Hambantota schemes were vanity projects for the then-president, Mahinda Rajapaksa. His closeness to China was one reason for his surprise defeat in elections in 2015. A rising interest bill forced the government of his successor, Maithripala Sirisena, to agree on a debt-for-equity swap that gives China a 99-year lease on the port.

Hawks in India, the region's historical power, note that Hambantota, Djibouti and Gwadar, to which China has also won a long lease, are all close to those trade-clogged sea lanes. To them, debt default looks a handy way for China to win influence, and perhaps eventually bases, around the Indian Ocean. The arrival in Colombo of a Chinese submarine in 2014 was a wake-up call.

Only connect

To divine a long-planned Chinese conspiracy, however, is to run ahead of events. It is true that indebted South Asian countries will have no choice but to negotiate with China. But Pakistan insists Gwadar is not open to the Chinese navy. And India still holds cards, even as it fails to offer an economic alternative to Belt and Road. Under Indian pressure, Sri Lanka will not allow

Chinese submarines back soon—the Hambantota deal also excludes the Chinese navy. India has also helped raise concerns, notably in America, Japan and Australia, about Chinese intentions. The four are looking for ways to come together over a still vaguely defined "free and open Indo-Pacific", as a counter to China.

The danger, as Andrew Small of the German Marshall Fund, an American think-tank, argues, is that competition in the Indian Ocean becomes a zero-sum contest. To people in Delhi, China's investments seem intended to encircle India. Meanwhile, humiliating debt restructurings and rumours of corruption alienate locals. Far from spurring development and stability, Mr Small concludes, in South Asia Belt and Road risks stoking antagonism.

This article appeared in the Asia section of the print edition under the headline "Monsoon squalls"

The economy
No storm, but lots of tea cups

The price of power

Xi Jinping is using his growing authority to amass even more

But hopes for bold economic reforms look forlorn

Print edition | China Mar 8th 2018

IDEOLOGICAL flexibility has long been critical to success in China. The office of a state-owned company in Wuhan, a big central city, testifies to its enduring importance. On the bookshelf behind a senior manager's desk are a few red-bound Communist Party tracts, including a collection of speeches from a recent meeting where "Xi Jinping Thought" was written into the constitution. Stacked alongside these is literature of a different breed: two analyses of blockchains, a primer on the "industrial revolution 4.0" and a recently published guide to life and business by Ray Dalio, an American hedge-fund billionaire.

The manager sees no contradiction. Like many of his peers, he is as fluent talking about the business models of semiconductor-makers as he is reciting Mr Xi's contributions to socialism with Chinese characteristics. Yet the latter has, over the past few years, taken up more and more time. One staff member says they must regularly gather in study groups to pore over Mr Xi's words and write essays of self-criticism, identifying their failings as party members and state employees. It is, she says, "quite a headache", though she insists that the firm's business has not suffered as a result.

There has been a marked shift in Chinese politics under Mr Xi as he has placed more emphasis on the power of the Communist Party, and on his own power within the party. For the economy, as for the Wuhan state-owned company, there has been little downside so far; growth has remained strong. But the test may soon get stiffer. On March 11th the National People's Congress (NPC), China's rubber-stamp legislature, is due to vote on a proposed amendment to the constitution to abolish the two-term limit on a president's tenure, paving the way for Mr Xi to stay in office indefinitely. This shift will carry implications for every aspect of policy-making, including the management of the economy.

The optimistic view is that the change might in fact help the Chinese economy, at least in the short run. "We have stability and clarity," says Zhu Ning, an economist with Tsinghua University. Mr Xi has amassed enough clout to push through reforms that have hitherto proved tricky. He has presided, for example, over the closure of many loss-making coal mines and steel mills over the past two years, which has helped restore what remains of those two industries to health, albeit at the cost of some 2m jobs.

The apparent certainty that Mr Xi will be the country's leader for, at a minimum, another decade should also give officials and enterprises confidence to make longer-term plans. This, in turn, might improve the chances of success for two of his pet projects: the Belt and Road Initiative—a scheme to invest vast sums in infrastructure across Asia—and Xiong'an, a new city being built near Beijing.

Others predict a much bleaker outcome. They worry that Mr Xi's elevation will make governing China less, not more, efficient. Local officials may fall in line with national policy more readily than in the past, but an excess of zeal could be more damaging than a shortage, says Yanmei Xie, an analyst with Gavekal Dragonomics, a research firm. A case in point was the environmental campaign which left thousands of residents of Hebei, a northern province, without heating at the start of winter, after local officials choked off coal supplies to meet pollution targets.

Over time the risks will become more severe. With Mr Xi unassailable, it will take a very brave bureaucrat to dissent from his script. And as the economy grows ever more complex, the inadequacies of the institutions that underpin it, especially the rule of law, will become more glaring.

Both optimists and pessimists have been scrutinising the current session of the NPC, which began on March 5th, for clues about Mr Xi's intentions. Alas, they have found little evidence for the idea that an empowered president will clear the way for deep economic reform. The most important titbit so far has been the unveiling of this year's target for economic growth. It was contained in the "work report" that Li Keqiang, the prime minister, presented to the NPC's 2,970 members amid the cavernous pomp of the Great Hall of the People in Beijing.

The government will aim for growth of "around 6.5%", as it did last year. But Mr Li omitted last year's pledge that it would strive for higher growth if possible. Some analysts argued that this constituted a slackening of the authorities' push for growth at all costs. But it would have been much bolder for Mr Li to abandon a precise growth target altogether, as the IMF had urged.

Still, there were plenty of positive messages. The government dropped its growth target for fixed-asset investment and lowered its projected fiscal deficit, a signal to officials to rein in excessive spending. Mr Li included a new target, for the surveyed urban unemployment rate, which he pledged to keep below 5.5%. That could help sharpen the government's focus on the welfare of citizens. Mr Li also said that spending on social security, education and health care will rise, even as investment in infrastructure falls.

Yet these various policies, welcome though they are, are tweaks to the existing economic system, not dramatic or difficult reforms. They are the kinds of initiatives that the Chinese civil service has proved itself more than capable of delivering in recent years, without intervention from an overwhelmingly powerful president.

It is possible that, when Mr Xi's team is fully in place, his agenda will become more ambitious. Liu He, Mr Xi's most trusted economic adviser, is expected to be made vice-premier, responsible for economic and financial affairs. He has promised that reforms will "exceed the international community's expectations". But the focus for now is on asserting party control. On March 17th the legislature will vote on a plan to shrink the number of state agencies and put them more firmly under party leadership, according to *Bloomberg*, a news agency. As part of that restructuring, the banking and insurance regulators are expected to be merged, as are the agency that oversees industrial companies and the product-quality watchdog, among others.

Mr Xi's influence over the proceedings was felt in other, more disturbing ways. The work report mentioned his name 13 times, the most references to any living leader since Mao Zedong. When the constitutional amendment to scrap the presidential term limit was read aloud in the Great Hall, the crowd greeted it with boisterous applause. The banner headline on the website of Xinhua, China's official news agency, on the day of the work report was about Mr Xi's meeting with delegates from Inner Mongolia, followed by four more stories about his recent speeches and schedule. It was only the sixth article that covered the work report and the various economic targets for 2018. They are being overshadowed by the biggest target of all: enhancing Mr Xi's power.

This article appeared in the China section of the print edition under the headline "No storm, but lots of tea cups"

A steamroller in reverse

China's share of global and Asian exports is falling

Both poorer and richer countries are winning market-share at its expense

Print edition | China Mar 8th 2018

CHINA's exporters once had little to offer the world and everything to learn from it. In the 1960s intrepid entrepreneurs ventured across the border from Hong Kong to the Canton Fair to buy wooden toys from China's rudimentary factories. One visitor threw away a sock in his hotel, according to the book "Toy Town" by Sarah Monks. It was later mailed back to him, darned and washed.

In 1978 when the country began to reform and open up, it accounted for less than 1% of global exports of goods. For the next 37 years, its share grew remorselessly, accelerating around the time of its entry into the World Trade Organisation in 2001. In socks, for example, China accounts for about 40% of world exports.

But in 2016 something unusual happened. China's share of global merchandise exports slipped: from 13.9% to 13.5%, according to IMF data. That might have been a blip in a tumultuous year. But in the first 11 months of 2017 (the latest data available) its share fell again, to less than 13%.

The story is similar within Asia, points out Louis Kuijs of Oxford Economics, a forecasting firm. China's share of the region's exports has dropped by 2.6 percentage points from 2015 to 2017 (see chart). Currency fluctuations are one potential culprit. But although the value of the yuan, weighted by trade and adjusted for inflation, rose until 2015, it weakened for the next year and a half.

It is also tempting to place the blame wholly on deteriorating demographics and rising labour costs. But although China's working-age population is shrinking, its labour force, and urban employment, is still growing.

Besides, China is losing market share not only to cheaper, younger countries like Vietnam. It is also ceding ground to greyer, costlier rivals like Japan, South Korea and Taiwan. The trio's combined share of Asia's exports rose by almost 1.2 percentage points from 2015 to 2017.

Exporters in these three developed economies have benefited from a powerful upswing in demand for sophisticated electronic components, such as flash memory chips—an industrial niche that China has yet to commandeer for itself. But the price of some of these technological delicacies has recently begun to fall. Are these countries' gains therefore merely cyclical? The present tech cycle may indeed be losing momentum, argues Mr Kuijs, but the three countries are still well placed to gain from the long-term growth of artificial intelligence and robotics.

China's economy meanwhile has evolved from industry towards services, which are harder to sell across borders and which are anyway excluded from merchandise-trade statistics (which cover only goods). China's domestic spending has also risen faster than production, resulting in a narrower trade surplus. Some of the goods China would once have sold to foreigners it now consumes itself.

China's exports have also become more Chinese. Fifteen years ago they had a big hole in them: only 55% of their value was added in China, according to a broad measure of the "processing trade" compiled by Mr Kuijs. Most of the remainder was embedded in parts and components that China had imported and assembled. That hole has since diminished. The percentage of value added in China is now 67% or so.

This evolution is visible even in socks. In Datang, or "Sock City", in Zhejiang province, where 70% of China's socks are made, firms increasingly offer their own branded varieties, rather than making pairs that will be sold under a foreign company's label. China may be producing a declining share of the world's exports. But it now claims a higher share of their value.

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Saudi Arabia and Iraq
Return of the kingdom

Return of the kingdom

Saudi Arabia's use of soft power in Iraq is making Iran nervous

The kingdom is eyeing southern Iraq, which Iran considers its backyard

Print edition | Middle East and Africa Mar 8th 2018

IT ALMOST feels like old times. Before Saddam Hussein invaded Kuwait in 1990, Gulf Arabs partied on the banks of the Shatt al-Arab river in southern Iraq. Many owned villas in the fields around Basra and took Iraqi wives. Now, after a break of three decades, they are back. Saudi Arabia is putting the finishing touches on a consulate in Basra's Sheraton hotel, where Iraqi crooners sing love songs and waiters dance. Last month a dozen Saudi poets travelled to Basra for a literary festival.

Air links between Saudi Arabia and Iraq have also resumed, with 140 flights each month. Several state-owned businesses, including SABIC, the Saudi petrochemical giant, are registering offices in Baghdad. At a conference in Kuwait last month, the Saudi foreign minister, Adel al-Jubeir, pledged $1bn in loans and $500m in export credit to support Iraq's reconstruction after the war with Islamic State (IS).

Saudi interest was initially pricked by America, which has been marshalling Gulf support to help stem Iran's push west. It was a hard sell. Iraq, under Saddam, threatened to invade Saudi Arabia. More recently, it has allowed Shia militias backed by Iran to set up camp on the Saudi border. In response the kingdom, which considers itself the region's Sunni champion, is accused of bankrolling Sunni jihadists in Iraq.

But Muhammad bin Salman, the Saudi crown prince, is shaking the kingdom from its sectarian logic. In 2015 he was central to restoring diplomatic relations and last year reopened the kingdom's borders with Iraq. He has shifted money from Sunni politicians to more effective Shia ones. He has even hosted Muqtada al-Sadr, a Shia cleric, and Qasim al-Araji, Iraq's interior minister who is close to Iran. Diplomats note the disparity in help offered by Saudi Arabia and Iran, which pledged nothing at the conference in Kuwait. "Having failed to outfight Iran, the Saudis now want to outspend it," says a delighted Iraqi official.

In a country where Shia Arabs make up the majority of the population, Iran has sought influence by stoking sectarianism and gaining the allegiance of Shias. Saudi Arabia wants to win them back by reviving the country's Arab identity, and setting Iraqis against Persian Iran. Arab nationalism was largely smothered when Iraq's former ruling Baath party was banned in 2003.

Much of the focus is on Basra, which is Iraq's richest province. Projects earmarked by the Saudis for investment include Basra's moribund petrochemical plant, which could help wean Iraq off Iranian products. Saudis have also eyed the scrub along the border, which the kingdom wants to turn into fertile fields by tapping underground aquifers. Iraqi officials hope it will finance railroads and reopen the pipeline that, until 1990, shuttled Iraq's oil to the Red Sea.

Southern Iraq has drifted so far into Iran's orbit that highways are named after the late Ayatollah Ruhollah Khomeini, leader of Iran's Islamic revolution; Iranian-backed Shia parties rule the roost. But some in Tehran are nervous, recalling how Saudi Arabia goaded Iraq's Arabs, even Shias, to wage an eight-year war on Khomeini's Iran beginning in 1980. Iranian businessmen worry about fresh competition for Iraq's market, their second largest for non-oil products after China.

So to tie Iraq even closer, Iran has opened a free-trade zone next to the Shalamcheh crossing near Basra. It has unilaterally lifted visa requirements for Iraqis to ease their shopping sprees in Khuzestan, on the border. The collapse of Iran's currency has sucked in custom. Iraq imports over 100 times more from Iran than it exports, in terms of value.

Meanwhile, Iranian-backed factions in Iraq are trying to sully the rapprochement with Saudi Arabia. Their politicians cite the 3,000 or so Saudis who joined IS. "How can we welcome our killers?" asks a militiaman in Basra. Clerics in Najaf have dithered on the kingdom's request to open a consulate in the Shias' holiest city.

But overall the Saudi charm offensive has proven popular. For all their sectarian bonds with Iranian Shias, the people of Basra fought on the front lines of Iraq's brutal war with Iran. Many view Iranian engagement as colonisation. And even militias are swayed by the prospect of more commerce. Saudi investors, they hope, will need protection and help dealing with the country's tortuous bureaucracy.

Haider al-Abadi, Iraq's prime minister, seems happy to juggle the regional rivalry. His security forces reportedly confiscated posters, printed by a pro-Iranian group, that denounced the Saudi consulate in Basra. But the kingdom may need more reassuring. To date it has done little more than window-shop for potential investments. It will probably wait until after the Iraqi elections in May before signing any deals.

Other Gulf states dismiss Iraq as a corrupt black hole. The young Prince Muhammad, too, might lack the strategic patience to see through his initiative. But if the Saudis were hoping for a quick win, their first football match in Iraq for nearly 40 years offers a salutary reminder. The Saudi players paraded across the pitch in Basra holding Iraqi scarves aloft. In the end, though, they got a thrashing, losing 4-1.

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Keeping an African success story on track

How to save Botswana's sparkling reputation

Botswana's next president must tackle corruption and take on the intelligence service

Print edition | Middle East and Africa Mar 10th 2018

WHEN Ian Khama steps down at the end of the month, after ten years as president, he will leave his country looking perky. Mr Khama has been lavished with praise as he makes a series of farewell sorties around the country. At a recent gathering of farmers, he was "gifted with 35 cattle, a bull, two sheep and goats, a horse, and shares worth 25,000 pula [$2,628] at Tlou Energy", a coal-development company, according to the pro-government *Daily News*.

The statistics paint a pretty picture, too. In its annual report card on African governments, the Mo Ibrahim Foundation regularly ranks Botswana near the top. At independence in 1966 it was one of the world's poorest places, with "only 7km of tarred road and a capital, Gaborone, that amounted to little more than a railway station," wrote a historian. Now it boasts a GDP per head among the highest in Africa. This is largely because Botswana is the world's second-biggest producer of diamonds, yet has only 2m people. Mineral wealth has ruined other countries. But Botswana has benefited from prudent economic policies, multiparty politics and fair elections.

Mr Khama, 65, a former general and the son of the country's founding president, Sir Seretse Khama, has much to be proud of. He has been down-to-earth, businesslike and courageous, decrying Robert Mugabe, the former president of his much beefier neighbour, Zimbabwe, when most leaders in Africa winked at his horrors. He refused to kowtow to China, inviting the Dalai Lama to visit (though in the end he did not). More to the point, Mr Khama balanced the books, even as diamond prices went up and down. Above all, he says he will obey the constitution, which limits him to two five-year terms.

Yet all is not well in Botswana. Mr Khama has become authoritarian and aloof, relying for advice on too narrow a circle of friends. His governments have failed to wean the economy off diamonds, which may run out within 30 or 40 years (nobody knows for sure) and are anyway becoming costlier to dig out. His fondness for the armed forces has led him to buy an unnecessary arsenal of fighter jets, tanks and armoured vehicles. He has overseen an excessively rigid visa regime, stemming the inflow of talent. Corruption has spread on his watch and the bullying Directorate of Intelligence and Security Services (DISS), run by his confidant, Isaac Kgosi, has become far too big for its boots.

Mr Khama's vice-president, Mokgweetsi Masisi, 54, a cerebral figure who once worked for UNICEF, the United Nations' children's agency, is a near lock to be endorsed by parliament as the new president. "He must step in fast to stop the rot and put the DISS back in its box," says a prominent businessman in Gaborone. An assistant minister from the ruling Botswana Democratic Party (BDP), which has run the show without a break since independence, fears there will be trouble if corruption persists. The opposition and the country's independent newspapers are calling for Mr Kgosi to be sacked as an early signal of good intent.

Mr Masisi has a year and a half until the next election. Last time round, in 2014, opposition parties won more votes than the BDP for the first time, but lost because they were divided. If the two main groups can unite, most likely under Duma Boko, an articulate Harvard-educated human-rights lawyer, they would have the best chance yet of displacing the BDP. "People are tired of 50 years of BDP rule," says Mr Boko.

If the BDP loses, it is assumed that it would graciously bow out. That is one democratic legacy for which Botswanans could then thank the Khama family.

This article appeared in the Middle East and Africa section of the print edition under the headline "Under the surface it's not all glitter"

Egypt's paranoid president

Ahead of a farcical election, Abdel-Fattah al-Sisi goes after the press

His tone has turned dark, with threats and talk of conspiracies

Print edition | Middle East and Africa Mar 8th 2018

ABDEL-FATTAH AL-SISI, Egypt's president, could not ask for a better mouthpiece than Khairy Ramadan, a talk-show host. When activists started a Twitter campaign to mock the president, Mr Ramadan proposed banning the social network. And like Mr Sisi he calls the revolution of 2011, when the previous strongman, Hosni Mubarak, was overthrown, a foreign plot.

But during his show on February 18th, Mr Ramadan talked of a police colonel who earns 4,600 pounds ($261) per month. To supplement his income, the colonel's wife sought work as a cleaner. Mr Ramadan, who confessed to having a "soft spot" for the notoriously brutal cops, wondered why they were paid so little. He can now ask them directly. Apparently seen as disrespectful, on March 3rd he was arrested.

Later this month Egyptians will go to the polls to re-elect Mr Sisi. The outcome is all but certain. Serious challengers were arrested or coerced into dropping their bids. His sole opponent, Moussa Mustafa Moussa, was dragooned into service hours before the registration deadline to avoid the embarrassment of a one-man race. Mr Moussa refuses to take part in a televised debate, calling it an unacceptable "challenge" to the president.

Yet on the eve of his victory, Mr Sisi seems fearful rather than confident. Egyptians whisper about palace intrigues, such as the sacking of Khaled Fawzy, the intelligence chief, who has not been seen since January. The reasons for his dismissal and apparent detention are unclear. Mr Sisi's tone has turned dark, with threats and talk of conspiracies. He often refers to the "forces of evil" arrayed against Egypt.

One of them is apparently a staid British broadcaster. The BBC caused an uproar when it aired a short documentary on torture and forced disappearances in Egypt. In response Nabil Sadek, the public prosecutor, vilified foreign journalists. The state suspended co-operation with the network (not that it was terribly co-operative in the first place). One of the alleged victims, Zubaida Ibrahim, was trotted out on local television to deny she was ever tortured. Then her mother was arrested. Her lawyer has vanished.

In the first years after the revolution, Egyptian journalists enjoyed a moment of freedom. But they closed ranks in 2012 after the Muslim Brotherhood was voted into office. Like much of the elite, journalists largely opposed the Islamist group. So the press broadly supported the coup in 2013 that brought Mr Sisi to power.

Predictably, it became his next target. Egypt consistently ranks near the top of countries in numbers of journalists imprisoned. Earlier this month two were arrested while preparing a report on Alexandria's historic tramway. Mr Sadek has ordered his staff to monitor the media and press charges against anyone who "harms national interests". Newspaper editors may be forced to attend indoctrination classes at a military academy. Though the constitution enshrines freedom of speech, criticism of the security services is off-limits. "Defaming them, legally, for me now equals treason," Mr Sisi said recently.

A growing number of journalists may actually work for the security services. Two satellite channels are run by former military-intelligence officers. In December a private-equity fund with links to the government consolidated its hold on several media outlets, including ONTV, a popular television channel, and *Youm7*, a widely read newspaper. Reporters Without Borders, a pressure group, said last year that it was worried about "the regime's domination of the media".

Mr Ramadan has been released on bail, though he still faces criminal charges. His detention sparked protest from even normally obedient members of the press. Criticism of the absurd election is surfacing, too. Last month Mr Moussa was interviewed by Lamis al-Hadidi, another television presenter. She asked whether his family would complain about his plans to spend 20m pounds on an election he cannot win. "You can withdraw before March 1st, so they won't be upset," she advised. Thankfully for her, Mr Moussa is not a police officer, merely a stooge running for president. Insulting him is no crime.

This article appeared in the Middle East and Africa section of the print edition under the headline "The paranoid president"

Saving asses

Africans want to sell donkey skins. Western charities want to stop them

Chinese demand for Equus africanus is booming

Print edition | Middle East and Africa Mar 8th 2018

BARINGO county, in Kenya’s Rift Valley, is a hard place. Water is short in the dusty bush, so businesses tend not to thrive. But one industry is booming. At the edge of Mogotio, a town of roadside shops, hundreds of donkeys graze along the road. They are waiting to be sold for slaughter at the local abattoir. Next to a lorry, a woman in a shimmering dress says she has brought 100 donkeys from Moyale, two days’ drive north. She expects to make several thousand dollars from the sale.

Across Africa, donkeys are used as beasts of labour. Most Kenyans turn up their noses at the idea of eating them. But Chinese entrepreneurs have opened a new market. In China donkey skins are used to make a gelatine, called *ejiao*, that is used as traditional medicine. The meat is also a delicacy. The abattoir in Baringo has been running for almost two years, slaughtering hundreds of donkeys a day to satisfy Chinese demand.

The slaughterhouse employs some 400 people. Isaac Kibengo says that he came from Kitale, 200km (125 miles) away, to work packaging skins. He gets health insurance, a housing allowance and about 20,000 shillings ($200) per month, a good salary in Kenya. “They even pay on time,” he says.

But the trade has also caused an outcry. The Donkey Sanctuary, a British charity, worries that the donkey population is falling in some African countries, that the animals are mistreated and that the trade is fuelling a rise in donkey theft. The Society for the Protection of Animals Abroad, another British charity, thinks it knows better than donkey owners what is good for them. “For a subsistence farmer in a country like Ethiopia...being offered the equivalent of £150 ($208), cash in hand, could seem like an offer too good to turn down,” it said. “But the long-term consequences of selling their means of generating an income are unthinkable.” Several African countries have banned the export of donkeys because of such concerns.

They might do better helping farmers increase supply to take advantage of a doubling in the price. To be fair, this is hard, since donkeys reproduce slowly. Yet it can be done. Some *ejiao* firms plan to replace imports with Chinese donkeys. Banning a trade that raises money for the poor makes asses of those who claim to speak for them.

This article appeared in the Middle East and Africa section of the print edition under the headline ”Saving asses”

Africa in the red

Increasing debt in many African countries is a cause for worry

Unfortunately the keenest borrowers are also feckless spenders

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"A FOOL'S bargain." That is how Idriss Déby, Chad's president, now describes the state oil company's decision to borrow $1.4bn from Glencore, an Anglo-Swiss commodities trader, in 2014. The loan was to be repaid with future sales of crude, then trading above $100 a barrel. But two years later, as the price dived, debt payments were swallowing 85% of Chad's dwindling oil revenue. For weeks schools have been closed and hospitals paralysed, as workers strike against austerity. On February 21st, after fractious talks, Chad and Glencore agreed to restructure the deal.

Chad's woes recall an earlier era, when African economies groaned beneath unpayable debts. By the mid-1990s much of the continent was frozen out of the global financial system. The solution, reached in 2005, was for rich countries to forgive the debts that so-called "heavily indebted poor countries", 30 of which were in Africa, owed to the World Bank, IMF and African Development Bank. With new loans and better policies, many of these countries turned their economies around. By 2012 the median debt level in sub-Saharan Africa (as defined by the IMF) fell to just 30% of GDP.

Today the median debt level is over 50% of GDP. That is low by international standards, but interest rates are generally higher for African countries, which collect relatively little tax. Economic growth slowed in response to lower commodity prices. As a consequence, there is much less revenue to service debts. The pace of borrowing has picked up. The IMF reckons that five sub-Saharan African countries are already in "debt distress", with nine more at high risk of joining them.

Lending to Africa surged after the financial crisis, when interest rates in rich countries sank to historic lows. Fund managers chased the high yields of African government bonds and the profits from a commodities boom. The biggest lenders to Africa had long been Western governments. But since 2006, 16 African countries have sold their first dollar-denominated bonds to foreign investors. Interest rates in the rich world remain low, so several countries are scrambling back to the market this year. Senegal's $2.2bn Eurobond was five times oversubscribed on March 6th.

Borrowing makes sense for poor countries if it finances things like roads, schools and hospitals, which improve welfare and support economic growth. But the keenest borrowers in Africa are also feckless spenders. Take Ghana, which racked up debt as it ran an average annual budget deficit of 10% from 2012 to 2016. When a new government entered office last year, it found a $1.6bn "hole" in the budget. The new chairman of the state cocoa board found that a $1.8bn loan meant to fund cocoa production in 2017 was "all gone".

Ghana got a three-year loan of $918m from the IMF in 2015, ensuring a degree of transparency. Commercial loans are easier to hide. In Mozambique, three state-owned companies borrowed $2bn in deals arranged by European banks. Most of this was done in secret. The proceeds were squandered on overpriced security gear and a bogus fleet of trawlers. An audit could not trace $500m. The once-buoyant economy sank and Mozambique defaulted on its debt last year.

Leveraged corruption

A study of 39 African countries from 1970 to 2010 found that for every dollar borrowed, up to 63 cents left the continent within five years. The money is often siphoned out as private assets, suggests Léonce Ndikumana, one of the researchers, based at the University of Massachusetts, Amherst. Some banks seem more interested in juicy fees than good governance.

China's involvement in Africa has made it harder to assess the situation. Countries such as Zambia and Congo-Brazzaville have taken out opaque loans from Chinese companies. Angola has borrowed more than $19bn from China since 2004, mostly secured against oil. Such loans often have built-in clauses to review repayments as prices fluctuate, says Deborah Brautigam of the China-Africa Research Initiative at Johns Hopkins University. But there is little precedent for restructuring Chinese loans. Nor is China a full member of the Paris Club, which co-ordinates the actions of creditors when things go wrong.

Though much of the money borrowed by states comes from foreign investors, some is provided by local banks. They find it easier to buy government bills than to assess the reliability of businesses or homebuyers. Moody's, a ratings agency, estimates that African banks' exposure to sovereign debt is often 150% of their equity. So a sovereign-debt crisis could fast turn into a banking one.

Disaster can still be averted in most African countries. Abebe Shimeles of the African Development Bank warns against sudden spending cuts, which would leave half-finished infrastructure projects to rust. Research from the IMF suggests that the least costly way to deal with fiscal imbalances in Africa is to raise meagre tax-to-GDP ratios, which have crept up by just a couple of percentage points this century.

Other proposals aim to make lenders share more risk with borrowers by, for example, linking interest payments to growth or commodity prices. Some suggest changing laws in America and Britain, where most debt is issued, so that countries are not liable for loans agreed to by leaders acting without due authority. Organisations such as the IMF could be more robust, speaking out early when countries seem to be in a downward debt spiral.

As it is, the costs of bad borrowing rarely fall on leaders or their lenders, which often makes politicians borrow (and steal) more. "It's the common man that actually bears the brunt," says Bernard Anaba of the Integrated Social Development Centre, a Ghanaian advocacy group. The people of Chad, now paying for Mr Déby's foolish bargain, would surely agree.

This article appeared in the Middle East and Africa section of the print edition under the headline "On the rise again"

Italy
The roots of Italy's discontent

Italy's discontent

Why the populists won

Jobs and migrants fuelled the revolt

Print edition | Europe Mar 8th 2018

THE populist earthquake experienced in Italy's general election on March 4th arose from deep fissures; none deeper than the eternal split between Italy's north and south. The success of the anti-establishment Five Star Movement (M5S), which took nearly a third of the overall vote to become the biggest party, resulted largely from the support it received in the neglected *mezzogiorno*,the south, where GDP per head is less than two-thirds of the national average and almost half of 15- to 24-year-olds are without a job. In Sicily every one of the seats decided on a first-past-the-post basis went to the M5S. That places its leader, Luigi Di Maio (pictured, right, with the movement's founder, the comedian Beppe Grillo), in pole position to demand the top job.

The results also reflected alarm, especially in the north, over uncontrolled immigration and its perceived effects on law and order. The campaign was held in the shadow of a drive-by shooting spree on February 3rd in the town of Macerata that left six African immigrants wounded. The far-right gunman, who had run for local office for the Northern League, said he was avenging the murder of a young woman for which three Nigerians have been arrested. In Macerata the League's share of the vote leapt from less than 1% at the 2013 election to 21%. Nationally, the League (it dropped the "Northern" to seek votes in the south) won 17%. That was three percentage points higher than the more moderate Forza Italia party of Silvio Berlusconi, a former prime minister. It allowed the League's combative boss, Matteo Salvini, to assume the leadership of the alliance in which the two parties had fought the election alongside two smaller ones. The conservative bloc won 37% of the vote. If it holds together it will be the biggest in parliament, giving Mr Salvini a strong claim to be prime minister too.

The marginalisation of the 81-year-old Mr Berlusconi highlighted another characteristic of the biggest rearrangement of the political landscape since he stormed onto the scene in 1994: like Brexit and the election of Donald Trump, it was a thundering rejection of the establishment. That was an arguably heartening result. A defect of Italian politics, especially in the south, has long been the role of patronage—voters offering support to local power brokers in the hope of jobs, contracts or welfare benefits tapped from the state. This time, millions of southerners voted instead for political novices committed to fighting graft. But in a time of austerity, the purveyors of Rome's largesse have little to offer. "I think some people in the south do want a land free of corruption," says Enrico Ponzone of Avisa Partners, a consultancy. "But I also think many worry about the capacity of the traditional intermediaries to supply state support and that the true appeal of the M5S was its promise of an unaffordable 'citizenship income'", a safety-net benefit for the jobless and poorest.

The humbling of the reformers

The centre-left Democratic Party (PD), the dominant partner in Paolo Gentiloni's incumbent coalition, took the worst drubbing. Its share of the vote, which had reached 41% at the 2014 European elections, collapsed to 19%. The PD's leader, Matteo Renzi, announced his resignation, but postponed his departure till after the formation of a new government, a position he was soon forced to reverse.

Outside Italy, the election was inevitably seen as a rejection of the EU and its single currency. Discontent certainly exists, and for at least three reasons. There is a widespread feeling that Italy has been left by its EU partners to deal with immigration on its own. The economy has stagnated since Italy entered the euro, so that Italians' GDP per head today is lower in real terms than it was in 2000. And their politicians have heaped all the blame for slow growth on the EU's austerity policies rather than the lack of structural reforms to boost productivity. But while the M5S and the League propose ignoring the euro zone's 3% budget deficit cap to try to bolster growth, their leaders have both said they believe now is not the time to withdraw from the single currency.

Whether either will govern Italy will depend on the outcome of the negotiations that will now take place. The effect of the vote is ironic. The new parliament, like the old one, will comprise three big blocs, none with a majority. Hitherto, it has been the M5S that sat between right and left and, by refusing to deal with the mainstream parties, forced them to co-operate to ensure the country could be governed. Now it is the devastated PD that occupies the middle ground and can offer the support needed for control of parliament. It would not necessarily join a coalition, but could provide external support for a minority government. So it is the PD—not, as widely expected before the vote, Mr Berlusconi—that is the post-electoral kingmaker, though exercising that power could split the already disunited party.

Mr Renzi's initial response was to rule out deals with "extremists" or "anti-systemic forces", which would seem to scotch a pact with either strand of Italian populism. But some in his party would contemplate a deal with the M5S, a movement that espouses pacifism and environmentalism, and contains many former civil-society activists. Refusing to co-operate with either side might force Italy's president, Sergio Mattarella, to try to build a grand coalition or call new elections. But it would also increase the chances, albeit slim, of a pact between the M5S and the League.

Mr Salvini has ruled out "weird coalitions". Mr Di Maio, however, said he was open to discussion with all sides (in the past M5S has ruled out deals). Of all the possible two-party coalitions, a partnership of the populists would not only have the most solid parliamentary majority but also, according to a comparison in *Il Sole-24 Ore*, a financial daily, the highest level of overlap between the policies of its component parties. A deal with the League, however, could well tear apart the M5S and enrage its southern voters, who recall that not so long ago Mr Salvini's party exuded contempt for the *mezzogiorno*. Rebuilding Italian politics after the earthquake of March 4th will be long and hard.

This article appeared in the Europe section of the print edition under the headline "The roots of Italy's discontent"

Mrs Merkel goes fourth

A new coalition in Germany

After almost six months

Print edition | Europe Mar 8th 2018

BEFORE the result in Germany of the Social Democrats' (SPD) vote on joining a new grand coalition was announced on March 4th, Dietmar Nietan, the party's treasurer, voiced his thanks to some 120 members who had helped count the votes in overnight secrecy. Cheers and applause echoed around the atrium of the SPD headquarters in Berlin. Then came the result. Of the 363,000 eligible votes cast by members of the party, over 66% were for joining a new "Groko" government. That produced a stony silence, saying something of the ambivalence with which Germany's oldest party entered its third government with Angela Merkel's Christian Democrats (CDU) and the Christian Social Union (CSU), their Bavarian sister party, since 2005.

Both the CDU/CSU and the SPD obtained record-low vote shares at Germany's election in September, after which the latter announced it was going into opposition for a spell of reflection and renewal. But the failure of coalition talks between the CDU/CSU, the liberal Free Democrats and the Greens in November forced the reluctant centre-left party back into negotiations. The outcome means Mrs Merkel will be reappointed chancellor for a fourth term on March 14th, an unprecedented six months after the election. It is expected to be her last.

The price she paid was extensive SPD influence over both the coalition programme and her cabinet. Among the new government's priorities are increased public investment on things like infrastructure and child care, and tightening rules on short-term job contracts. It calls for closer integration of the euro zone in co-operation with France, including the transformation of the European Stability Mechanism (the EU's economic crisis firewall) into a stronger European Monetary Fund. The SPD also takes the powerful finance ministry, held from 2009 until last autumn by the CDU's formidable Wolfgang Schäuble.

In return the CDU gets the economics and energy ministry (which goes to Peter Altmaier, the acting finance minister) and keeps both the defence ministry (still under Ursula von der Leyen, another Merkel loyalist) and the health ministry (which goes to Jens Spahn, a critic of the chancellor). Horst Seehofer, the conservative leader of the CSU, retains an interior ministry, now expanded to include "homeland" matters like immigrant integration. The only big question is which SPD figure will take the foreign ministry. It had been earmarked for Martin Schulz, the outgoing SPD leader, but following his withdrawal from top-level politics Heiko Maas, currently the justice minister, is now expected to get the key job.

Another part of the price of SPD participation in the new government was a commitment to more open disagreements and even a thrice-yearly "chancellor's questions" session in the Bundestag. The idea is to make German government more lively and make political differences clearer. On hand to help with that is the right-wing Alternative for Germany party, which now becomes the country's largest parliamentary opposition party. The position conveys no formal privileges, but the AfD's prominence seems certain to inject a new degree of drama into Germany's previously sleepy parliament.

This article appeared in the Europe section of the print edition under the headline "Mrs Merkel goes fourth"

Baltics beware

Russia's conventional forces outgun NATO near its borders

The Atlantic alliance is ill-prepared to deter Russian aggression

Print edition | Europe Mar 8th 2018

BOASTING about nuclear weapons is something Vladimir Putin clearly enjoys. In his annual state-of-the-nation speech on March 1st, he listed five new weapons. Russia's president gave pride of place to the development of a nuclear-powered cruise missile with, in effect, unlimited range, which was guaranteed to thwart America's missile defences (see article). He got the headlines he wanted, though there is nothing new about Russia being able to devastate America with nuclear weapons, nor anything likely to change on that front. What should concern Europe more than Mr Putin's nuclear sabre-rattling are the formidable conventional forces that Russia is steadily building up, particularly in the Baltic region.

On most measures, NATO appears comfortably ahead of Russia. Between them, America and its European NATO allies spent $871bn on defence in 2015, compared with Russia's $52bn. But as a recent report by the RAND Corporation, a think-tank, argues, the reality on the ground is rather different. It finds that Russia would now enjoy significant local superiority in any confrontation with NATO close to its own border. NATO's latent strengths, once they were brought to bear, would be too much for Russia to cope with. But in the early stages of a conflict, for at least the first month and possibly for a good deal longer, the alliance would find itself outnumbered, outranged and outgunned.

Since Russia's invasion of eastern Ukraine in 2014, NATO has bolstered its forces in the Baltic region with what it calls its "enhanced forward presence". By last summer, the alliance had a total of 4,530 troops near the border with Russia in four battlegroups led by Germany (in Lithuania), Britain (in Estonia), Canada (in Latvia) and the United States (in Poland). But, in accord with the 1997 NATO-Russia Founding Act, an anachronistic agreement that reflected a more optimistic time, the soldiers are not permanently based, but constantly rotate.

NATO has also beefed up its "very high readiness joint task-force" of about 5,000 more troops who can be deployed within a week. But it admits that neither force is more than a tripwire to convince Russia that any attack on them would be seen as an attack on the alliance as a whole.

Over the past decade, Western forces and their Russian counterparts have diverged in terms of capability. NATO members adjusted for counter-insurgency operations in places such as Afghanistan by restructuring with light expeditionary forces. Russia concentrated on rebuilding forces with the mobility and firepower to wage high-intensity warfare against a peer adversary. As part of a comprehensive effort at military reform following a disjointed performance in the war against Georgia in 2008, Russia has professionalised its forces (largely relegating conscripts to a second echelon), equipped them with modern heavy weapons, and honed them with frequent large-scale exercises and combat experience in Ukraine and Syria.

What worries NATO commanders, such as General Sir Nicholas Carter, chief of Britain's general staff, and his American opposite number, General Mark Milley, is the sheer amount of combat power Russia can concentrate at very short notice in the Baltic region. RAND found that in main battle tanks, Russia would outnumber NATO by 5.9 to 1; in infantry fighting vehicles by 4.6 to 1; in rocket artillery by 270 to none. And while NATO would enjoy a substantial advantage in combat aircraft, their effectiveness would be greatly reduced when faced with the world's most powerful integrated theatre air defences.

Russia's edge over NATO, says Ben Barry of the International Institute for Strategic Studies, is increased by its ability to use its internal lines to reinforce at speed. By contrast, NATO has neglected to preserve its cold-war military-transport infrastructure. Bridges cannot take the weight of tanks, and rail systems are not designed for trucks carrying heavy armour.

There is plenty that NATO could do to enhance conventional deterrence. It could permanently station forces in the Baltic region with more hitting power; it could hold regular large-scale short-notice exercises; it could invest in strengthening its internal lines; individual member countries could do more to meet their spending obligations and use the money to restructure their ground forces for high-intensity conflict.

Whether NATO is capable of such focus is debatable. Its southern members worry more about refugee flows; France is fighting an insurgency in the Sahel; Germany's new coalition agreement relegated the (wretched) state of its armed forces to page 156 of a 177-page document. Mr Putin's priorities are very different.

This article appeared in the Europe section of the print edition under the headline "Outgunned"

Gangs of Stockholm

Why are young men in Sweden shooting each other?

Young men with Kalashnikovs have upset the Swedish sense of security

Print edition | Europe Mar 8th 2018

IT WAS supposed to be a sneaky afternoon cigarette break. Then a gunman in black appeared and shot 15-year-old Robin Sinisalo in the head. His older brother Alejandro was shot four times. Robin died immediately on the doorstep of his home in north-west Stockholm. Alejandro was left in a wheelchair for life. Two years later, the boys' mother, Carolina, says the police still have no leads.

Robin's fate is increasingly common in Sweden. In 2011 only 17 people were killed by firearms. In 2017 the country had over 300 shootings, leaving 41 people dead and over 100 injured. The violence mostly stems from street gangs running small-time drug operations in big cities such as Stockholm, the capital, Malmö and Gothenburg. Gang members have even used hand grenades to attack police stations. Between 2010 and 2015, people were killed by illegal firearms at the same rate as in southern Italy. Though Sweden is still a relatively peaceful place, this is worrying.

Gangs are nothing new: bikers and Balkan mafiosi have traded drugs and occasional bullets in Sweden since the early 1990s. But the gangs emerging today are less organised and more prone to commit petty crime. Acquiring a legal gun requires strict screening, but Kalashnikovs from the Yugoslav wars are readily available on the black market. To sweeten the deal, smugglers often throw in hand grenades (there were 43 grenade incidents in Sweden last year). The victims and perpetrators of gang violence are nearly always young men.

How to explain the rise of gang violence? It cannot be the economy, which is doing well, or Sweden's quality of life, which is among the best in the world. And crime in general is in decline. So what has gone wrong?

Some blame the refugee crisis of 2015, when Sweden took in the most asylum-seekers per capita in Europe. But shootings with illegal guns have been rising since the mid-2000s. Most gang members are indeed first- or second-generation immigrants—72% of them, according to one report, but they tend not to be new arrivals. It takes years for migrants to be settled enough to be sucked into crime, says Amir Rostami of Stockholm University. Sweden accepted lots of asylum-seekers in the 1980s and 1990s from countries like Iraq, Somalia and the former Yugoslavia.

Sweden built them homes and taught them its language, but it failed to integrate them into the labour market. The Swedish welfare system offers good education and generous benefits. But for immigrants there is little social mobility. Powerful unions insist on high wages for entry-level jobs, so firms often find it uneconomical to hire immigrants with limited education or not much Swedish. Today, 16% of people born abroad are unemployed—one of the highest rates in the OECD. Gangs offer frustrated young men an alternative. "They let you feel like a king, even if for one day," says Mr Rostami.

Alarmed, the government has provided additional funding for integrating migrants, imposed harsher punishments for gun crimes and granted a weapons amnesty. Police have stepped up surveillance and co-operation with other European countries to curb weapons-smuggling. In January the Swedish government set up a centre to combat violent extremism.

Still, witnesses are scared to talk and the police are stretched. Not one firearm-homicide case in Stockholm was solved in 2016. The government hopes to turn that around: police wages have been bumped up, and officers who left during a reorganisation three years ago (which coincided with a rise in crime) have been re-hired. Preliminary results for 2017 show that the clear-up rate for firearm murders has risen to a (still woeful) 30% in Stockholm. But over 100 cases remain unsolved.

Swedish politicians can no longer ignore the problem, especially so close to an election in September. Carolina Sinisalo has toured Sweden to raise awareness of gun violence. She says she thinks about moving elsewhere every day, "but this was Robin's home. I can't leave".

This article appeared in the Europe section of the print edition under the headline "Gangs of Stockholm"

Mind the gap

France’s new labour problem—skills shortages

After years of unemployment, a push on training

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FOR nearly a decade the French have grown used to living with roughly a tenth of their workforce out of a job. Any glimpse of an improvement in unemployment figures usually makes headlines. François Hollande, the previous president, regularly claimed to have spotted an imminent downturn in the jobless rate, only for it to prove illusory. So what seems to be happening in the French labour market now feels rather unfamiliar: there are lots more jobs, but a growing shortage of qualified people to fill them.

France’s unemployment rate fell to 9% in January, a rate which, though still almost as high as Italy’s, is better than it has been for ten years. In 2017 some 200,000-330,000 job offers went unfilled, mostly for lack of suitable candidates, according to Pôle Emploi, the French government’s jobseekers’ service. Last year employers judged nearly two-fifths of recruitment “difficult”, an average that masked far greater trouble in certain sectors. The agency reported problems filling 84% of jobs for machine operators, 80% for carpenters, 65% for butchers, and 63% for computer engineers. “Significant difficulties” have appeared in France (as in Spain), “despite high unemployment”, notes Patrick Artus, chief economist at Natixis, a French bank.

The good news is that France is at last creating more jobs. This is partly thanks to a broader economic recovery in the euro zone. After years of torpor, growth in GDP in France should reach 2% in 2018. Hiring has also been encouraged by President Emmanuel Macron’s labour reform, passed last September, which lowers the risk to employers by simplifying redundancy procedures. The bad news is that a skills gap may now be opening up, which could put upward pressure on wages and limit how far unemployment will fall. Poor skills, as Mr Artus points out, are the main explanation for a high level of structural unemployment in OECD countries.

Mindful of this, Mr Macron’s labour minister, Muriel Pénicaud, this week unveiled what she called a “big bang” reform of France’s training schemes, to try to plug the skills gap. France currently spends a hefty €32bn a year on state-mandated training schemes, mostly run and controlled by employers and unions. But these are often of poor quality and are badly focused. Fully 62% of this sum is spent on those who already have jobs; only 14% goes on the unemployed.

Now, says Ms Pénicaud, an extra €15bn will be spent on the unemployed and the young over five years, and the wider system overhauled. Central government will take control of organisation and hand choice to individuals, through a “personal training account”. This will be credited each year with €500-€800 per person. Both those in and out of work will be able to book, and rate, training courses using their personal credits on a smartphone app, “like TripAdvisor”, said an adviser.

It is an ambitious project. Courses will have to be accredited, to avoid people using credits for hobbies. (A similar British scheme in the 2000s was abandoned because of widespread fraud.) “This is not about taking macramé classes,” said an adviser. One helpful factor is that France already has the financing structure in place through an existing payroll levy which will pay part of the cost, notes Ludovic Subran, chief economist at Euler Hermes, a credit insurer. If it can create an internal market in training schemes, it may be able both to improve quality and control costs. The main difficulty will be managing those who stand to lose their gatekeeping role, both firms and unions. Mr Macron’s method, protested Laurent Berger, leader of the moderate Confédération Française Démocratique du Travail union, is: “You discuss, and I decide.”

This article appeared in the Europe section of the print edition under the headline ”Mind the gap”

Charlemagne

Why Germany's new government is not about to go soft on the euro

Italy's depressing election will not help

Print edition | Europe Mar 8th 2018

FOR nearly half a year serious business in the European Union has been on hold as Germany struggled to cobble together a government. On March 4th the waiting came to an end when the centre-left Social Democratic Party declared that its members had voted two-to-one to rejoin Angela Merkel's conservative Christian Democrats (CDU) in coalition. The sighs of relief in Paris and Brussels were almost audible. Yet inside the Willy Brandt Haus, the SPD's Berlin headquarters, the mood was distinctly flat. So divisive had the issue been that party apparatchiks agreed in advance to mute their reactions to the result. The SPD has secured juicy ministries and all sorts of policy concessions from Mrs Merkel. But announcing the news on Sunday, Olaf Scholz, the SPD's acting chairman and the presumed next finance minister, displayed all the enthusiasm of a funeral celebrant on Xanax.

That reflected the deep ambivalence of a wounded party towards renewing an arrangement that since 2013 has squashed its identity (and its vote share). It might also serve as a warning for foreigners who expect the SPD to inject a dash of vigour into Germany's European policy. EU officials speak of a window of opportunity for reforms opened by Emmanuel Macron's election in France, a sprightly economic upswing and the unfamiliar absence of crisis. Their hopes were further elevated by a SPD-CDU coalition agreement apparently infused with Europhilia, its first chapter titled "A new departure for the EU". The red lines outsiders had come to expect from Germany on matters like risk-sharing in the euro zone seemed conspicuously absent.

But officials from both German governing parties are at pains to lower outsiders' expectations about what might be achieved, and then to lower them more. On the euro zone, Mr Macron's dreams of whopping budgets and an all-powerful finance minister have already been shelved, at least for now. Instead difficult, grinding negotiations lie ahead on matters like reforming the euro zone's bail-out fund and creating automatic mechanisms to restructure the debt of troubled countries. Even completing the banking union, a project that EU officials once thought was straightforward, looks tricky. Proposals for a cross-national deposit-insurance scheme, appears to sceptical Germans like a ruse to raid the pockets of the frugal to prop up the profligate.

If such discussions have a whiff of 2011 to them, that is the point. The first phase of the euro crisis receded in 2012 when Mario Draghi deployed the monetary guns of the European Central Bank, but it left deep mistrust in Germany towards other countries and the EU institutions. "Beyond small circles in Berlin, no one in Germany talks about Europe," says Sebastian Dullien, an economics professor at Berlin's University of Applied Sciences. The EU barely featured in last year's election campaign.

Nor did the SPD's bigwigs see it as a way to mobilise support for the coalition deal they were pressing on their members. The party's quest to regain relevance will begin at home; Mr Scholz, who will take office next week when the coalition is sworn in, will begin the job with a fiscal surplus to manage. For all its fine words, the coalition deal is vague on Europe but specific on domestic spending commitments. Beyond a promise to stop hectoring other governments, Mr Scholz shows little sign of devoting political capital to tricky European debates. His powerful ministry, which drove German policy during the euro crisis, has suspicion of spendthrift foreigners coursing through its corridors.

Even so, the Germans recognise that, in Mr Macron, for the first time in years France has a president both energetic and clearly pro-European. The shuttle diplomacy between Paris and Berlin will intensify in the weeks ahead, culminating in joint proposals on euro-zone reform and other matters, such as tax harmonisation, before an important EU summit in June. Yet in some corners of Berlin there is a growing concern about Mr Macron's intentions. Some German officials fear his push for a "multi-speed" Europe risks widening the EU's east-west fractures. Others wonder if his calls for a European intervention force are simply a way to place German money at the service of French soldiers. Such attitudes will inevitably colour the euro-zone debate.

The road to Rome

Who might be the casualties of this approach? For an answer turn to Italy, where the messy outcome of last week's election means that no government is possible without either the anti-establishment Five Star Movement or the right-wing Northern League. Both parties have toyed with the idea of quitting the euro. Put this to EU or German officials, and they say they are used to Italian caprice. Whichever chancer emerges as prime minister will soon moderate rash pledges under pressure from other leaders and the markets, just as Greece's hard-left government did. Investors seem to agree; Italian bond yields shrugged after the election.

This smacks of complacency. The Eurosceptic turn in Italy is partly explained by the country's dreadful economic stagnation, and high unemployment, especially among the young; the single currency makes for an obvious scapegoat. Italy's banks are weak and its debt burdensome. It is badly placed to weather the next crisis, especially if the ECB fulfils its pledge to end bond-buying later this year. Italians have plumped for political rupture under relatively benign conditions. A financial shock from China or elsewhere could do real political damage there.

One danger is that the disarray in Italy will make euro-zone reform even harder. A second is that Italy will be excluded from Franco-German talks. France's interests sometimes align with Italy's, but Mr Macron will not die on a hill for the right of Italian banks to keep dodgy loans. A deal cooked up elsewhere would feed Italian populists' claim that they are only ever on the receiving end of EU diktats. The point about the Franco-German tandem is that it is supposed to pull everyone else along. It doesn't work if the passengers are veering off in different directions.

This article appeared in the Europe section of the print edition under the headline "Trouble for the tandem"

A Russian spy mystery
Whodunnit?

Whodunnit?

In Britain's Russian spy mystery, clues point to Moscow

But disentangling the Russian state from its criminal freelancers may prove hard—and responding harder still

Print edition | Britain Mar 10th 2018

WHEN Sergei Skripal left Russia in 2010, his fate seemed to have taken a bright turn. As part of a prisoner exchange with Britain and America, the MI6 double agent swapped a Russian jail cell for suburban life in Wiltshire. Having been pardoned in Moscow and debriefed in London, he appeared destined for a quiet retirement. But on March 5th he and his daughter, Yulia, were found unconscious on a park bench in Salisbury. As we went to press they lay in a critical condition, the victims of what police identified as a nerve agent. A police officer among the first to attend the scene was also hospitalised.

Though the investigation is in its infancy, suspicion has fallen on Russia. The case has drawn comparisons to the murder of Alexander Litvinenko in London in 2006. Litvinenko, a Russian spy turned critic of Vladimir Putin, died after drinking tea laced with polonium-210, a radioactive substance. An official inquiry later found that his murder had "probably" been approved by Mr Putin. On March 6th Boris Johnson, the foreign secretary, called Russia a "malign and disruptive force". Russia has denied involvement in the Skripals' poisoning, accusing Britain of leading an anti-Russian campaign.

Investigating the crime, and calibrating a response, will be made more difficult by the blurred distinction between acts carried out by the Russian state and those carried out by people acting in its name. Since the Litvinenko killing, Russia's aggressions—against domestic opponents, adversaries in Ukraine and in Syria, or Western democracies online—have increasingly relied on freelancers interpreting impunity as an instruction.

The murder in 2015 of Boris Nemtsov, a Russian opposition leader, was carried out by Chechen assassins, probably acting in the service of Ramzan Kadyrov, the Chechen strongman. The invasion of eastern Ukraine was led by a former Russian intelligence officer (and aficionado of historical battlefield re-enactments), who gathered an informal army. The operation was at least partly financed by a Russian billionaire who had been facing embezzlement charges in Moscow.

Some of the men who fought in Ukraine resurfaced in Syria, in a mercenary force known as the Wagner group, which recently clashed with American troops. The group is believed to be financed by Yevgeny Prigozhin, a catering baron known as "Putin's chef". He has also been indicted in America for running a troll farm that meddled in the 2016 election.

The fog around who is responsible for such attacks allows Mr Putin to deny the Russian state's involvement, while benefiting from the fear they sow. When soldiers with no markings—the so-called polite men—turned up in Crimea, Mr Putin initially denied they were Russian troops. The double-dealing was summed up by Sergei Shoigu, his defence minister, who said: "It is hard to search for a black cat in a dark room, particularly if it is not there. Especially if this cat is smart, brave and polite."

The reappearance of the black cat on British soil has prompted tough talk from politicians. Some are keen to compensate for the feeble response to the Litvinenko murder. Despite the use of radioactive material to assassinate Litvinenko in central London, Britain did not recall its ambassador to Moscow. John Reid, the home secretary at the time, initially resisted pressure for an official inquiry into Litvinenko's death, offering six reasons for delaying, including public expense and the risk to business.

Russia may have inferred from that episode that it had little to lose by unleashing violence. "There's a perception at the moment in Russia that Britain is unlikely to bring about sanctions that hurt—sanctions on money and oligarchs and their families—because Britain needs the money and will need it even more post-Brexit," says Mark Galeotti of the Institute of International Relations Prague, a research outfit.

Perhaps trying to shake off this perception, Theresa May, the prime minister, gave a fiery speech late last year accusing Mr Putin of "weaponising information" to sow discord in the West. Influential MPs are pushing for Russian diplomats to be expelled, oligarchs' Mayfair mansions to be seized and their children barred from British schools.

Some of this is easier said than done. Britain has already gone further than most countries in trying to force transparency on shell companies and property. In 2016 it was the first country to set up a public register of companies' beneficial owners, and it has plans to do the same for foreign owners of property. Unexplained Wealth Orders, which came into force in January, require rich people to explain the source of their assets. Last year Parliament passed a diluted version of America's Magnitsky Act, which lets police seize the assets of human-rights abusers. The measures are aimed primarily at Russia. Yet Mr Putin's cronies are experts at covering their tracks, using proxies to stay several steps removed from their assets. And a crackdown on rich, crooked Russians in London would hit as many of Mr Putin's enemies as friends.

Like most countries in the West, where the licence to exert force tends to be centralised and the security services accountable to public scrutiny, Britain still sees Russia as a state adversary, not as an informal network of people with access to lethal substances and weapons. The blurring of lines between Russia's government, security apparatus, business and criminal worlds makes it a more complex and dangerous opponent. It is worrying that Mr Putin may have ordered another murder on British soil. The bigger worry is that he did not.

Correction (March 15th 2018): *The original version of this article implied that Theresa May was home secretary when Alexander Litvinenko was poisoned in London in 2006. In fact it was Labour's John Reid. Mrs May was Tory home secretary during the public inquiry into the poisoning ten years later.*

This article appeared in the Britain section of the print edition under the headline "Whodunnit?"

Thanks but no thanks

The EU rejects Theresa May's "pick 'n' mix" Brexit plan

Britain's trade proposal is dismissed in Brussels as more cherry-picking

Print edition | Britain Mar 8th 2018

IF THERESA MAY had hoped that the EU would respond positively to the conciliatory tone that she took in her speech on March 2nd outlining Britain's desired future trading relationship, she did not have to wait long to be disappointed. Five days later Donald Tusk, president of the European Council, issued draft guidelines for the forthcoming trade negotiations that flatly rejected her central proposal.

Mrs May had put forward the idea of "managed divergence" from the EU's rules, in exchange for sector-by-sector access to its single market and to EU regulatory agencies such as those for medicines, chemicals and airlines. The draft guidelines dismiss this as cherry-picking that would undermine the single market.

Mr Tusk derided it as a pick 'n' mix approach. He insisted that, because of Mrs May's red lines of leaving the EU's single market and customs union, stopping free movement of people and escaping from the European Court of Justice, the only plausible option was a free-trade deal similar to Canada's. He suggested it should be ambitious and cover all goods, but be more limited for services (also implying it will not cover financial ones). It would not be possible, he argued, for Britain to combine the benefits enjoyed by Norway, which is outside the EU but in its single market, with the limited obligations of Canada.

This dusty response contrasted with the praise for Mrs May's speech from all sides of her Tory party in Westminster. Iain Duncan Smith, a hardline Brexiteer, was cheered when he declared that cake was for eating and cherries for picking. Anna Soubry, a pro-European, was just as warm, saying there was no doubting the prime minister's determination to get the best deal for her country. Yet the problem for Mrs May is that she cannot simultaneously unite her cabinet and MPs while satisfying the demands of her EU partners.

Why are the Europeans taking such a tough line on trade? One reason is that, despite Mrs May's promises to observe the EU's rules on state aid and competition, and to align with many of its regulations, European leaders fear that a post-Brexit Britain might seek a competitive advantage by undercutting EU standards. A second is doctrinal. The EU thinks that granting Britain sectoral access to the single market, bolstered by some mutual recognition of standards, would undermine the entire ecosystem of the market, which must be taken as a whole. Mujtaba Rahman of the Eurasia Group, a consultancy, says the EU worries that, if Britain gets a special sector-by-sector deal, other countries (perhaps including some current EU members) might then demand the same treatment.

Then there is the unsolved problem of the border between Northern Ireland and the Irish Republic. In her speech Mrs May recognised that Britain had a responsibility to propose some way of avoiding a hard border. But the EU thinks her vague talk of a customs arrangement and of technological solutions would not do this, which is why it has proposed keeping Northern Ireland in a regulatory and customs union instead. The prime minister's suggestion this week that the border between Canada and the United States might be a model did not go down well, as this would imply precisely the physical infrastructure, checks and controls that all sides promise to avoid.

British officials think that, by insisting on little more than a Canada-style agreement, the EU is being too rigid and legalistic. Yet the single market is above all else a legal construct. So it is not surprising that Mr Tusk's draft guidelines should be so hostile to the concepts of regulatory divergence and mutual recognition with non-members. European lawyers also note that full or even associate membership of most of the single market's regulatory agencies is impossible for countries that are in neither the EU nor the linked European Free Trade Association.

Even so, the British argument to be a special case has some merit. Mrs May herself pointed out that all free-trade deals are bespoke, so they include elements of cherry-picking. Britain is unique in starting from a position of applying all single-market rules. The Norway/Canada contrast cuts both ways. What the EU is offering Britain may combine the trade benefits of Canada with many of the obligations of Norway, such as limits on state aid and pro-competition rules. And, as Philip Hammond, the chancellor, said in a speech soon after Mr Tusk published his guidelines, both sides would benefit from mutual trade in financial services. He even hinted that Britain would reject any trade deal that did not include them.

The big hope for Mrs May is that the EU's 27 other members do not stay united. Several countries fret about losing access to the large British market. David Davis, the Brexit secretary, has been visiting national capitals to exploit this fear. Yet as Stefaan de Rynck, an EU negotiator, said in London this week, unity has been surprisingly strong. It worked during the Article 50 divorce negotiations last year. Ireland is relying on it to back up its efforts to avoid a hard border. Mr de Rynck says even countries that sell a lot to Britain believe preserving the single market is more important.

Mr Tusk's draft guidelines are due to be approved at an EU summit on March 22nd-23rd. Neither side wants a big row there, when Mrs May is also likely to secure agreement in principle on a transitional period to avoid a cliff-edge Brexit in a year's time. But there are only six months left to draw up the outlines of a trade deal. Unless she redraws her red lines, which the EU says would produce a more generous offer, the deal is unlikely to be a lot better than Canada's. And if she does redraw them, that would destroy the fragile consensus within her party. No wonder she failed to answer a post-speech question from a German reporter, who asked if Mrs May still thought Brexit was worth it.

This article appeared in the Britain section of the print edition under the headline "Thanks, but no thanks"

Prince Charm-offensive

Saudi Arabia launches a charm offensive in Britain

Prince Mohammed bin Salman aims to change people's image of the kingdom

Print edition | Britain Mar 8th 2018

THE habitual reaction was to shy away. Saudi Arabia's princes used to shrink from Britain's press like women in purdah. A critical BBC documentary prompted King Khalid to cancel a trip to Britain in 1980. Royal visits, after all, were hunting season, rich in opportunities to bash the kingdom. "Truth about the savage House of Saud," roared the *Daily Mirror* during the late King Abdullah's visit in 2007, arguing that flags should hang at half-mast "in shame" to receive a monarch who "squandered [his wealth] on whores, palaces and private jets". The Saudis responded with silence. Eliciting a "no comment" was an accomplishment. Everything was banned in the kingdom—journalists most of all.

By contrast Mohammed bin Salman, the young Saudi crown prince who began his first official visit to London on March 7th, has ordered a PR blitz. Bright young Saudi graduates of Western universities staff the ranks of a new Centre for International Communication in Riyadh. Ministries have press offices for the first time. The three-day London trip includes a "celebration of culture" showcasing Saudi art, music and film, forms of expression that in the old kingdom might have merited a lashing. Saudi lobbyists have taken out ads in the papers (including this one) and placed billboards hailing "the united kingdoms" along London's arteries. Pop-up ads litter the internet with portraits of the young prince, claiming that he is "empowering Saudi Arabian women".

The charm offensive is an uphill battle. Protesters again made their voices heard, particularly on Saudi Arabia's bombing of Yemen, which was loudly denounced by a modest crowd outside Downing Street. Jeremy Corbyn, the Labour Party leader, again called for Britain's arms sales to Saudi Arabia to be suspended. Many of the papers that ran the kingdom's ads published critical editorials alongside them.

But Theresa May's Brexit-bound government cannot afford to upset prospective trade partners. British defence firms have done £4.6bn ($6.4bn) of business with Saudi Arabia since the kingdom began its bombardment of in Yemen in 2015. The London Stock Exchange is vying to handle the flotation of Aramco, the national oil company, which could be the world's biggest. Downing Street said the two countries were eyeing £65bn of "mutual trade and investment opportunities" in "the coming years".

British diplomats in the kingdom sometimes chide journalists for widening the gap between the reality of life in Saudi Arabia and the country's bloodthirsty image. Under Prince Mohammed, the kingdom has improved access for journalists and expanded personal freedoms, particularly for women. But it still flinches at anything other than a fawning press. It excludes reporters for making unfavourable documentaries and muzzles local naysayers.

The prince's personality cult dominates roadside billboards and the airwaves. The chattering classes, who once loudly complained, now switch off their phones and whisper. Plainclothes policemen pretend to take selfies, while filming café gossip. And opinion-makers risk arrest not just for criticising the prince, but for failing to tweet government talking-points, according to some who have fled or been jailed. While the PR campaign goes on in Britain, Saudis are getting the charm offensive too, only sometimes minus the charm.

This article appeared in the Britain section of the print edition under the headline "Prince Charm-offensive"

Payback time

Britain's EU migrants get a first chance to vote since the referendum

Watch out, Theresa May

Print edition | Britain Mar 8th 2018

A SIMPLE misunderstanding almost stopped Nafsika Butler-Thalassis's political career before it started. "I hadn't actually realised I could stand," says Ms Butler-Thalassis, a Greek national who is running to be a Labour councillor in Westminster. Brexit provided a swift, if unwelcome, education for Britain's 3m EU migrants about what rights they enjoy. Local elections taking place in parts of England in May will be their first chance since the Brexit vote to vent their feelings at the ballot box.

A million votes from EU nationals are up for grabs, according to the Liberal Democrats. About 400,000 of them are in London, where nearly all seats are up for election and several councils are expected to change hands. In Westminster, which Labour hopes to win from the Conservatives for the first time in the borough's history, nearly one in five residents comes from elsewhere in the EU. Their votes could prove crucial.

But winning them over may not be easy. Unlike Commonwealth and Irish citizens, EU nationals cannot vote in general elections. When canvassing, the first task is to convince them that they are eligible to vote in local ones, says Ms Butler-Thalassis: "The first thing they say is, 'I can't vote'." The fact that a Greek is standing for election soon convinces them that they can, she adds.

Wider campaigns encouraging European migrants to vote have begun. The 3 Million, which lobbies for the rights of EU citizens in Britain, is to launch a registration push. The Lib Dems have released videos in 21 languages, with foreign MEPs imploring their countrymen to turn out.

In London, which voted heavily for Remain, campaigns are a mish-mash of macro-concerns about Britain's future outside the EU and micro-moans about parking and planning. Labour's Brexit policy of constructive ambiguity is replaced in the capital by full-throated support for the bloc. In Hammersmith, where 19% of the population are EU nationals, the Labour leader of the council poses with an EU flag on the council's website. Conservative-led councils have strained to distance themselves from the Tory government, declaring that EU migrants are not "bargaining counters".

A small swing could make a big difference. In local elections, with their low turnout, a few hundred votes can change the make-up of a council, points out Gareth Roberts, who leads the Lib Dems in Richmond. Only 39% of people voted in London's most recent local ballots, in 2014. In Westminster turnout was 32%. With the rights of EU nationals after Brexit still to be decided, "this could also be their last opportunity" to vote, Mr Roberts adds. The clout of European migrants will ultimately depend on whether they have adopted a proud British tradition: not bothering to vote in local elections.

This article appeared in the Britain section of the print edition under the headline "Payback time"

Street life

Rough sleeping in England has more than doubled

The government hopes a new law can fix the problem. But will it stump up the cash?

Print edition | Britain Mar 8th 2018

THERE is a new sight in London's posh Sloane Square, and not one that the well-heeled commuters scurrying to work care to linger over: a huddle of dirty tents, just outside a luxury menswear store. These are rough sleepers.

One of them, Tom, wearily pops his head out on a sodden morning. Originally from Folkestone, he split up with the mother of his children and came to London some months ago. Probably no more than 30 years old, he is in a bad way; an empty bottle of pills lies discarded by his filthy sleeping-bag. He has no idea how to get any official help, or where the nearest hostel is.

Tom's experience has become much more common. The number of rough sleepers in England rose from 1,768 in 2010 to 4,751 in 2017. These official figures are based on a single-night snapshot estimated by local authorities each November. Researchers at Heriot-Watt University put the total in Britain at about 9,000, and expect that number to rise by three-quarters over the next decade unless action is taken. More than 200,000 households in England are recorded as homeless, lacking adequate permanent housing, according to official figures.

The sheer visibility of so many rough sleepers, often in hotspots such as Bedford, Brighton and Cornwall, together with a recent spell of Arctic weather, has pushed their plight up the political agenda. Action is, indeed, promised. Jeremy Corbyn, the leader of the Labour Party, has called the situation "disgraceful". If elected he proposes to give local authorities the power to seize properties that are kept vacant, to house people. Theresa May's government has promised to reduce rough sleeping by half by 2022, and end it by 2027.

On April 3rd the Homelessness Reduction Act will come into effect, and may help ministers meet those targets. The housing minister, for one, must be expecting it to work. On March 4th Heather Wheeler promised that she would resign if the number of rough sleepers continued to rise on her watch.

There is widespread agreement on the main cause of the climb in rough sleeping. The most common reason used to be a change in personal circumstance, such as Tom experienced. Now, the prime cause is being turfed out of private rented accommodation. In London, the proportion of those citing this as their main reason for being homeless has risen from 11% in 2010 to 40%. In England as a whole the figure has risen from 14% to 32%.

As a consequence of austerity, housing benefits have been cut. At the same time rents have been soaring, especially in the affluent south. Thus many tenants have had to give up their flats. Under current provisions, "priority" cases, such as mothers with dependent children, have to be found somewhere to stay by local authorities. But non-priority people, mostly single older men, have to fend for themselves. Meanwhile the number of hostel beds available to the homeless has dropped since 2010, from 43,655 to 35,727.

Those involved in helping rough sleepers point to other factors. Matt Downie of Crisis, a charity, argues that the gig economy doesn't help. People with irregular incomes and zero-hours contracts cannot budget properly for paying rent, nor save much for in case things go wrong. A growing number of rough sleepers simultaneously hold down jobs. Tom O'Connor, the head of Providence Row, which helps rough sleepers in east London, says that the proportion of women among them is also rising.

The new legislation may well help. It will oblige local authorities to offer advice and help to all homeless people, regardless of their level of priority or whether they have any local connection. Furthermore, the period during which a person threatened with homelessness can apply for help will be extended, from 28 days to 56. The best way to end rough sleeping is to prevent anyone starting in the first place, since the longer a person sleeps rough, the less likely they are to stop.

The question is whether there will be enough money to back up the law's sensible proposals. Sarah Makhlouf of Providence Row points out that they will require many more case workers. The government has promised councils £73m ($100m) to fund the legislation. Given the scale of the problem, many fear that will not be enough. Tom, and thousands like him, must be hoping that it is.

This article appeared in the Britain section of the print edition under the headline "Street life"

Some measures are more equal than others

Is inequality rising or falling?

The government's optimistic claim is probably false

Print edition | Britain Mar 8th 2018

WITH weak GDP growth and falling real wages, the government does not have much to shout about on the economic front. Ministers, however, have one choice boast. It may defy popular belief but Theresa May, the prime minister, says that "inequality has been reduced to its lowest level in 30 years." Philip Hammond, the chancellor, likes to wheel out this figure whenever he can. He may do so again on March 13th when he delivers his spring statement, a half-yearly update on the economy, to Parliament. But there is one problem with the government's claim: it may not be true.

It is not that ministers are lying or massaging the figures. They appear to be referring to a release from the respected Office for National Statistics. The ONS's figures, in turn, have received the seal of approval from the official statistics watchdog.

The release reports the Gini coefficient, where 1 represents complete income inequality and 0 represents complete equality. Unlike some other measures of inequality, such as the ratio between incomes at the 90th and 10th percentile, the Gini takes in the entire income distribution. Many economists therefore like it. The ONS's measure suggests that in 2015-16 the Gini coefficient for disposable household income (that is, after tax is subtracted and welfare payments added), was 0.32. That is far higher than in the late 1970s, when the series begins. But it is indeed the lowest since 1986, as Mrs May claims.

But economists question the ONS's figures. Though the government collects a huge amount of data on incomes, taxes and benefits, most related statistics are calculated with the help of surveys. For its inequality statistics, the ONS uses an annual survey of about 5,000 households, in which, among other tasks, every participant aged over 15 keeps a detailed record of their spending for two weeks.

Surveys, though, are far from perfect—and they are particularly bad at capturing the very rich, who matter hugely to inequality, since they are responsible for a big share of overall incomes. Tax data suggest that the top 1% of earners rake in up to a tenth of total household income, a higher proportion than in previous decades.

The ONS's survey, small as it is, will cover perhaps 50 households in the top 1%. What is more, plutocrats may not report their incomes accurately in the survey. Rich people appear more likely to downplay their earnings. Research suggests that the top 1% under-report their incomes by 10-20%. The upshot is that the ONS's measure of inequality may be inaccurate. (The ONS plans to tackle the problem in part by raising the number of people surveyed.)

What does this mean for the government's claim that inequality is at a 30-year low? An alternative measure suggests that it is wrong. Wonks at the Department for Work and Pensions estimate the incomes of the very richest by supplementing their survey with data from tax returns. Because of the adjustment to top-income data, the DWP's figures are the gold standard for measuring inequality, according to Adam Corlett of the Resolution Foundation, a think-tank. They show that inequality is higher than the ONS believes (see chart). And they contradict the government's claim: in line with popular perception, income inequality has been creeping up.

This article appeared in the Britain section of the print edition under the headline "Some more equal than others"

Faster, stronger…higher?

British athletes may have won thanks to drugs, a report suggests

MPs highlight "acute failures" on doping at the highest level

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SIR ROGER BANNISTER, who died on March 3rd, was the epitome of the amateur sportsman. In 1954, at the Iffley Road track in Oxford, he became the first person to run a mile in under four minutes, having spent the morning on duty as a junior doctor in London.

Today's professional athletes push the boundaries of the possible further than Sir Roger did. But have they also been testing the limits of the rules on drugs? On March 5th a parliamentary committee published a report on doping which found "acute failures in several different organisations in athletics and cycling". It made uncomfortable reading for some of the biggest names in sport.

Lord Coe, president of the International Association of Athletics Federations, is accused of misleading Parliament. He told MPs that he learned of widespread Russian doping in December 2014, though he had received an e-mail about it in August of that year. He says he ignored the e-mail's detailed attachments.

Sir Mo Farah, who has won four Olympic long-distance running titles, took an unrecorded quantity of L-carnitine, a supplement that is legal only in small doses, before a race in 2014. The injection was given by the chief doctor at UK Athletics, who failed to write down the dose. The parliamentary report mentions that Sir Mo's former coach, Alberto Salazar, is under investigation by America's anti-doping agency for illegally using such supplements to enhance athletes' performances. Sir Mo insists that he has never broken the rules.

The report's biggest section concerns British Cycling and Team Sky, an affiliated private team, which between them have won 22 Olympic golds and five Tour de France titles in the past decade. It focuses on a mystery substance given at a race in 2011 to Sir Bradley Wiggins, who with eight medals is Britain's most decorated Olympian. Team Sky claims that this was a legal asthma medicine which the doctor forgot to record. The report presents circumstantial evidence that it may in fact have been triamcinolone, a steroid that may be used to treat asthma only with a "therapeutic-use exemption", which Sir Bradley did not have. He strongly denies cheating.

A source from Team Sky told MPs that such exemptions were used tactically, "with an ultimate aim of supporting performance". The report concludes that the team's behaviour in this respect "crossed the ethical line". Sir David Brailsford, Team Sky's boss, denies that exemptions were used without medical need.

It is not the first time cyclists have come under scrutiny. Last year a review of British Cycling uncovered evidence of bullying and a "culture of fear". Chris Froome, Team Sky's four-time Tour de France champion, is under investigation for his use of salbutamol, another asthma medication. He, too, denies cheating.

In the four years before the Rio Olympics in 2016, Britain funnelled £274m ($380m) to sports it had identified as ripe for medal-winning. The result was more golds than any country bar America. But the claims that rules were broken or bent have made many wonder if some athletes went too far to get an edge. The MPs noted that, in contrast to the splurge on trying to win medals, only £6m a year is set aside for Britain's anti-doping agency.

It all feels a long way from the Iffley Road. Sir Roger's favoured training was a hike through the Scottish mountains. He considered sport "a natural, worthwhile and enjoyable form of human expression". It would be a shame if those ideals died with him.

This article appeared in the Britain section of the print edition under the headline "Faster, stronger...higher?"

Bagehot

It could happen in Britain

British institutions may not withstand the authoritarian-populist wave

Print edition | Britain Mar 8th 2018

IN HIS dystopian novel of 1935, "It Can't Happen Here", Sinclair Lewis described the rise of an American Caesar, Berzelius "Buzz" Windrip. Buzz easily defeats Franklin Roosevelt for the presidency by promising to make America great again. He then sets about destroying the country's system of checks and balances, by fomenting fear and unleashing activists, while sensible Americans comfort themselves with the belief that their country is immune to authoritarian takeover.

Donald Trump's election has propelled Lewis's novel back onto the bestseller list and provoked a lively debate on the question of "Can it Happen Here?", the title of a new book edited by Cass Sunstein, a Harvard professor and former adviser to Barack Obama. It is time for Britain to engage in a similar debate. The British are even more confident than the Americans about their immunity to extremism. Britain hasn't had a violent revolution since 1640-60. Rather than rallying to Oswald Mosley's fascists in the 1930s, the British treated them as figures of fun—black shorts rather than blackshirts, in P.G. Wodehouse's satire. But the next five years could test Britain's immune system to the limits.

One threat to the liberal order comes from Jeremy Corbyn's Labour Party. Mr Corbyn is a classic left-wing populist, convinced that life is a never-ending struggle between the virtuous masses and the wicked elites. Some of his main advisers are Marxists who regard political institutions as instruments of class power. Mr Corbyn became leader by bypassing Labour MPs and appealing to party activists. He has warned right-wing newspapers that "change is coming". John McDonnell, the shadow chancellor, called for a million people to take to the streets to protest against the result of last year's general election. High among Labour's priorities is repealing legislation that prevents co-ordinated strikes.

A second threat comes from the incendiary right. Brexiteers invoke the "will of the people" to suggest that anything but their own maximalist interpretation of Brexit is illegitimate. Theresa May has revived an ugly 1930s trope about "citizens of nowhere". The *Daily Mail* has described judges as "enemies of the people". In a recent tweet Nadine Dorries, a Tory MP, labelled Sir John Major, the leader of her party in 1990-97, a "traitor".

Such extremism is self-reinforcing. Angry people feed on each other's anger, sensible people retreat into private life, and institutions are weakened in the tussle. This is already beginning to happen. Political activists are increasingly willing to bully their way to power. MPs—particularly moderate ones—report an upsurge in threats and smears. Intimidation is becoming routine on university campuses. On March 5th a group of masked protesters invaded and disrupted a talk at King's College, London, put on by the college libertarian society.

The cycle of extremism could get worse very quickly. Imagine that Mr Corbyn wins the 2022 election—the most likely outcome—and starts putting into practice his policy of encouraging the democracy of the street as well as the debating chamber. The Conservative Party might well respond to this by embracing British nationalism and unleashing its own street warriors. An epidemic of strikes and demonstrations could have the British public crying for a blond beast to restore order.

Britain has weak formal defences against authoritarian populism. It is one of the few countries, along with New Zealand and Israel, that doesn't have a codified constitution to protect basic rights. Since Britain joined the European Economic Community in 1973, European law has filled that void. But, as Vernon Bogdanor of King's College points out in a new pamphlet, Brexit will remove those protections. Britain is the only advanced country that is weakening rather than strengthening constraints on legislative power (Israel, for example, is at work on a codified constitution). It is doing so just as illiberal populism is on the rise.

At the same time Britain is vulnerable to global shocks. It has an open economy with a huge financial-services industry, a flexible labour market that acts as a magnet to foreign workers, and a capital city that houses some of the world's richest people. This economy is about to be subjected to one big shock, in the form of Brexit, and may well receive a second, in the form of Prime Minister Corbyn. All respectable forecasters agree that leaving the EU will reduce the rate of economic growth at least in the short term. The question is by how much. The combination of Brexit and a far-left Labour government could lead to a flight of capital, as investors seek safer havens and more predictable political regimes.

Fasten your seat belts

The biggest threat to British institutions, however, comes from a growing sense that democracy has let people down. Stephen Holmes of New York University points out that liberal democracy is a "time-tested system for managing political disappointment"—once you've lost patience with the existing elite you can vote them out. But disappointment is surging, at a time when democracy's ability to manage disappointment is declining. Young people have been encouraged by policymakers to borrow to go to university, and schooled by internet firms that satisfaction is only a click away. But stagnant wages and rising house prices mean that even graduates can't live as well as their parents. And democracy, by its nature, cannot offer the instant satisfaction of Amazon. Yascha Mounk of Harvard points to disturbing polls. The proportion of Britons who support a "strongman leader" has increased from 25% in 1999 to 50%. The under-25s are much more critical of democracy than people of the same age were two decades ago.

It is too early to head for the exits. Mr Corbyn's bark may be worse than his bite. Brexit may be manageable. And Britain's informal defences against extremism may prove strong. Only this week Jacob Rees-Mogg, one of the fiercest Brexiteers, gave a brilliant defence of free speech in Parliament. But anyone who doesn't know where the exits are is a fool.

This article appeared in the Britain section of the print edition under the headline "It could happen here"

Crime and punishment
Cops who kill

Crime and punishment

A chilling story from Kenya

Slum-dwellers live in fear of a mysterious cop

Print edition | International Mar 8th 2018

SARAH WANGARI'S home in Mathare, a slum in Nairobi, is hardly spacious. The corrugated tin walls are covered with sheets. In one room a tiny bed fills half the space; posters of Kenyan reggae musicians and Haile Selassie, Ethiopia's former emperor, provide a dash of colour. The next room has been closed for three months. It belonged to Ms Wangari's 19-year-old son, Alex, who was shot ten times at close range by police. "They said he was a gangster," she says, gesturing at the room. "But a gangster would not live here."

Alex died at around 10.30pm on November 18th. His mother and her neighbours say he was walking home with a friend when he was killed, having spent the day carrying water for not much pay. Ms Wangari came across her son's body as she went to buy milk. "I saw my child lying down, and six police told me to go home, so I ran," she says. The next morning she returned. At the sight of blood on the ground, she cried. To add exploitation to her misery, at the city mortuary, she was told to pay 20,000 shillings (around $200) to release her son's body.

She says she knows who killed her son: a tall, middle-aged officer known as "Rashid", who was among the group around her son's body. "I saw him with my own eyes. He is a killer. He has killed so many people, so many people's children."

Walk around Mathare, a district of densely packed tin shacks and crude brick apartment blocks, and Rashid's name comes up again and again. Mothers tell their children not to misbehave, lest Rashid come for them. People tell fabulous tales: that he is the son of a major politician, a devil worshipper or even a member of the Illuminati. No one is sure where he comes from, or where he lives. But they all agree on one thing: he is a plain-clothes police officer who kills people.

Omar, a 24-year-old who runs a small kiosk where young men gather to chew qat, describes his modus operandi: "He has a list. If you are on it, you don't last a night." Fred, with a bundle of green sticking out of his cheek, is more concise: "He is your worst nightmare."

How much of this is true and how much slum mythology is hard to gauge. What is certain is that in Mathare, which is home to perhaps 250,000 people, killings by police are so common that they are considered normal. The Mathare Social Justice Centre, a community organisation, says it has counted 803 reports of police killings in the slum between 2013 and 2015. It has documented dozens of these, interviewing witnesses and victims' families. This is not difficult work, says Kennedy Chindi, who goes by JJ, the organisation's co-ordinator: often the killings happen in broad daylight. He says that a week rarely goes by without at least one. Last spring Kenyans on social media shared a mobile-phone video of a man, who Mr Chindi says is Rashid, shooting dead a suspect who is lying on the ground and has apparently surrendered, in Eastleigh, close to Mathare.

When the police eliminate someone, they do not file a report. Sometimes the dead man's relatives are even asked to pay for the bullets. Elizabeth Ndinda, a slight woman whose son, Simon, was killed in early January by a different police officer, says that neighbours helped her raise the money to release her son's body. This is evidence that he was innocent, she argues: "If the boy was a thief or a thug, people would have agreed with the killing."

Many do agree with the killings. Thieves are fiercely resented, for their victims often go hungry. Rashid is "doing a good job," says Moses, a 32-year-old clothes seller. "If someone snatches my phone, they deserve it. The young people should work, not eat from others' sweat." Ordinary police are corrupt, and gangsters, if arrested, can buy their way out of jail. Near Ms Ndinda's home is a strip of shacks where people brew *changaa,* illicit alcohol, to sell across the city. Most cops come in only to extort bribes from the brewers. Rashid, by contrast, is seen as brutal but mysterious and incorruptible, a sort of slum Judge Dredd. Many in Mathare insist that he rarely kills innocent people, or that he warns his suspects to shape up before shooting them.

Killer cops are not new in Kenya. Patrick Shaw, a white settler who stayed on after independence in 1963, used to shoot suspects, then go to their funerals and haul in grieving associates for questioning. When he died in 1988, President Daniel arap Moi praised his "untiring service to law and order". As recently as 2013 the *Daily Nation,* Kenya's leading newspaper, called him a "one-man judicial system".

There is little evidence that such lawless policing works, however. Violent crime still thrives in Nairobi. In poor districts, robbery and extortion are routine. In a survey by the International Police Science Association, an American NGO, Kenya's police were ranked the third-worst in Africa, after those in Congo and Nigeria.

Wangui Kimari, an academic, says that Kenyan police kill with impunity because the poor are seen as criminal. The rich can kick up a fuss when they are mistreated by police. But even they are not wholly immune. In October Bunty Shah, the son of one of Kenya's leading industrialists, was killed at his family home when police raided it, claiming to have intelligence about a weapons stash. In a country where the police are judge, jury and executioner, no one can feel safe.

This article appeared in the International section of the print edition under the headline "Cops who kill"

Crime and justice

In some countries, killer cops are celebrated

Even though they are ineffective

Print edition | International Mar 8th 2018

POLICE in the United States kill roughly 1,000 people a year. No other rich country comes close. Finnish police fired only six bullets in 2013, fewer than half the number that one Chicago cop put into Laquan McDonald, a black teenager, in 2014 as he was walking away.

Next to police in some poorer countries, though, America's cops look almost Nordic. Police in El Salvador are 22 times deadlier. Cops in Rio de Janeiro, a Brazilian state with just 17m inhabitants, killed more people in 2017 than all of America's police. (In February Brazil's president ordered the army to take over policing Rio.) In countries such as Kenya, Nigeria and the Philippines it is impossible to say even roughly how many people the police kill, but it is a lot. "Police brutality is as common as water," says Justus Ijeoma, a human-rights activist in Nigeria's Anambra state.

Why are some cops so likely to kill? Partly because they fear for their own lives, or for those of bystanders. In general, the more murderous the country, the more deadly are its police (see chart). American cops shoot more people than police in other rich countries largely because more people shoot at them. They are 36 times deadlier than German police officers, but also 35 times likelier to be killed on the job.

The other big difference is incentives. In America, as in Europe, a cop who kills unlawfully can expect to be punished. (The officer who shot McDonald was suspended and has been charged with murder; he has pleaded not guilty.) In many developing countries, by contrast, the authorities encourage extrajudicial executions, either to get rid of dissidents or to suppress crime. Voters often applaud them for it.

In the Philippines, for example, President Rodrigo Duterte openly urges the police to kill suspected drug dealers and even drug users, to fulfil a campaign promise to dump their corpses in Manila Bay and "fatten all the fish there". Since he became president in May 2016 more than 12,000 people have died in extrajudicial killings, according to human-rights groups. The police give a smaller but still staggering number. They say that 3,850 died in anti-drug operations between July 2016 and September 2017. Another 2,290 drug-related murders are "under investigation".

Imelda Hidalgo, who lives in a slum of Quezon City, in Manila, says the police gunned down her brother last year, probably because they heard that he took *shabu* (methamphetamine). Trigger-happy cops sometimes shoot bystanders. "We are scared," says Ms Hidalgo, "What if a user comes to our local store and then there's a drug operation right here?"

Elizabeth Mago, a food-seller in Quezon City, says her son "just had a habit of being in the wrong place at the wrong time". One evening last year, he asked for 10 pesos ($0.20) to pay for a video-gaming session and headed for the local computer shop. While there he was shot. His mother suspects the police were involved, but cannot be sure. Such confusion is normal. "On operations the first thing the police do is take out the CCTV cameras and the lights," says a church volunteer who helps those bereaved by violence.

The government insists that killing criminals cuts crime. This is impossible to verify. What is certain, however, is that many of the killings are murder, pure and simple, and that having a licence to kill makes it easier for corrupt police to intimidate civilians. "Extortion now is more rampant somehow, because the police can choose who to kill and who to put in jail," says a local official.

Still, more than three-quarters of Filipinos approve of the government's approach. Even those harmed by the brutal campaign sometimes favour it. Both Ms Hidalgo and Ms Mago want it to continue.

A similar drug war in Thailand, which began in 2003, was a fiasco. A public report four years later found that in its initial months about half of the 2,819 extrajudicial killings involved victims who had nothing to do with drugs. Villagers sometimes grumble that addiction is as bad as ever. Yet many long for a return to violence. "If you kill a dog, do you have to apologise to his family?" asks a rice farmer. "No. And it's the same with drug dealers."

In 2015 the vice-president of El Salvador told police that they could shoot gang members "without any fear of suffering consequences". Such "implicit impunity" spurs police over-zealousness, observes Agnès Callamard, the UN special rapporteur on extrajudicial executions. After the government announced a *mano dura* (iron-fist) policy, the number of alleged gang members shot by police and soldiers rose 15-fold, from 39 in 2013 to 603 in 2016. Over the same period, the murder rate doubled. Police are supposed to shoot to wound, but the ratio of suspects killed to wounded jumped from 3.1 in 2015 to 6.3 in the first six months of 2017. The ratio of dead suspects to dead police rose almost eight times, from 15 to one in 2014 to 113 to one in June 2017.

Last year more than 600 Salvadorean officers were arrested for allegedly belonging to death squads, participating in shootouts or committing other crimes. Hardly any were prosecuted or even sacked. At one point journalists got access to an elite unit's WhatsApp chat group where officers shared videos of suspects being tortured, celebrated the "elimination" of gangster "rats" and traded tips on how to plant evidence. The officers in the WhatsApp chat were arrested, but freed three days later.

One-directional shoot-outs

Advocates of *mano dura* policing in Latin America say it is the only way to deal with drug gangs. In other countries the excuse is terrorism. Consider the case of Naqeebullah Mehsud, a 27-year-old aspiring male model in Pakistan. Before his death he posted a video online in which he and a friend dance in a woodland clearing. He smiles, claps and sways. His long hair flicks in the breeze. He does not look like a member of the Taliban, an Islamist movement that abhors music and hairstyles. Yet on January 13th a police team killed Mehsud in what they termed an "encounter" with four terrorists.

"Encounter killings" are common in Pakistan and India. Between 1997 and 2016 some 8,800 cases were tallied in Pakistan. The term implies that suspects perish in shoot-outs. Police seldom die during these battles, however. In the house where Mehsud died, blood colours the floor but bullet-holes pock only one wall.

Mehsud had gone missing ten days before his death. Some people told local media that police had picked him up in an attempt at extortion. A police investigation found no links between him and the Taliban. The encounter, it found, was probably "staged". Mehsud's fellow Pushtuns, who say the police have been harrying them for years, held protest marches.

The unit that killed Mehsud has reportedly carried out 262 encounter killings since 2009. Its leader, Rao Anwar, has become a celebrity. Journalists with cameras routinely arrive at the scene of a shoot-out minutes before it begins, says Afzal Nadeem Dogar, of Geo News, a local channel. "It's like Anwar's a movie hero," scoffs Jibran Nasir, a lawyer and campaigner. "Bombs go off all around but he emerges scratchless every time."

Mr Anwar's career may now be over. He has gone into hiding to escape an arrest warrant for murder. Yet attempts to root out extrajudicial killing run up against a phalanx of incentives supporting it. Pakistan's courts are drowning under a backlog of 1.9m cases. Judges fear to try terrorism cases, lest they be murdered by jihadists. Witnesses seldom come forward. Police are tempted to take shortcuts. Worst, officers who rack up "encounters" can expect professional advancement. "I worked hard all my life," sighs a senior officer, "but I was not part of any encounters, so I was unable to get a promotion."

One globally popular idea to curb killings is for police to wear cameras. Yet a study in Washington, DC, in which roughly half the cops were given body cameras and half were not, showed no difference in the use of force between the two groups. This might not mean that body cameras are useless. It may be that American police generally follow the rules, and so did not need to change their behaviour when being filmed. Other police forces might be different; and body cameras might make civilians behave better, too.

Technology can restrain cops only if the authorities want to restrain them—someone has to watch the body-camera footage and punish misconduct. Building a culture of accountability takes time and political will, but is not impossible. In the early 2000s Colombia purged 12,000 corrupt officers and taught new ones to be better detectives. In Guatemala a UN-backed team of independent prosecutors secured convictions in 2013 against four cops responsible for systematic killings of prisoners. Such high-profile cases drove down police killings and homicides in general.

In the short term, police need better training in the use of non-lethal means of incapacitating suspects, such as tasers. Franklin Zimring of the University of California, Berkeley, argues that many American lives could be saved if the police re-assessed tactics such as emptying a 15-bullet magazine into a knife-wielding civilian standing 20 feet away "just to make sure".

In the long run, cops in many poor countries need better pay (so they are not tempted to moonlight as assassins), tougher consequences for abusing their powers and a functioning legal system to work with, so they do not face a choice between killing a suspect and seeing him bribe his way out of prison. Most of all, such countries need leaders who think that civilian lives matter, and that punishments are for courts, not cops, to decide.

This article appeared in the International section of the print edition under the headline "Why they do it"

Vigilante justice

The alternative to bad cops can be worse

A tale of crime and punishment from Sierra Leone

Print edition | International Mar 10th 2018

A MAN came too close and asked for directions. Your correspondent noticed that he had stolen her mobile phone. She alerted a woman running a nearby cigarette stall. A crowd quickly assembled by the road, and decided to take the law into its own hands.

Sierra Leone's police are notoriously corrupt; the courts are slow and ineffective. As in many poor countries, the alternative to police brutality is not always justice. Sometimes it is a lynch mob.

A woman in a bright blue head wrap said she had seen the thief running towards Kabasa Lodge, a dilapidated mansion built by a former president, Siaka Stevens. Fifteen people followed him inside. Shouts erupted from the first floor. The group had seized the thief and were swinging him by his ankles and armpits. Someone held up your correspondent's phone and asked if it was hers. It was. They threw the thief on the ground and began kicking and punching him. A man smashed a barrel on him.

Your correspondent intervened, horrified at the idea that someone might die for a $70 phone. Shouting that we were going to the police station, she bundled him into a car, with the help of two men.

The police were unimpressed. To prosecute the thief would be a long, difficult, and, of course, expensive process, they sighed. Your correspondent would have to hand over her phone as evidence and pay hefty fees. It would be better just to give up. A policewoman looked at the thief, with his ripped T-shirt and bleeding lip, and asked: "Why didn't you beat him more? That way he would have learnt his lesson."

This article appeared in the International section of the print edition under the headline "Mobs and robbers"

Foreign internship

Print edition | International Mar 8th 2018

We are seeking a summer intern to write about foreign affairs for *The Economist*. The internship will be London-based, will last for three months or more, and will pay £2,000 per month. Anyone is welcome to apply. Applicants should send an original unpublished article of up to 600 words on any issue in international politics or foreign affairs, a CV and a cover letter to foreignintern@economist.com . We are looking for originality, wit, crisp writing and clarity of thought. The deadline is April 3rd.

Telecoms gear
Telephone tower v rubber boots

Telephone tower v rubber boots

Ericsson and Nokia are now direct rivals. How do they compare?

They are the last of Europe's makers of mobile devices and network equipment, which once ruled the world

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"SUCCESS is toxic," says Risto Siilasmaa, Nokia's chairman, as snowflakes swirl in the wind outside. Asked what lesson to draw from his firm's collapse, which started a decade ago, he underlines the dangers of doing too well. In its heyday, Nokia was a monster; its market capitalisation surpassed $290bn in mid-2000 and by 2007 it accounted for 40% of global handset sales. Yet its dominance in hardware, which encouraged a relaxed attitude towards software, bred failure. It is now worth $33bn.

No executive at Ericsson, Nokia's big European rival based some 400km to the west near Stockholm, would put it quite that way. But the experience of the Swedish firm has been strikingly similar. Early this decade Ericsson provided 40% of the world's mobile infrastructure and its market capitalisation hovered above $40bn. Now both numbers are about half that.

The two firms are also direct competitors once again, which invites assessment of who is ahead. Another question is whether European governments will do anything to give them a boost. They are among the last of the continent's makers of mobile devices and network equipment, which once ruled the world but are now lagging behind American and Chinese firms. If Ericsson and Nokia continue to shrink, only one European firm, Schneider Electric, would be left among the world's 35 biggest tech companies by revenue.

Nokia has long been a master of reinvention. It started as an operator of a pulp mill in 1865. A pair of rubber boots in its small company museum highlights the firm's varied history. But Nokia needed some luck to fall on its feet. That came in the form of a mind-bogglingly generous deal from Microsoft, which in 2013 paid $7.2bn for Nokia's flailing handset business. That big dose of cash, plus another $2.8bn from the sale of HERE, a mapping business, "basically saved Nokia", reckons Mr Siilasmaa. The money let the firm rebuild itself. Using its smallish network-equipment business as a base, Nokia has quickly expanded, mostly by acquisition. It bought Siemens out of a joint holding, Nokia Siemens Networks (NSN) in 2013, paying $2.2bn. Two years later Nokia took over Alcatel Lucent, a French-American vendor, for $17bn in shares.

Most previous marriages in telecoms gear had failed, because dropping products to get the efficiency gains while keeping hold of customers had been exceedingly difficult. But at the time of Nokia's big deal the technology was changing. Networks were no longer mainly about physical connections, but more defined by software, which made merging product lines easier. As important, Rajeev Suri, Nokia's boss, had free rein from his board to rethink strategy. He had proved himself a capable boss of NSN since 2009, a job nobody wanted.

If rubber boots symbolise Nokia's history, Stockholm's telephone tower (pictured) is emblematic for Ericsson. It operated in Sweden's capital until 1913, serving over 5,000 lines. Founded in 1876 as a maker of telecoms gear, it was natural that Ericsson should stick to defending its share of that market when in the mid-2000s Chinese vendors, mostly Huawei, but also ZTE, became serious competitors. It also expanded its business of running customers' networks. In the short term the strategy worked. While other Western firms lost business to the Chinese and were forced to merge, Ericsson expanded its market share.

Waiting for 5G

Yet neither effort did much to improve margins. When profits plunged in late 2007, the firm's share price dropped by nearly a third. Ericsson was left more vulnerable when investment in mobile networks started to shrink in 2014. A hurried diversification strategy, including into services and software for television broadcasters, and cloud computing, did not help. Revenues fell from 250bn SEK in 2015 (then $29.5bn) to about 200bn SEK in 2017. Early that year Ericsson's main shareholder, the Wallenberg family, brought in a new chief executive, Börje Ekholm. He has vowed to reduce costs, kill off unprofitable service contracts and sell "non-core" businesses. He wants to refocus on 5G, the next generation of wireless technology.

As a result, Ericsson and Nokia now look much alike. They have the same number of employees (about 100,000), make similar-sized profits in their networks business (gross margins of 30-40%) and have similar market capitalisations. But differences remain, which seem to favour Nokia. It is with some justification that Mr Suri calls his firm "the Western alternative to Huawei"—its product portfolio is broader than Ericsson's, and includes gear for fixed networks. Some also consider Nokia more innovative: it inherited Bell Labs, a respected laboratory where the transistor was invented, from Alcatel Lucent. Mr Suri has big plans to use artificial intelligence to make Nokia more efficient, for instance in drafting offers to build smaller networks.

Yet the next few years could give Ericsson the edge. Some operators consider its 5G gear better than Nokia's. More important, while Nokia has overhauled itself, Ericsson has just started to restructure in earnest. Its plans look serious. Not all analysts trust that the affable Mr Ekholm, who says such things as "I'm a big believer in evolution," is tough enough to transform Ericsson. But the firm also has a new big activist shareholder, Cevian, whose co-founder, Christer Gardell, is nicknamed "the butcher" for his way of shaking up companies. It owns 9% of Ericsson's class B shares.

For both firms, much will depend on the uptake of 5G. Both bosses are realistic about the outlook. They do not expect a sudden spike in 5G investment; instead, new networks will be rolled out gradually in the coming years. And then there is Huawei. It is a formidable, but not unbeatable competitor, says Mr Ekholm: "Let's focus on what we can control: being innovative." Mr Suri, for his part, expects that Nokia's products will appeal to clients wary of trusting a Chinese supplier: "Security and privacy are embedded in our brand."

Such arguments will go down well in America and other countries worried about Chinese eavesdropping devices in telecoms equipment. Yet if this is not enough to revive growth, talk about more mergers will be inescapable. Neither of the current bosses will discuss grand ambitions. Mr Suri wants to buy lots of small tech firms to strengthen his business in software to manage networks; Mr Ekholm says a large-scale merger has no place in his strategy. There is also talk of Samsung, the South Korean tech giant, buying at least part of Ericsson. A marriage of Ericsson and Nokia, sometimes raised as a possibility, is the least probable of all. A combined firm would have a monopoly in America, forcing operators there to look for a second supplier, such as Samsung.

Pressure will also grow on the European Union, which is in charge of telecommunications law, to lighten the regulatory burden for network operators. Politicians may even start calling for protectionist measures. "If Ericsson and Nokia in Europe benefited from the same support as Huawei and ZTE in China, they'd be fine," says Pierre Ferragu of Bernstein Research, while acknowledging that such protectionism would make European telecoms less competitive in the long run.

A better approach would be to remember what made the European mobile industry strong in the first place, says Bengt Nordstrom of Northstream, a telecoms consultancy. When 2G (or GSM, as it was called back then) was introduced in the late 1980s, many European countries and operators signed up to a memorandum of understanding, agreeing on such things as the radio spectrum used, the services to be offered and when to launch them—a co-operation which is lacking today. A similar effort could now boost Nokia and Ericsson. No one these days worries about toxic success—rather of managing recovery.

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Security alert

CFIUS intervenes in Broadcom's attempt to buy Qualcomm

A powerful committee of top American officials becomes more intrusive

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IT WAS only five months ago that President Donald Trump lauded Broadcom, a chipmaker, as "one of the really great, great companies" for announcing its plan to move its legal headquarters to America from Singapore. With such praise in the bank, the firm's chief executive, Hock Tan, may have expected his subsequent offer for a rival, Qualcomm, to enjoy an easy ride. Its course has been anything but smooth. The $142bn bid, which would be the largest-ever tech deal, was rebuffed by Qualcomm's management. Broadcom next turned to shareholders, asking them to elect its nominees to Qualcomm's board at a meeting scheduled for March 6th.

Then, in a dramatic twist, the Committee on Foreign Investment into the United States (CFIUS), which oversees the national-security implications of foreign transactions, stepped in to delay the meeting while it conducts a review. It had been drawn in by Qualcomm, in what its furious suitor has branded a "desperate" attempt to prevent the vote. The panel's surprise intervention suggests a more activist approach to deals involving any kind of cutting-edge technology.

CFIUS has considerable power. It is chaired by the treasury secretary, and its members include the secretaries of defence and of homeland security. It can block deals or insist on remedies to mitigate national-security risks; in rare cases it passes decisions on to the president. It has tended in the past to block only a small number of deals but many worry this could change under Mr Trump. In January the committee blocked the acquisition of Moneygram, an American money-transfer firm, by Ant Financial, an online-payments affiliate of Alibaba, a Chinese e-commerce giant. At its recommendation, Mr Trump blocked the takeover of Lattice Semiconductor by a consortium of Chinese investors in 2017. (Concerns about Chinese acquisitions are not new: in 2016, Barack Obama blocked the takeover of the American unit of a German robotics firm, Aixtron, by a Chinese firm.)

The panel's scrutiny of a takeover of Qualcomm is unsurprising. The deal pushes a lot of buttons in America, notes James Lewis, of the Centre for Strategic and International Studies, a think-tank. Qualcomm is a leading innovator in 5G, the next generation of wireless technology, which the government sees as a national-security priority to protect against Chinese cyber-espionage. CFIUS laid out in a letter its fears that the takeover could give Chinese competitors—notably Huawei—an edge, if Broadcom, with its "private-equity style" intentions, cuts back on research spending at Qualcomm to boost profits. (Broadcom has since pledged to make America the "global leader in 5G" and to maintain the resources Qualcomm devotes to R&D).

CFIUS' latest intervention departs from recent form in two ways. The first is that Broadcom is not a Chinese firm, though CFIUS noted "risks associated with Broadcom's relationships with third-party foreign entities", which appears to hint at links to China. Another unusual feature is the timing of its review: the panel is getting involved before a deal has been agreed. But greater activism might not imply that all deals involving chips or Chinese acquirers are doomed, says Joseph Falcone, from Herbert Smith Freehills, a law firm. In January CFIUS cleared the takeover of Akrion, a chip manufacturing equipment company, by a Chinese firm. And Broadcom's purchase of Brocade, yet another semiconductor firm, got the go-ahead in 2017.

That said, more scrutiny from CFIUS can be expected. Legislation expanding its scope, which has bipartisan support, is making its way through Congress. That would bring into its purview not only big deals but joint ventures and even some licensing agreements. Mr Tan and many other executives may need to spend more time getting their paperwork in order.

This article appeared in the Business section of the print edition under the headline "Security alert"

On borrowed time

America's companies have binged on debt; a reckoning looms

The total debt of American non-financial corporations as a percentage of GDP has reached a record high of 73.3%

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AMERICA's companies have been powering ahead for years. Amid growing profits, the recession that began in 2007 seems an increasingly distant memory. Yet the situation has a dark side: companies have binged on debt. For now, as the good times have coincided with a period of record-low interest rates, markets have been untroubled. But a shock could put corporate America into trouble.

No matter how it is measured, the debt load looks worrying. When calculated as a percentage of GDP, the total debt of America's non-financial corporations reached 73.3% in the second quarter of 2017 (the latest available data). This is a record high. Measured against earnings before interest, tax, depreciation and amortisation (EBITDA), the net debt of non-financial companies in the S&P500 hit a ratio of 1.5 at of the end of 2016, a level not seen since 2003. And it remained nearly as high in 2017 (see chart).

To be sure, things are less worrying than they were before the financial crisis. According to a recent analysis by S&P Global Ratings, a ratings agency, for example, debt is now more evenly distributed. Only 27% of American firms in 2017 were highly levered (defined as a debt-to-earnings ratio higher than five), down from 42% of firms in 2007, meaning that fewer firms are immediately at risk.

The use of the extra debt was also somewhat different. Bob Michele of J.P. Morgan reckons that in recent years much of it was used by companies to finance share buy-backs, essentially for purposes of balance-sheet management (rather than, say, big expansions or acquisitions).

Even so, certain industries look particularly vulnerable under their debt loads. David Tesher of S&P Global Ratings says that retail is the sector in America most at risk. Such companies accumulated high levels of debt after more than a decade of private-equity-sponsored activity. They must also cope with tough competition from e-commerce. Around 50 American retailers filed for bankruptcy in 2017 alone, many due to the debt piled on by their private-equity owners. The most prominent example is Toys R Us, which was acquired by a consortium of private-equity firms in 2005. In the case of Payless ShoeSource, a retailer that also went bankrupt last year, creditors argued in court filings that its private-equity owners should share the blame for its collapse; after much argument, the owners agreed to put more than $20m back into the company.

Energy and utilities are two other industries at risk from their levels of indebtedness. The net debt-to-EBITDA ratio of the energy industry rose to three times by 2016, largely because of the shale-oil boom. But firms then issued a substantial amount of new equity. As earnings recovered with the rise in oil prices, their debt ratio improved to two times by last year. Utilities, meanwhile, which have always borrowed heavily, saw their debt rise to a 14-year high of 4.5 times earnings in 2017.

America's new tax reforms add extra complications. Despite being welcomed by most businesses, the impact on firms' willingness and ability to take on debt is uneven. For many, the lowering of the headline corporate-tax rate from 35% to 21%, as well as provisions such as the ability to expense capital spending up front, will boost profits and thus reduce the need to take on new debt (unless bosses go on a buying spree). But the new law also caps the (previously unlimited) tax deductibility of interest payments at 30% of EBITDA until 2021, falling to a more restrictive 30% of earnings before interest and taxes (but after depreciation and amortisation) from 2022. This provision will hit the most indebted firms hard, notably those owned by private equity, as well as industries such as utilities.

How quickly debt levels turn into a problem depends on monetary policy and how the economy fares. In a benign scenario, in which corporate earnings rise across the board, and the Federal Reserve raises interest rates at a slow and predictable pace, companies' debt ratios may even fall, for now. But if more worrying scenarios—say, a trade war, or significantly faster-than-expected monetary tightening—come to pass, more indebted companies may find their luck running out. A binge, after all, never lasts forever.

This article appeared in the Business section of the print edition under the headline "On borrowed time"

Missing Wikipedians

Sweden tries to increase gender equality on the web

Together with Wikimedia, Swedish diplomats are hosting #WikiGap edit-a-thons in 54 embassies

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EVER since Julian Assange, founder of WikiLeaks, referred to Sweden as a "hornets' nest of revolutionary feminism" and as a "Saudi Arabia of feminism", Swedes have worn this as a badge of honour. Now its foreign ministry has an ambitious plan to increase gender equality on the internet.

Its precise target is Wikipedia, a user-generated online encyclopedia on which some 90% of the content is created by men. Of its biographies, 80% are about males. On International Women's Day on March 8th (as *The Economist* went to press) the Swedes were hosting "WikiGap" edit-a-thons and seminars in 54 of its embassies, from Abuja to Vilnius, in partnership with Wikimedia, the foundation behind the platform. The hope was that participants would write more entries about notable women.

"Knowledge is power," explains Margot Wallström, the foreign minister, and because these days knowledge and information come from the "clearly unbalanced" internet, this is a problem, she adds. A more gender-equal Wikipedia and internet more broadly should help create a more gender-equal world, goes the thinking. Of course, the web is a lot bigger than Wikipedia, but it makes sense as a starting point. The Swedes hope that tech firms will be inspired to take gender inequality in online content more seriously.

Wikimedia supports trying to narrow the gap. Since a survey in 2011 revealed that Wikipedia was largely written by men under 40, it set targets for greater participation of women (and of people from the southern hemisphere). "We want the best content," says John Andersson from Wikimedia Sweden. "By bringing in a more diverse group of people, particularly women, this leads to a better set of articles." But the goal is not gender parity across biographies. "If there is a bias towards men, coming from history books, Wikipedia merely reflects this."

No matter how hard the volunteers have been typing away, the edit-a-thons are a drop in the ocean of the roughly 40m edits made on Wikipedia each month. They also do not tackle the deeper question of what is stopping women from creating more content online. "Getting more women to understand that Wikipedia is a site that they can edit without needing to create an account would be one step forward," says Eszter Hargittai of Zurich University. If in every big city around the world one woman becomes a weekly contributor, this could have an effect, says Mr Andersson. This may well be so—though you cannot assume that all women want to write about women.

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Down the slippery slope

A Chinese oil baron is reportedly detained by the authorities

The reasons for Ye Jianming's reported detention are as mysterious as CEFC itself

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STAFF had routinely been directed to pore over their chairman's speeches and learn from them. One which Ye Jianming, the 40-year-old founder of CEFC, delivered last autumn—"Only One Step From Midsummer to Harsh Winter"—was a historical tale meant to motivate the troops. In it he compared his firm's swift rise to that of Hu Xueyan, a 19th-century merchant banker. Hu amassed a fortune trading in salt, tea, arms and silk through close ties to China's imperial elites, then fell from grace and went bankrupt.

Mr Ye did not mean the lesson to be pertinent to his own situation. CEFC was then enjoying its own midsummer. As China's largest private oil group, it had just won a 14.2% stake in Russia's state-backed oil firm, Rosneft, paying $9.1bn for one of the most significant shares of the world's largest listed oil firm by production. Industry analysts outside China had been scrambling to study CEFC since early 2017 when it joined national oil heavyweights such as Total and BP in winning a stake, of 4% for 40 years, in the largest oil concession of the Abu Dhabi National Oil Company, in the United Arab Emirates.

But harsh winter appears to have set in. On March 1st *Caixin*, a business magazine, reported that Mr Ye had been placed under investigation (CEFC denied the "irresponsible" report). The news came less than a week after the Chinese government announced it had taken over Anbang, a high-flying and highly indebted insurer, for a period of one year, and that it would prosecute its boss, who has not been seen since his own detention last June, for economic crimes. The *South China Morning Post*, Hong Kong's main English-language newspaper, then reported that a Shanghai government agency, Guosheng Group, had taken over CEFC's management and daily operations. CEFC this week denied the takeover by Guosheng Group, saying it had not received any relevant notice.

The gravest scenario would be outright nationalisation of CEFC through a takeover by one of China's state-owned oil champions. Mr Ye's fate would fit a pattern of recent crackdowns on over-ambitious tycoons and the freewheeling financing of their firms. Anbang raised cash by selling high-risk insurance products to fund brash overseas dealmaking. Wanda and HNA, two other overstretched companies, are selling assets to repay their debts after censure from regulators. Yet in the case of CEFC, the precise reasons for Mr Ye's alleged troubles are still a mystery.

Acquisitions at the firm are on hold, say employees close to its dealmakers. Its financing, much of which came from state-owned lenders, has been cut as banks press it to repay loans. They say that asset disposals, including the sale of its stake in oil fields in Abu Dhabi, are under discussion. Analysts reckon that an apparent hold-up on the Rosneft deal, expected to close early this year, could now be explained by the news of the investigation.

From his hometown of Fujian, a southern province rich in tea plantations and talented entrepreneurs, Mr Ye founded a trading firm at the age of 25, buying refineries and storage tanks in China. His oil colossus is thought to be among the ten largest private firms in the country, with 50,000 employees and assets of 183bn yuan ($29bn), ranging from investments in Kazakhstan's refineries to stakes in an airline and a football club in the Czech Republic.

Mr Ye's reported detention is all the more puzzling given CEFC's close ties to government projects and the state banks that fund them. A bond prospectus from June shows that close to two-thirds of its financing, or 32bn yuan, was from China Development Bank. Observers note that CEFC has aligned itself with schemes such as the Belt and Road Initiative of Xi Jinping, China's president (a vast network of infrastructure projects in central Asia, eastern Europe and the Middle East). Mr Ye proclaimed that if the Rosneft deal were finalised, "70% of the credit" should go to the state for its national strategy.

Leslie Zhang, vice-president of the United Energy Group, an oil firm in Hong Kong, says CEFC's deals are unusual among Chinese peers for "investing in countries over projects". Observers say it has often hired former diplomats, creating ties with overseas governments that allow it to do business with explicit state blessing—or the semblance of it.

CEFC is among many private firms that have been trying to "use the logic of the party to do deals", says Andrew Polk of Trivium China, a research firm in Beijing. Its chief may yet extract himself, as did the boss of Fosun, a mining-to-tourism conglomerate, who disappeared for a short while in 2015 to assist authorities in an investigation. But Mr Ye and his peers are on slippery ground.

This article appeared in the Business section of the print edition under the headline "Down the slippery slope"

Twin troubles

An arcane business structure loses its charm

Dual-nationality arrangements for blue-chip companies such as Unilever are dying out

Print edition | Business Mar 8th 2018

WHEN British soapmakers merged with Dutch margarine merchants to form Unilever in 1929, the logic was clear. Both firms shared a key ingredient, animal fat, and were starting to step on each other's toes as they diversified. Unilever is one of the world's largest consumer-goods firms. A dual-nationality company, it has headquarters in both Britain and the Netherlands and is regarded as a national treasure in both places.

Before the month is out, however, it is expected to plump for Rotterdam as its sole headquarters (Britain's quandary over Brexit is doubtless a factor). It is not alone in rethinking its arcane arrangement. According to FTI Consulting, a business-advisory firm, of the 15 companies that have used a "dual structure" at one time or other over the past 25 years, only six remain. Some, such as Royal Dutch Shell, an oil giant, unified their structures in the mid-2000s. RELX, an Anglo-Dutch publishing firm, did so last month. BHP, an Anglo-Australian mining firm, faces investor pressure to do the same.

"Siamese twins" are typically the result of cross-border unions. Two firms agree to operate as a single enterprise, but remain incorporated and retain distinct share listings in their home countries. The shares of Unilever NV, the firm's Dutch arm, for example, cannot be exchanged for those in Unilever PLC, its British sibling. (In contrast, many companies choose to cross-list on multiple stock exchanges, which allows investors to buy exactly the same shares in different marketplaces.)

Dual structures used to have several attractions, says Mathijs van Dijk, of the Rotterdam School of Management. Normal mergers could incur capital-gains tax, which retaining distinct companies avoids. Regulators were thought to look benignly on unions that preserved firms' national identities. The merged entity retained access to local capital markets, since institutional investors that were required to invest within their own countries would not be forced to sell.

Increasingly, though, investors have turned against them. A big driver is globalisation; fewer institutional investors are constrained by national borders. Perhaps reflecting greater integration within Europe, Unilever is the last European dual-structure firm standing; the others have British and Australian nationality (BHP and its fellow miner Rio Tinto), British and South African (Investec, a bank, and Mondi, a packaging firm), and British and American (Carnival, a cruise company).

Investors are also aware of the drawbacks of dual structures. They are confused by the differences between twins' share prices, which can persist for years, Mr van Dijk's research finds, though they are linked to the same cashflows. The structure is associated with opaque governance. After a scandal over misstated oil reserves in 2004 that was partly blamed on the complexity of its dual-board structure, Shell's investors lobbied for unification. Elliott Advisors, the hedge fund agitating for BHP to unify, argues that the dual structure limits dealmaking by complicating the use of shares for purchases. Unilever cites this as a factor, too; it wants to be able to strike deals to boost its shareholder returns. Although its choice may irk British politicians, investor logic prevails.

This article appeared in the Business section of the print edition under the headline "Twin troubles"

Spirit of the law

Pakistan's Murree Brewery shrugs off restrictions on its products

Officials are increasingly relaxed about consumption of its beer, if not its whisky

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QUARTER-LITRE bottles of whisky whizz down a conveyor belt past Mukhtar Ali, a quality-control employee at Pakistan's Murree Brewery, the only legal beer-and-spirit maker in this Islamic country. Nearby labourers pack Vat No.1, a cask-aged spirit, into boxes. An elderly man with a long beard tapes them up. Asked over the roar of imported German machinery if they have ever taken a sip of the amber liquid, each shakes his head. "It's *haram*," (meaning forbidden), says Mr Ali.

The 155-year-old institution causes some spluttering nonetheless. Founded for British troops of the Raj, it can sell only to the 3% of the 207m-strong population that is comprised of foreigners and non-Muslims. But many of its products end up in Muslim hands, as illustrated by the predilections of the former prime minister, Zulfiqar Ali Bhutto, who ordered a nationwide ban on alcohol in 1977. "He was the biggest consumer of Murree in history!" says the company's boss, Isphanyar Bhandara. Some employees do sneak drinks on the job, he adds.

Shareholders can toast a vintage few years for the firm, whose market capitalisation of $160m makes it one of the largest food and beverage firms listed on Pakistan's stockmarket. In 2016, it doubled its alcohol-production capacity. Profits have risen by almost 100% since 2012, reaching a foamy $19.6m last year.

One reason is an influx of thirsty Chinese citizens, who clamour for alcohol as they deepen their country's footprint in Pakistan. An increasingly relaxed officialdom also helps. Government employees work inside Murree's fortress-like walls and hold the keys to locks on every vat of whisky. Yet in recent years provincial administrations have granted more permits to individuals and upmarket hotels to indulge. Elite Pakistanis, able to afford prices of around $3 for a can of lager, are a reliable source of demand.

It also helps that in 2009 the main sharia court ruled that the official punishment for drinking—80 lashes—was itself un-Islamic; the verdict had never been imposed. Yet Murree's product remains a touchy subject. In 2016 the Sindh High Court temporarily banned all sales of alcohol in the southern province, a significant blow to profits as it accounts for 60% of Murree's liquor sales. The case still hangs over the company.

To guard against such headaches in future, Murree is expanding its range of soft drinks, including Murree Sparkletts, a mineral water. Freer liquor markets abroad also appeal. Attempts to brew Murree in neighbouring India (Pakistan's law forbids exporting it outright) have foundered, the result of sour diplomatic relations. Yet the firm soon hopes to offer British citizens the chance, once again, to "have a Murree with your curry". A worldwide distribution deal is being negotiated through a Czech brewery that produces its beer. "The Brits started it here, so why not?" says a tweed-jacketed executive, Sabih Ur Rehman, puffing on a Silk Cut cigarette.

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Schumpeter

Inside Warren Buffett's deal machine

Berkshire Hathaway has evolved into an acquisition engine. The returns look pedestrian

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SOME things about Warren Buffett never change, including his non-stop jokes, famous annual letter and his reputation as the world's best investor. What is less understood is that over the past decade Mr Buffett's company, Berkshire Hathaway, has sharply altered its strategy. For its first 40 years Berkshire mainly invested in shares and ran insurance businesses, but since 2007 it has shifted to acquiring a succession of large industrial companies.

In some ways it is hard to criticise Berkshire. Its shares have kept up with the stockmarket and its standing is exalted. It is the world's seventh-most-valuable publicly traded firm (the other six are tech concerns). But Mr Buffett's behemoth is a puzzle. Its recent deals have had drab results, suggesting a pivot to mediocrity.

It has been quite a spree. Since 2007 Berkshire has spent $106bn on 158 firms. The share of its capital sunk into industry has risen from a third to over half. The largest deals include BNSF, a North American railway, Precision Castparts (PC), a manufacturer, various utilities, and Lubrizol, a chemicals business. Further transactions are likely. Berkshire has roughly $100bn of spare cash. In his latest letter, published on February 24th, Mr Buffett complains about high valuations but says there is a possibility of "very large purchases". Berkshire thinks of itself as a friendly buyer to which families and entrepreneurs are happy to pass on their crown jewels. There is something comforting about its mission to be a home for old-school businesses run by all-American heroes.

Yet it is not an obvious formula for superior performance. Berkshire must pay takeover premiums and has $64bn of goodwill. It enjoys no synergies of the sort corporate buyers claim and unlike private-equity firms does not overhaul management at its targets. There is no clear reason why being owned by Berkshire improves performance. Mr Buffett has largely missed the past decade's tech boom, the big force behind the stockmarket.

Can Berkshire turn water into wine? Schumpeter has attempted to answer this by crunching the numbers, using a certain amount of guesswork. There are two ways to capture how Berkshire creates value, both of which Mr Buffett has in the past endorsed. One is measuring Berkshire's own book value and how this increases. The other is to examine its "look through" profits, which are made up of the earnings of its wholly-owned businesses as well as its share of the earnings from the firms in which it owns small stakes. Over the past five years its book value has grown by a compound annual rate of 11%. Berkshire's look through return on equity (ROE) has usually been 8-9% (all further figures exclude the impact of a $29bn one-off gain booked in 2017 relating to America's law slashing corporate tax).

Those results are worthy of Mr Buffett, but the next step is to split Berkshire into two areas and examine the larger part—its acquired industrial businesses, spanning its railway, energy, utility, manufacturing, services and retail units. These have a total book equity of $191bn, most of which was built up in the past decade. By this measure Berkshire is the second-largest industrial concern in America. The industrial arm's operating performance is bog standard and, once you include the goodwill, its ROE is a weak 6%, down from 9% in 2007 before Berkshire shifted course (these sums exclude the amortisation of intangible assets, which is in accordance with how Mr Buffett assesses profits).

The industrial businesses' lacklustre record mean they account for about 60% of Berkshire's sunk capital but have generated only about half of its look through profits, and 40% of its growth in book value over the past five years. For the five big industrial companies where figures are consistently available, total profits have risen by 4% a year since 2012, which is no better than a basket of similar peers. Profits at BNSF, for example, have risen only just above inflation and in line with other railways. Speaking to CNBC on February 26th, Mr Buffett suggested that a sixth business, PC, had not met its own internal targets.

Since Berkshire cranks out an annual return of about 8-11% a year overall, the other area of its business, its financial operations, must have done much better. These include insurance underwriting, leasing, stock-picking, gains on derivatives and lucrative one-off transactions struck by Mr Buffett, for example when he bought bonds issued by Goldman Sachs and General Electric during the financial crisis. Overall, Berkshire's financial arm has a solid average ROE of 11%, achieved with low leverage.

Why, then, is Berkshire making large industrial acquisitions? There is a chance that profits will grow faster in future, pushing up the low ROE of the acquired businesses, yet most of them are mature. Or Berkshire may hope that selected acquisitions, when valued in line with their listed peers, will show a big rise in their value since being bought, which accounting profits do not capture. BNSF, which Berkshire bought in the depths of the crisis in 2009, has yielded an annual return of about 15% if measured in this way. However the other deals are unlikely to look nearly as good: two thirds of them (by value) took place after the end of 2011, once markets had bounced back from the crash.

Crossroads in Omaha

Berkshire has three possible paths forward. One is that Mr Buffett and his partner, Charles Munger, return cash to shareholders and accept that Berkshire must be less ambitious. The two men do not seem ready for this. A second is that they do more big takeovers now, with stockmarkets high. That would likely depress Berkshire's returns for years and make it more reliant on fireworks from its financial arm. The third path is that Mr Buffett and Mr Munger sit and wait, hoping for a stockmarket crash, when Berkshire's war chest will let it pick up bargains that make better returns than its recent acquisitions have done. Twenty years ago this strategy would have been uncontroversial, but the two men are aged, respectively, 87 and 94. Berkshire is enough of a conundrum to perplex even the world's greatest value investor.

This article appeared in the Business section of the print edition under the headline "Inside Buffett's deal machine"

Gender and investing
The power of money

The power of money

Investment by women, and in them, is growing

Much of the wealth transferred in the coming decades will end up in female hands

Print edition | Finance and economics Mar 8th 2018

MARCH 8th, International Women's Day, always brings a flood of reports about gender inequalities in everything from health outcomes to pay and promotion. But one gap is gradually narrowing: that in wealth. As money managers seek to attract and serve rich women, and as those women express their values through their portfolios, the impact will be felt within the investment industry and beyond.

According to the Boston Consulting Group, between 2010 and 2015 private wealth held by women grew from $34trn to $51trn. Women's wealth also rose as a share of all private wealth, though less spectacularly, from 28% to 30%. By 2020 they are expected to hold $72trn, 32% of the total. And most of the private wealth that changes hands in the coming decades is likely to go to women.

One reason for women's growing wealth is that far more of them are in well-paid work than before. In America, women's rate of participation in the labour market rose from 34% in 1950 to 57% in 2016. Another is that women are inheriting wealth from husbands, who tend to be older and to have shorter lives, or from parents, who are more likely than previous generations to treat sons and daughters equally. As baby-boomers reach their sunset years, this transfer will speed up.

All this will have big implications for asset managers. Take risk-profiling. Surveys show that men's attitudes to risk are typically more gung-ho, whereas women are more likely to buy and hold, which leads advisers to conclude that men are less risk-averse. And men are more likely to say that they understand financial concepts, which might seem to suggest that they are more financially literate.

But it may be more accurate to say that women are more risk-aware and less deluded about their financial competence. A study in 2001 by Brad Barber and Terrance Odean, academics in the field of behavioural finance, showed that women outperformed men in the market by one percentage point a year. The main reason, they argued, was that men were much more likely to be overconfident than women, and hence to carry out unprofitable trades.

Another difference is that men are more likely to say that outperforming the market is their top investment goal, whereas women tend to mention specific financial goals, such as buying a house or retiring at 60. Affluent women are more likely to seek financial advice and fewer direct their own investments compared with men, according to Cerulli, a research firm. But they seem to be less satisfied with the advice they are getting. A survey in 2016 by Econsult Solutions, a consultancy, found that 62% of women with significant assets under management would consider ditching their manager, compared with 44% of men. Anecdotally, millennial women who inherit wealth are prone to firing the advisers who came with it.

A few investment firms focusing on wealthy women are springing up, such as Ellevest (motto: "Invest Like a Woman"). Other money managers are seeking to hire female advisers and setting up dedicated teams for female clients. Some have taken the daring step of making women more prominent in their marketing material.

"It's critical for our business that we recognise the trend of rising women's wealth and respond appropriately," says Natasha Pope of Goldman Sachs. That response goes well beyond better communication with women. It means recognising that women, particularly younger ones, are more likely to look for advisers who can help them invest in a way that is consistent with their values.

In a recent survey by Morgan Stanley 84% of women said they were interested in "sustainable" investing, that is, targeting not just financial returns but social or environmental goals. The figure for men was 67%. Matthew Patsky of Trillium Asset Management, a sustainable-investment firm, estimates that two-thirds of the firm's direct clients who are investing as individuals are women. Among the couples who are joint clients, investing sustainably has typically been the wife's idea. Julia Balandina Jaquier, an impact-investment adviser in Zurich, says that though women who inherit wealth are often less confident than men about how to invest it, when it comes to investing with a social impact "women are more often prepared to be the risk-takers and trailblazers."

The newest trend within values-driven investing is to use a "gender lens" to make investment decisions. Just as environmentally minded investors may ask about their portfolio's carbon footprint, or seek to invest in green-energy projects, so too a small but growing group of investors want to know what good or harm their money is doing to women.

According to Veris Wealth Partners and Catalyst At Large, investment-advice firms, by last June $910m was invested with a gender-lens mandate across 22 publicly traded products, up from $100m and eight products in 2014. Private markets are hard to track, but according to Project Sage, which scans private-equity, venture and debt funds, $1.3bn had been raised by mid-2017 for investing with a gender lens.

As with green investing, a gender lens comes in different strengths. Mild versions include mainstream funds and exchange-traded funds (ETFs), such as the SHE-ETF by State Street, that filter out listed companies with few women in senior management. Super-strength versions include funds that invest in projects benefiting poor women in developing countries. These may make it clear that they offer higher financial risk or lower returns, which investors may accept as a trade-off for the good that they do.

In any investment strategy led by a single issue there is the risk of overexposure to certain industries or companies. Lisa Willems of AlphaMundi, an impact-fund manager, says she tells clients who ask for a "gender fund"—as an endowment did recently—that gender "is a lens, not a bucket". In other words, it should not be regarded as an asset class in itself.

But there is no evidence that employing a mild gender-lens need mean forgoing returns. "It's the integration of gender into investment analysis," says Jackie VanderBrug of Bank of America, a co-author of "Gender Lens Investing". That may even lead to better financial performance.

Several studies have shown that companies with women in senior positions perform better than those without. Although this is correlation, not causation, to an investor that distinction should not matter. If diversity in an executive team is a proxy for good management across the company, a gender lens could be a useful way to reduce risk. If a business is tackling gender-related management issues, says Amy Clarke of Tribe Impact Capital, the chances are that it is dealing well with other risks and opportunities.

Since the early 2000s RobecoSAM, a sustainable-investment specialist that assesses thousands of public companies on environmental and social criteria, has included measures of gender equality, such as equitable pay and talent management. After realising that in the decade to 2014 firms that scored well on these measures had better returns than those scoring poorly, it launched a gender-equality fund in 2015. Since then it has outperformed the global large-cap benchmark.

The share of companies reporting the gender make-up of senior management to RobecoSAM rose from 35% in 2012 to 54% in 2016. And the number reporting gender pay gaps rose from 21% to 31%. But gender-lens investing is still constrained by a paucity of data.

Anyone who wishes to invest in firms that benefit women who are not employees will quickly find that there is as yet no systematic way to measure broader "gender impact". Even inside firms, data are lacking. "We need to move beyond just counting women and start taking into account culture," says Barbara Krumsiek of Arabesque, an asset manager that uses data on "ESG": environmental, social and governance issues. It is urging firms to provide more gender-related data, such as on attrition rates and pay gaps. Just as its "S-Ray" algorithm meant it dropped Volkswagen because the carmaker scored poorly on corporate governance well before its value was hit by the revelation that it was cheating on emissions tests, in future it hopes information about problems such as sexual harassment could help it spot firms with a "toxic" management culture before a scandal hits the share price.

Younger men are far more likely to invest according to their values than their fathers were; 81% of millennial men in Morgan Stanley's survey were interested in sustainable investing. And though fewer American men than women say they want to invest in companies with diverse leadership, the share is still sizeable, at 42%. If gender-lens investing is truly to take off, it will have to appeal to those who control the bulk of wealth—and that is still men.

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Small change

An attempt to revise the Dodd-Frank Act reaches a milestone

In the Senate, the process of revising the Dodd-Frank Act grinds on

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AFTER 25 hearings, thousands of pages of comments and many unworkable bipartisan working groups, America's Senate has finally produced a possible consensus bill to tweak the Dodd-Frank Act, the vast swathe of banking regulation passed soon after the 2008-09 financial crisis. On March 6th, in a technical move that counts as significant progress in Washington's creaky bureaucracy, 16 Democrats and one independent joined Republicans in voting to allow several hours of debate before passing the bill on to the Senate leadership.

Amendments may yet be added and the entire edifice could fracture, but the vote, after years of effort, suggests a bill might now pass. If it does, it would then have to be reconciled with a different bill passed by the House of Representatives. But this now seems possible as well, if only because the alternative would be no amendment to Dodd-Frank at all.

One certainty is that, whatever the bill's fate, there will be disappointment. Bernie Sanders, a socialist who ran for the Democratic Party's presidential nomination, said passage would create massive economic disruption. Elizabeth Warren, a Democratic senator since 2012 who helped ensure the current law's expansive scope, said the proposal was a "punch in the gut to American consumers", and "bank lobbyists ...dragging us back to the bad old days".

Dodd-Frank was passed in 2010 with almost no non-Democratic support and has been the subject of rancour ever since. That is not only because of the partisan nature of its passage, but also because of its scope, which even supporters would admit went far beyond any cause of the financial crisis. Its original 2,300 pages have spawned tens of thousands more of rules. Compliance costs have run to billions of dollars. Not only Republicans but also many Democrats agree there have been harmful unintended consequences. Hence the willingness of some to support a rewrite.

At first Republicans promised to rescind Dodd-Frank in its entirety. But more recently, as part of a broader acceptance of political realities, they have focused on what they call "recalibrating", that is, tweaking regulations they disapprove of rather than tearing them up. Changes to Dodd-Frank with no domestic constituency to lobby for them, such as to rules on foreign banks which their executives consider deeply unfair, have fallen by the wayside. But also left intact are many parts that have attracted fierce domestic opposition.

Two institutions much hated by the industry will be spared: the Consumer Financial Protection Bureau and the Financial Stability Oversight Council. Both have reassuring names, novel structures and complex mandates that give a few political appointees sweeping authority over financial institutions. Missing too in the Senate bill is a provision in the House bill that would have freed banks from the most bureaucratic regulatory measures if they held extra capital. Adding provisions relating to any of these areas could have cost essential Democratic support.

The most significant of the Senate's proposals is to raise the threshold that triggers closer regulatory scrutiny from $50bn in assets to $250bn. Currently banks with just over $50bn come under much the same regime as those with trillions, even though larger institutions tend to have more varied business and thus merit more scrutiny. The proposal would also greatly reduce regulatory requirements for small institutions with straightforward operations. During the debate, senators recounted complaints from constituents about the way in which rules that were intended to rein in vast financial institutions ended up wounding small local banks, with the competitive benefits flowing to the giants.

The Senate bill contains many other provisions, some of which are bound to have new unforeseen consequences. It runs to 148 pages, more than enough room for mischief. But it reveals much about the way laws are made in Washington that it is one of the shortest pieces of major financial regulation in a decade, says one lawyer with expertise in the area. Notwithstanding the many compromises and resulting lack of enthusiasm, the bill may be passed in something similar to its current form simply because the task of building support has been so exhausting.

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Equity investing

Active fund managers hold fewer and fewer stocks

They are hoping bigger bets let them beat the market, and passive funds

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THE past decade has been tough for conventional "active" fund managers, who try to pick stocks that beat the market. They have been losing business to "passive" funds—those that try to replicate a benchmark, like the S&P500 index. Passive funds have much lower fees.

Figures from Inalytics, a company that analyses fund managers' portfolios, suggest that active managers are changing strategy in response. The average number of stocks in global equity portfolios has halved, from 121 to 61 (see chart). In a sense, active managers have become more active, making bigger bets on individual stocks. This makes their portfolios less like the index, meaning they can beat the market by a larger margin. But they can also do a lot worse. The portfolios examined by Inalytics have outperformed, but in the long term the average manager is unlikely to do so, since the index reflects average performance.

Moreover, managers incur costs and the index does not. The result of more active management will be a wider range of returns, dispersed around the same mean. For the typical client, that is a poor trade-off between risk and reward.

This article appeared in the Finance and economics section of the print edition under the headline "Off the beaten track"

Travel bulletin

Mining data on cab rides to show how business information flows

A novel data source reveals surprising patterns

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AS COMPUTING power has grown, it has become easier to uncover information hidden inside datasets that seem totally unconnected. Some recent studies have used this approach to reveal business-related information flows. One linked the movements of 18th-century share prices with the arrival of ships bringing news. Another looked at the relationship between business activity and the movements of corporate jets. A third mined White House visitor logs for the names of executives and examined their companies' subsequent stockmarket returns.

A paper in this vein published on March 5th pores over a dataset released by New York City's government covering more than 1bn cab rides between 2009 and 2014. David Finer, a graduate student at University of Chicago's Booth School of Business, analysed trips connecting the headquarters of big banks and the Federal Reserve Bank of New York. He extracted trips starting at commercial banks and at the New York Fed that converged on the same destination around lunchtime, and those directly from banks to the New York Fed late in the evening.

The number of such journeys rose sharply around the dates of meetings when interest rates were determined by the Federal Reserve's monetary-policy committee in Washington. (The New York Fed plays an outsized role in setting and administering American monetary policy. Its president is a permanent member of the Fed's rate-setting committee and sits over the trading desk that puts policy into effect.) The jump in journeys was especially marked in 2012, when the committee decided to extend quantitative easing, the purchase of securities with newly-created money. The policy had a profound impact on financial markets. There was even a noticeable change in the data that matched the timing of an office relocation by Goldman Sachs.

Mr Finer builds on a provocative paper by Anna Cieslak of Duke University, and Adair Morse and Annette Vissing-Jorgensen of the University of California at Berkeley. They asserted that information on monetary policy could be used to profit from stockmarket movements, and that such information had leaked from the Fed. Mr Finer's "assumptions are flawed and misleading", the New York Fed responded. "It is simply not credible to imply that an increase of a few taxi rides by unknown passengers between densely populated areas of the city—business, transportation and hospitality hubs—increased the risk of inappropriate communication."

The data do have obvious shortcomings. They do not show who was in the taxis, and departure and arrival points are accurate only to within 100 feet. Even if private bankers and New York Fed staff did meet and discuss policy, they may have broken no law. Many of the journeys were outside the "blackout" periods during which communication between Fed officials and bankers is strictly forbidden.

But the tortuous way the Fed's policymakers release information, through an initial announcement, then weeks later the release of minutes and years later transcripts, means that a direct meeting with its officials can be extremely useful. The Fed has acknowledged that merely having a discussion can lead to accidental disclosure. And even lawful private discussions that transfer government information of value raise questions about fairness.

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Buttonwood

Markets fret about America's turn toward protectionism

A trade war would be certain to roil markets and disrupt central banks' plans to reduce stimulus

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IN THE run-up to the presidential election of 2016, investors were nervous about Donald Trump. They liked his tax-cutting, anti-regulation promises, but fretted about his foreign and trade policies. Some dubbed the two agendas "Trump lite" and "Donnie Darko".

Almost as soon as it became clear that Mr Trump would become president, the markets decided to believe in the optimistic version. His tweeting and decision-making may have been erratic, but investors seemed to forgive the president his peccadilloes as a wife might her errant husband: "He may not be faithful but he's a good provider."

Fears about trade conflict almost disappeared. In last month's survey of global fund managers by Bank of America Merrill Lynch, just 5% regarded a trade war between America and China as the biggest risk facing the markets, compared with 45% who worried about a return of inflation or a crash in the bond markets.

The announcement of tariffs on steel and aluminium on March 1st thus came as a nasty shock, especially as it was followed by boasts about trade wars being "easy to win". Furthermore, the news came just a few weeks after the stockmarket suffered a nasty wobble as investors worried that higher interest rates might pose a threat to global growth.

Analysts have started to calculate the market consequences if a trade dispute escalates. Erik Nielsen of UniCredit Bank thinks a trade war would reduce global economic growth by 0.5-1% a year and send the stockmarket into a "measurable correction". This would in turn disrupt central banks' plans to withdraw monetary stimulus, sending both bond and currency markets on a "rollercoaster ride" for several months. Alan Ruskin of Deutsche Bank thinks that the president's protectionist rhetoric will be seen by many investors as a sign that America desires a weaker dollar, which is another way of trying to bring the trade deficit down.

Ben Inker of GMO, a fund-management group, says that the rise of economic nationalism has increased the likelihood of a trade war that would be in no one's interests. It would cause investors to shorten their time horizons—a problem for shares, which depend for their value on an uncertain stream of future profits. "If one wanted to imagine a scenario in which valuations fall not merely to long-term historical averages but right through onto the other side, a global trade war is a strong candidate," Mr Inker warns.

Clearly, not everyone feels the same way. There was a big fall in the American stockmarket when Mr Trump announced his intention to raise tariffs. But shares quickly bounced back before falling again when Gary Cohn, the president's economic adviser and a fervent advocate of free trade, resigned. Adding to the uncertainty is the possibility that America will decide to take separate measures against China for intellectual-property theft.

At the time of writing there was still scope for Mr Trump to change his mind in the face of congressional opposition at home or the prospect of retaliation from abroad. And even if tariffs are imposed the dispute could soon subside, as it did when the Bush administration pushed through similar measures in 2002.

But the global economy is in unfamiliar territory. Because restrictions on trade have generally been easing since 1945, investors have no experience of a broad tariff dispute. The Smoot-Hawley Act, which pushed up tariff rates by an average of six percentage points, is regarded as having been an unhelpful act in the midst of the Depression. Congress passed it in June 1930 despite a statement opposing it signed by 1,028 economists published in the *New York Times*. Although the big crash in the market came in October 1929, the S&P Composite index suffered a further decline of 10% in the month the act passed. (The tariffs were not the only thing driving the market down, of course; the American banking system was collapsing at the same time.)

Even if the world manages to avoid a full-blown trade war, the threat to global markets is clear. Politicians are becoming more nativist, and as they do so, barriers to the free movement of capital, goods and services are likely to rise. Financial markets, with high equity valuations and low bond yields, are currently priced for perfection. But a protectionist world is far from perfect.

If the trend continues, markets are likely to become more risky. After all, when a politician says "America First", or indeed "Ruritania First", that suggests that the interests of foreign investors are being left far behind.

Economist.com/blogs/buttonwood

This article appeared in the Finance and economics section of the print edition under the headline "The return of the nativist"

Notes from a small island

How digitisation is paying for DBS

Singapore's, and South-East Asia's, biggest bank is a digital leader among brick-and-mortar banks

Print edition | Finance and economics Mar 8th 2018

MOST banks gush about digital technology, fearing all the while that some born-digital usurper, large or small, will do to them what Amazon has done to retailers, Uber to taxi-drivers and Airbnb to hoteliers. Some have reorganised themselves to become nimbler, copying startups by forming small teams to generate, test, reject and improve ideas at speed. Apps are improving, new products are appearing and online marketplaces are being built. Only a few are turning enthusiasm into money. One of those is DBS.

Singapore's (and South-East Asia's) biggest bank is a stockmarket darling. Its share price has roughly doubled in the past two years, outstripping the gains of Oversea-Chinese Banking Corporation (OCBC) and United Overseas Bank (UOB), its main local rivals (see chart). The price exceeds DBS's net book value per share by 50%. That owes something to the city-state's buoyant economy—GDP rose by 3.6% last year, the most since 2014—and recovering housing market, and to the doubling of the dividend when DBS reported fourth-quarter results on February 8th. But it owes something, too, to optimism about the bank's digital prowess.

That prowess is plainest in DBS's retail banks in Singapore and Hong Kong, which account for 44% of revenue, up from 38% in 2015 and expected to climb. Piyush Gupta, the chief executive, explains that DBS divides customers into "traditional" and "digital" types, who deal with the bank mainly online. It then follows "the breadcrumbs, all the way from what we are doing to shareholder returns".

Customers qualify as digital if more than half of their dealings with DBS—checking their balance, making payments, buying foreign currency—take place remotely. Of its 5.9m retail and small-business customers in the two cities, DBS counts 2.3m as digital, up from 1.9m in 2015. It costs more, per person, to serve them than to serve the traditional ones: each group soaks up S$1.1bn ($840m). But the digitals bring in more revenue, S$3.1bn against S$2bn, and hence account for two-thirds of the bank's gross profit of S$2.9bn. DBS reckons the cost-income ratio for digital customers is just 34%, against 55% for traditional ones. A typical bank would be delighted with 50%. The return on equity from digital customers is a whopping 27%. Banks are often glad of double digits.

"If you can digitally engage people, they tend to do more. That's the bare bones of our thesis," Mr Gupta says. Balance inquiries, which digital types carry out four times daily, of course bring in nothing. But DBS is earning 3.4 times more on mortgages, and 2.6 times more on credit cards, from such clients than it does from the traditional sort. Scrapping fees for an online platform for small businesses cost S$7m-8m a year, but that was recouped in three months.

DBS's overall return on equity last year was 9.7%: nothing special. Both OCBC and UOB did better. Profits rose by 3%, to S$4.4bn, but were dented by a provision for soured loans to oil-and-gas service companies in the third quarter. Yet Aakash Rawat of UBS, a Swiss bank, believes that within 12-18 months the shift to digital banking, aided by favourable macroeconomic winds, could easily lift DBS's return on equity above 13%, higher than it was before the financial crisis of 2007-08.

In November DBS unveiled a technology platform in Singapore to which about 70 partners have connected over 150 applications. DBS customers eyeing a home on PropertyGuru, an online estate-agency, can check their eligibility for a loan and start applying. At Homage, which provides care for the old, you can redeem DBS credit-card reward points for an assessment of needs. Neal Cross, DBS's chief innovation officer, calls this a "standard tech-company model", following the examples of Amazon, Alibaba and the rest. But most banks still only aspire to creating such a platform. DBS says its one is the biggest anywhere.

Yet expansion at home will hit a limit. Just about every Singaporean has an account with DBS—founded 50 years ago, as Development Bank of Singapore, to nurture the newly independent country's economy—so growing means grabbing market share. Mr Gupta says that in the past three to four years DBS's share of life-insurance policies sold through banks has climbed from 16% to 32%, pulling it level with OCBC, hitherto the market leader. Its share of mortgages has clambered back to over 30%. The new platform should tie customers in more tightly. But eventually, on small, rich islands, you run out of room.

Digital breakout

No wonder, then, that DBS has been heading abroad. In 2016 it launched digibank, an online retail operation, in India, where it has just 12 branches. Digibank has quickly acquired 2m customers, helped by the recruitment of Sachin Tendulkar, a cricketing near-deity, to its marketing campaign. It is run on a shoestring, with "60-70 people", Mr Gupta says; chatbots answer 85% of customers' queries. Granted, it is not yet in profit, India's middle class may not turn out to be the gold mine many expect, and other banks and tech giants will have similar plans. But Mr Gupta responds that in "mega markets" like India, Indonesia and China even a share of 2-3% "would really move the needle for DBS".

August saw the launch of digibank in Indonesia, taking "half the time and a fourth of the cost" of the launch in India. By the end of 2017, 70,000 accounts had been opened. Interest-rate margins there are fatter, promising profit sooner. Next may be Vietnam, Hong Kong and mainland China. DBS reckons that in five years "growth" markets could contribute 10% of revenue.

The lessons of DBS's progress may be hard to copy. One is to start early. DBS began overhauling its processes and computer systems in 2009, before starting to build a "digital bank" in earnest in 2014. Already, half its computing power is in the cloud, rather than in-house. Another is to resist complacency. It might have been tempting to be satisfied with being the biggest bank in a small, rich economy. Tempting, but dangerous. Banks elsewhere, of any shape or size, will have to adapt, and fast.

This article appeared in the Finance and economics section of the print edition under the headline "Notes from a small island"

Free exchange: Xi v Marshall

Will China's Belt and Road Initiative outdo the Marshall Plan?

How China's infrastructure projects around the world stack up against America's plan to rebuild post-war Europe

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SEVENTY years ago America passed the Economic Co-operation Act, better known as the Marshall Plan. Drawing inspiration from a speech at Harvard University by George Marshall, America's secretary of state, it aimed to revive Europe's war-ravaged economies. Almost five years ago, at a more obscure institution of higher learning, Nazarbayev University in Kazakhstan, China's president, Xi Jinping, outlined his own vision of economic beneficence. The Belt and Road Initiative (BRI), as it has become known, aims to sprinkle infrastructure, trade and fellow-feeling on more than 70 countries, from the Baltic to the Pacific.

Mr Xi's initiative, which also has geopolitical goals (see Banyan), has invited comparison with America's mid-century development endeavour. Some even suggest it will be far bigger. But is that credible? The Marshall Plan, after all, is synonymous with statesmanlike vision and vigour. According to Marshall's successor, Dean Acheson, America's provision of food, raw materials and equipment was described by Winston Churchill as the "most unsordid act in history". At the time of the Harvard speech Europe was on the brink of economic chaos. By the time the plan was completed, the continent was on the verge of an economic miracle. Surely China could not match such a feat?

But in fact, as opposed to folklore, the Marshall Plan was surprisingly modest, as economic historians such as Alan Milward, Brad DeLong and Barry Eichengreen have pointed out. It amounted to about $13bn between April 1948 and the summer of 1951. That is equivalent to $130bn today, based on American consumer-price inflation, or less than $110bn, based on a broader measure of rising prices. Divided between 16 countries, it averaged less than 2.5% of the recipients' GDP.

By permitting higher investment and imports, the money certainly helped Europe's recovery. But not by much. Mr Eichengreen calculates the direct impact as an increase in growth of only 0.3 percentage points over the plan's life. Nor was it actually the "most unsordid act" of its time. Churchill in fact bestowed that praise not on the Marshall Plan but on America's earlier "lend-lease" policy, which aided the Allies from 1941 to 1945.

How does the demystified plan stack up against China's? Comparisons are tricky, because no one knows how big the BRI will be. According to official figures, China's direct investment in BRI countries (excluding in the financial sector) amounted to just $56bn from 2014 to 2017. A tot-up of announced investments by Derek Scissors of the American Enterprise Institute reaches $118bn. But neither number includes loans from China's banks, including state-directed "policy banks" such as China Development Bank (which claims to have lent $180bn by the end of 2017) and Export-Import Bank of China ($110bn by the end of 2016).

These past commitments already surpass Marshall's billions. And the BRI is just getting started. A government-sponsored forum in May 2017 estimated that China would invest up to $150bn over the next five years. The total over the life of the initiative is anyone's guess, although Chinese officials seem comfortable with a number in excess of $1trn. (The origin of the figure of $8trn that pops up in some reports is untraceable, but may owe something to the Asian Development Bank's estimate in 2009 of Asia's infrastructure needs in the coming decade.)

Such an amount would dwarf the Marshall Plan in size, but not necessarily in generosity. Over 90% of the Marshall money was a handout, not a loan. And the money all came from America's government. BRI investments, on the other hand, are from a variety of sources, including private entities, and are supposed to earn a return for their financial backers. The most attractive projects might have been financed even without Mr Xi's vision.

A better measure of China's munificence is the gap between the return it earns on BRI projects and the higher rate the market would demand. Some of this reflects a genuine financial sacrifice on China's part. But some reflects a lower default risk, because for many borrowers defaulting on loans from state-backed Chinese entities is a scarier prospect than bilking a commercial lender.

The most unsordid structural-adjustment programme

Just as raw dollar figures overstate the BRI's contribution, they also understate the Marshall Plan's impact. According to Mr DeLong and Mr Eichengreen, the American plan's true significance lay not in the cash it provided but in the market-friendly policies it encouraged. To receive aid, European governments had to commit to restore financial stability and to remove trade barriers. They also had to match the Marshall dollars with money of their own, which could be spent only with America's approval.

The Americans did not always get their way. But the Marshall aid nonetheless encouraged the Europeans to quash inflation and to narrow their deficits while eventually dismantling price controls and import barriers. These reforms had enormous benefits. Before 1948 fear of inflation and taxation prompted German farmers to feed their harvests to their cattle, rather than sell it to the cities for money that might be diluted by inflation or seized by the government. According to Henry Wallich, an economist, factories paid workers in kind, with light bulbs or shoes from their assembly lines, or coal intended for their furnaces. Once faith in the currency was restored, farmers and factory-hands could once again work for money, reviving production and exchange.

The BRI will have no comparable influence. China is still wary of meddling in the internal economic affairs of other countries (unless its core interests are threatened). And most of the BRI economies already enjoy more economic freedom than China. The Marshall Plan worked by giving markets a decisive role in allocating resources. The BRI will not even try to export that principle abroad. After all, its sponsor has yet to adopt it at home.

This article appeared in the Finance and economics section of the print edition under the headline "Xi v Marshall"

Passenger drones
Free as a bird

Free as a bird

Passenger drones are a better kind of flying car

Could the dream of soaring above the traffic come true?

Print edition | Science and technology Mar 10th 2018

TRAVELLERS have long envied the birds. In 1842 William Henson, a British lacemaker, somewhat optimistically filed a patent for an "aerial steam carriage". It took another 60 years and the arrival of the internal combustion engine before Orville and Wilbur Wright flew the first practical aeroplane. In the 1920s Henry Ford began tinkering with the idea of making cars fly. "You may smile," he said. "But it will come." In 1970 his company considered marketing the Aerocar, one of the few flying-car designs that managed to gain an airworthiness certificate.

Yet flying cars have never taken off. That is not because they are impossible to build, but because they are, fundamentally, a compromise, neither good on the road nor graceful in the sky. They are also inconvenient. Most designs require a runway to take off and land, and a pilot's licence to operate. But that is changing. Developments in electric power, batteries and autonomous-flight systems have led to a boom in sales of small drone aircraft. Several entrepreneurs have had the idea of scaling up such machines to the point that people can fit inside them. The ultimate goal is a pilotless passenger drone that can either be parked outside your house like an ordinary car, or even summoned with a smartphone app, like a taxi.

Dozens of firms are trying to build such machines. They include Workhorse, an American maker of electric vehicles; Joby Aviation, a Californian company whose backers include JetBlue Airways and Toyota; AeroMobil, a Slovakian company; and Lilium, a German firm working on an air taxi that uses jet-type electric thrusters. Some of their products are convincing enough to have attracted powerful backing. Lilium's investors include Tencent, a giant Chinese investment firm. Larry Page, one of the co-founders of Google, has put his money into several such projects, including the Kitty Hawk Flyer, which the rider sits astride much like a flying motorcycle. Not to be left out, aircraft makers such as Boeing, Airbus and Bell Helicopter have also shown off in-house designs of their own.

A vertical market

Some of the new flying machines are modern variations on the familiar flying-car design. One of the most advanced is the TF-X, developed by Terrafugia, a company from Massachusetts. The TF-X is based on the Transition, a petrol-engined car with foldable wings and a rear-mounted propeller. That machine is already flying and is due to go on sale next year. The TF-X is a plug-in hybrid that can drive but can also take off and land vertically, like a helicopter. Although it is several years away from making its first test flights, Terrafugia says the TF-X will be able to operate autonomously with four people on board for 800km (500 miles) at a cruising speed of 320kph. The idea has attracted interest from bigger firms. In 2017 Terrafugia was bought by Geely, a Chinese firm that also owns Volvo.

The TF-X's ability to do without a runway is a common feature of many of the new designs. Most conventional drones achieve this with a number of small, electrically powered rotors mounted on the corner of the vehicle, or on extended arms. Many of Terrafugia's competitors, though, are abandoning the idea of flying machines that can also drive. Focusing on flight keeps things simple and helps save both money and weight.

One example is Volocopter, a German firm which has attracted investment from Daimler, the parent company of Mercedes-Benz, and interest from Intel, a big American chipmaker. It has been flying prototypes of its 18-rotor autonomous taxi since 2016, when it was first granted a "permit to fly" by regulators. In 2017 it took Brian Krzanich, the chief executive of Intel, on a joyride inside an exhibition hall, with a pilot on the ground controlling the aircraft remotely. A short autonomous flight was carried out in Dubai last year, although no people were on board. This way, step-by-step, Florian Reuter, Volocopter's chief executive, hopes to persuade regulators that passenger drones are safe enough for more ambitious flights and pilotless operations.

For makers of passenger drones face legal hurdles as well as technical ones. Since obtaining its permit to fly, EHang, a dronemaker based in Guangzhou, has been putting its drone, the EHang 184 (shown above), through its paces. That has included flying at 130kph, climbing to 300 metres and operating in a storm. Huazhi Hu, EHang's founder, says it will be necessary to demonstrate that the technology works before air-safety regulators come up with the necessary rules to allow commercial operations. To that end, EHang has got a representative on a technical experts' committee for unmanned aerial vehicles, which has been set up by the Civil Aviation Administration of China to consider what those regulations should be.

The law of the sky

Aviation regulators, understandably, tend to be risk-averse. That means that, although the eventual goal is fully autonomous flight, the first passenger drones are likely to be fitted with manual controls and to require some sort of pilot's licence to operate—just as the first self-driving cars require licensed humans to keep their hands on the wheel at all times. But manufacturers and governments are already discussing how restrictions might be eased. Volocopter, for instance, is hoping that the European Aviation Safety Agency can be persuaded to classify its passenger drone as a "light sports aircraft", which would mean that it can be flown by a person holding a simplified pilot's licence which requires less training.

Eventually, passenger drones may be classified as an entirely new type of aircraft. For that to happen, though, will require a number of changes to existing rules. For instance, most aircraft are supposed to carry enough spare fuel for 30 minutes of extra flying time in an emergency. For many of the current crop of electric passenger drones that rely solely on their own batteries, though, 30 minutes is around the limit of their endurance.

Some dronemakers hope to persuade regulators that an emergency reserve could be found by running the batteries down completely. As with smartphones and electric cars, the lithium-ion batteries used in drones usually stop discharging when they are about 80% drained in order to protect themselves from damage. Another option might be to fly only at low altitudes, with pre-planned emergency landing points along the route. A final safeguard is an emergency parachute, which many designs already sport.

Another problem is other aircraft. Self-flying drones will probably need specialised "sense and avoid" equipment to prevent collisions. Such systems do not yet exist, though they are being worked on by NASA, among others. Stephen Prior, a drone expert at the University of Southampton, in England, points out that air-traffic control will be another headache. Passenger drones are designed to fly directly from place to place, rather than making use of existing airfields, as conventional aircraft do. That would make the tricky job of directing airborne traffic even more complicated than it already is. The answer will probably involve handing at least part of the job to computers, but such systems are also some way off.

The final issue is price. At least at first, passenger drones will cost supercar money: mooted prices tend to be around $200,000-300,000. That, combined with the requirement to have at least some form of pilot's licence, will limit demand, at least at first. But as with all technology, if the machines prove popular, their prices will fall, especially once autonomous operations are routine. These new machines may not look like the flying cars that Henry Ford imagined, but he was right. Their time may, at last, have come.

This article appeared in the Science and technology section of the print edition under the headline "Free as a bird"

Food labelling

Nuclear physics and the fight against beer fraud

Isotopes levels could reveal adulterated hops

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GO INTO a trendy pub and the beer list will be accompanied by tasting notes as purple as in any upmarket wine bar. The "grassy aromas" and "citrus notes" come from the flowers of *Humulus lupulus*, or the hop plant. These vary in flavour from region to region and between different varieties of the plant. Brewers therefore tend to be rather particular about obtaining specific types of hops from specific plants in specific places, to ensure the flavour of their beer does not change unpredictably.

But they cannot always be sure of what they are buying. Unscrupulous growers can adulterate high-quality hops with cheaper varieties, which can affect a beer's taste. Detecting doctored shipments can be difficult. Existing tests focus on measuring levels of chemical telltales such as essential oils. But they are not very sensitive, typically requiring adulteration of 10% or more before triggering an alert. Now, as they report in the *Journal of Agricultural and Food Chemistry*, Miha Ocvirk, a PhD student at the Institute of Hop Research and Brewing in Slovenia, and Iztok Kosir, his supervisor, think they have a better idea.

The plan is to borrow a fraud-detection technique used for other types of valuable food, such as honey and olive oil. It relies on the fact that not all atoms of a given element are created equal. All carbon atoms, for instance, have six protons in their nucleus (that is what makes them atoms of carbon, instead of, say, nitrogen, which has seven protons). But the number of neutrons varies. Most carbon atoms have six neutrons, making 12 particles in total. But about 1% sport an extra neutron, and are thus dubbed "carbon-13". Atoms of a given element with different numbers of neutrons are known as "isotopes" of that element.

Mr Ocvirk wants to track carbon-13, nitrogen-15 and sulphur-34 in hops. Levels of those isotopes vary between soils, and different varieties of plant absorb them in different quantities. Measuring them in a shipment could reveal whether it has been tampered with.

To test their idea the researchers collected hop flowers from nine different regions, from New Zealand to Slovenia, and put them into a mass spectrometer. Nitrogen-15 values varied substantially, from three parts per thousand in New Zealand to eight in the Czech Republic. Sulphur-34 values differed too, with the east coast of America averaging two parts per thousand and South Africa averaging 11. That allowed the team to tell which plants had grown where. The researchers report that isotopic analysis is about twice as sensitive as the chemical sort, able to spot adulterated shipments in which just 5% of the contents are from elsewhere.

Subtler variations in carbon isotopes also hinted at which variety of hops had produced a given flower, but that effect was weaker. Mr Ocvirk and Dr Kosir reckon those results could be firmed up by including isotopes of oxygen, hydrogen and lead in the analysis. Expect the first bottles of isotopically certified beer in your local soon.

This article appeared in the Science and technology section of the print edition under the headline "Maß spectrometry"

Social media and fake news

On Twitter, falsehood spreads faster than truth

A lie is halfway round the world while the truth is still putting on its shoes

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ACROSS the French countryside, in the summer of 1789, rumours swirled about vengeful aristocrats bent on the destruction of peasants' property. It was not true. The Great Fear, as it is now known, tipped France into revolution with a flurry of fact-free gossip and rumour.

Two centuries later the methods for spreading nonsense are much improved. In the first paper of its kind, published in *Science* on March 8th, Soroush Vosoughi and his colleagues at the Massachusetts Institute of Technology present evidence that, on Twitter at least, false stories travel faster and farther than true ones.

The study, carried out at MIT's Laboratory for Social Machines, showed this by examining every tweet sent between 2006 and 2017. The researchers used statistical models to classify tweets as false or true, by applying data taken from six independent fact-checking organisations. That allowed them to categorise over 4.5m tweets about 126,000 different stories. Those stories were then ranked according to how they spread among Twitter's users.

The results were stark. False information was retweeted by more people than the true stuff, and faster to boot. True stories took, on average, six times longer than falsehoods to reach at least 1,500 people. Only about 0.1% of true stories were shared by more than 1,000 people, but 1% of false stories managed between 1,000 and 100,000 shares.

The reason false information does better than the true stuff is simple, say the researchers. Things spread through social networks because they are appealing, not because they are true. One way to make news appealing is to make it novel. Sure enough, when the researchers checked how novel a tweet was (by comparing it, statistically, with other tweets) they found false tweets were significantly more novel than the true ones. Untrue stories were also more likely to inspire emotions such as fear, disgust and surprise, whereas genuine ones provoked anticipation, sadness, joy and trust, leading to the rather depressing conclusion that people prefer to share stories that generate strong negative reactions. Perhaps not coincidentally, fake political news was the most likely to go viral.

The paper also sheds some of the first peer-reviewed light on the impact of "bots"—automated accounts posing as real people. The idea that Russian bots in particular helped sway America's presidential election has lodged itself firmly in the public consciousness. Yet the paper finds that, on Twitter at least, the presence of bots does not seem to boost the spread of falsehoods relative to truth.

The researchers were able to conduct a study of this breadth thanks to the business relationship between one of their number, Deb Roy, and Twitter, which provided its entire historical dataset at a steep discount. But more are likely to come. Technology companies, and particularly social-media firms, are facing a backlash from regulators and consumers worried about the harm from their products. Twitter, for its part, has said it is ready to offer the same dataset to other outside experts.

This article appeared in the Science and technology section of the print edition under the headline "Falsehood flies"

High-tech weaponry

Russia's new nuclear weapons are technically plausible...

...but practically dubious

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ON MARCH 1st, addressing Russia's parliament, President Vladimir Putin announced a range of new, high-tech, "invincible" nuclear weapons. Lest anyone was unsure at whom that part of the speech was aimed, it featured a computer-generated animation of nukes falling on Florida, where Donald Trump, America's president, has his Mar-a-Lago resort.

Mr Putin's new weapons included nuclear-powered, nuclear-tipped cruise missiles with nearly infinite range and nuclear-armed underwater drones designed to creep up on enemy ports before destroying them. Though they sound fantastical, most of the new weapons are technically feasible. Underwater drones, for instance, already exist. Bolting a nuclear warhead to one poses no fundamental difficulties. The real question is whether there is any strategic or tactical need for them.

Most of the headlines focused on a cruise missile that sports a nuclear engine as well as a nuclear warhead. The idea is not new. The American Supersonic Low Altitude Missile (SLAM) project explored such a scheme in the 1950s and 1960s. A cruise missile was to be powered by a nuclear reactor, which would heat air to produce thrust. The missile would have been able to fly several times around the world, and to carry many nuclear bombs at once. The engine worked in ground tests, although its radioactive exhaust (and the risk of mishap) meant it was deemed impossible to conduct trials in the air. The SLAM was abandoned as scientists perfected intercontinental ballistic missiles (ICBMs). But according to both Mr Putin and unnamed American officials, the Russian missile has already made test flights.

A new ICBM was the most familiar bit of Mr Putin's speech. Russia has been working on the RS-28 missile for years, as a replacement for its existing systems. He said it would be powerful enough to deliver its warheads via the South Pole, dodging American missile-tracking radars which cover the shorter route over the Arctic.

Russian warheads are to be pepped up, too, to be capable of gliding and evasive manoeuvres even at the hypersonic speeds at which they travel, and possibly lofted by yet another new ICBM. This too is an old idea, dating back to the 1930s. Technological developments have now made it practical. America conducted at least four tests of a non-nuclear version of such a weapon between 2010 and 2014; China has also run tests, though how it would arm its system is unclear.

So the whizzy new weapons are probably workable, at least in principle. A bigger question is whether there is any reason to build them. Mr Putin said the weapons were a response to America's withdrawal in 2002 from the Anti-Ballistic Missile Treaty, which limited the development of defences that could shoot down ballistic missiles. Since then, America has deployed limited versions of these defences in eastern Europe and Asia, as well as in America itself, and at sea. Highly manoeuvrable warheads, missiles that can be fired over the South Pole, supersonic cruise missiles and underwater port-busters are all threats that such defences can at present do nothing against.

America insists its defences are meant only to guard against "nuclear blackmail" by states such as North Korea or Iran, not to upset the equilibrium of mutually assured destruction that, in theory, acts as a final safeguard against nuclear war. Russian military planners might be reluctant to trust such assurances. But Russia's existing arsenal of hundreds of missiles and thousands of warheads could easily overwhelm any defence through sheer weight of numbers. There is no practical need for exotic new weapons. But Mr Putin may have a political, or even a personal, one.

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Reconsidering Weimar Germany
A respectable man

A respectable man

The real resonances, and warnings, of Weimar Germany

"Berlin Alexanderplatz" suggests its sharpest lessons lie not in its extremes but in the mundane

Print edition | Books and arts Mar 8th 2018

Berlin Alexanderplatz. By Alfred Döblin. Translated by Michael Hofmann. *NYRB Classics; 480 pages; $18.95. Penguin Classics; £14.99.*

EARLY in "Babylon Berlin", a lavish new television series, Gereon Rath, a police detective from Cologne, is sent to the German capital in 1929 to investigate a mafia pornography ring. Extremists have taken to the streets. The parallels between then and now are glaring. Moka Efti, the meticulously recreated nightclub where much of the action plays out, stands for louche contemporary society. As a review in the *Times* put it, "for the National Socialists, read Alternative for Germany" (AfD), the insurgent far-right party; "for the League of Nations, the European Union"; and for the Weimar Republic, modern Germany.

Weimar is a popular reference point these days, in Germany and beyond. A retrospective on its cinema was a highlight of last month's Berlinale, the capital's international film festival. An exhibition on its art has just closed at the Schirn Kunsthalle museum in Frankfurt. It has sometimes been deployed as an analogy to the sinister glitz of Moscow under Vladimir Putin. Meanwhile Glenn Beck, an American TV host, last month posited that his polarised country was in "probably 1926, 1928—Weimar Republic".

The notion of Weimar implied by these comparisons stars Marlene Dietrich and features jackboots and sequins. A very different perspective on the era is offered by Alfred Döblin's "Berlin Alexanderplatz", the classic Weimar novel. Its version is at once more accurate and more ominous.

Like "Babylon Berlin", Döblin's story concerns a lone outsider. Released from prison after serving time for a woman's murder, Franz Biberkopf negotiates the temptations and dangers of Berlin in 1928. Much of the novel comes in a stream-of-consciousness style known as *erlebte Rede*, a cinematic barrage of impressions and thoughts recalled without explanation or differentiation. It was long branded untranslatable, a view reinforced by a turgid rendering published in 1931. Yet a fluent, pacy new translation by Michael Hofmann gainsays that assumption, opening up the book for English-speakers.

And with it the city. Seen through Biberkopf's eyes, the heart of Berlin is Alexanderplatz itself. Then as now, the square in the capital's proletarian east was associated with transience, both architectural (it was endlessly being rebuilt) and human (it was a place of prostitutes, criminals and ne'er-do-wells). The glamorous metropolis of popular imagination, with its decadence and excess, is glimpsed in political street fights and nightclub adverts, but is not Döblin's main concern. He was a doctor, whose surgery lay just to the east of the square he knew well, and he concentrates on the city's flickering mundanity:

> 'Mokka-fix' on Alexanderstrasse, nonpareil cigars, cultured beers in mugs and glasses, card games forbidden, guests are responsible for their own coats, I'm not taking the rap. Signed, the Landlord. Breakfast from 6am to 1pm, 75 pfennigs, one cup of coffee...

Such was the lot of Biberkopf, a resentful, anonymous working-class citizen of Weimar who is trying to be "respectable". Think of him as one of the blurred faces in a crowd scene by George Grosz, an expressionist painter of the time (see picture); as an extra in "Babylon Berlin"; as an alter ego of Fräulein Schroder, the grumpy landlady in Christopher Isherwood's "The Berlin Stories", a collection that inspired the musical "Cabaret". Döblin's novel was published two weeks before the Wall Street Crash and a few years before Adolf Hitler came to power. In the view of Rainer Werner Fassbinder, whose film adaptation appeared in 1980, Biberkopf would probably have voted for the Nazis.

"Berlin Alexanderplatz" therefore offers an invaluable insight into Weimar Germany, through the eyes of a writer intimately acquainted with its people, but who did not know precisely what was to come. In some ways this view is reassuring, for the Germany he depicts looks nothing like wealthy societies now.

It is poor—far poorer than Western countries today and than many at the time. Ordinary folk in the novel scrape about to avoid destitution. Its heaving crowds were young. The average age was 32, whereas in modern Germany it is over 47. Above all, it is violent. Biberkopf is beaten up and beats others up. He loses his arm in a car crash and responds stoically. "It won't make my arm grow back," he says of a mooted revenge, "and I've got no beef with my arm being gone neither. It had to go, there's no sense in yapping about it." As David Runciman of Cambridge University has noted, “the collapse of the Weimar Republic was shot through with killing on the streets.” He observes that its demography made it more like today’s Egypt than the West.

Look more closely, however, and the real resonances of this bygone society, and its true warning signs, start to appear. To begin with, Biberkopf is overwhelmed by change. On the tram from the prison he has something like a panic attack: “The crowds, the crowds. My skull needs grease, it must have dried out.” This is followed by seething resentment at the satisfied citizens in their restaurants and shops: “Hundreds of shiny windows, let them flash away at you, they’re nothing to be afraid of, it’s just that they’ve been cleaned, you can always smash them if you want.”

Between beauty and desperation

This *Unbehagen*, a nagging unease with the unfamiliar or fast-evolving, is prominent even in today’s rich countries. In a speech on February 26th Angela Merkel said it helped explain the rise of the AfD.

The battle between Biberkopf’s primal urges and his quest to “remain decent” is also recognisable. Döblin read and advocated Freud’s theories, and his repressed anti-hero is both horrified and seduced by the permissiveness of the city. The freedom of a dark cinema prompts him to visit a prostitute. Selling newspapers, he wanders into a gay-rights meeting; he storms out in disgust, not just at what he has seen but at his own enchantment with it. This tension between take-what-you-want hedonism and a stark sense of respectability is manifest, too, in the modern world’s blend of prurience and puritanism, or in the support of American religious conservatives for a libertine president.

Moreover, Biberkopf’s take on current affairs will be familiar to any social-media user. “I don’t do politics,” he smugly tells a girlfriend. Contact with the business does not help. When he stumbles into a political meeting, the speaker appears to him a grotesque figure, “a fat balding man, provoking, tempting, laughing, teasing”. In that moment “there is nothing so contented as our Franz Biberkopf, who tells politics to go get lost.” This tear-it-all-up tendency may have been what Fassbinder was getting at when he presumed to know how Biberkopf would have voted. It lives on in sneering online nihilism.

Western societies—changing, hypocritical, anti-political—are not about to follow Weimar Germany’s trajectory. But elements of “Berlin Alexanderplatz” still echo. Consider “Seven Nights”, a new novel by Simon Strauss, a German journalist who has reported on the rise of populism, in which the narrator seeks stimulation in the seven deadly sins. The current liberal, conformist Germany could hardly be more different from its late-1920s counterpart, yet in Mr Strauss’s book it prompts similar sensations. At a masked ball the narrator reckons that “Between beauty and desperation lies just one word: lust.”

Something of the psychology of Weimar, the desire to touch the electric fence just to see what happens, lives on in modern societies and makes them, in their own ways, vulnerable to extremism and demagoguery. Mr Runciman argues that a latter-day failure of democracy will look very different to the implosion of the 1930s. One lesson of “Berlin Alexanderplatz” is that darkness can take many forms.

This article appeared in the Books and arts section of the print edition under the headline ”A respectable man”

A metamorphosis of one's own

Is literature next in line for virtual-reality treatment?

One morning you might wake up to find you have been transformed into Gregor Samsa

Print edition | Books and arts Mar 8th 2018

STEPPING through the gauzy curtains, Michael Syrovatka screams and lurches backwards. In the real world, he is on the first floor of the Goethe-Institut (GI) in Prague. In the virtual one created by his headset, he has just looked into a mirror to find he has turned into a giant insect. "I jumped when I saw myself," Mr Syrovatka says, as other pupils from Prague's Austrian Grammar School take turns in the installation. They had arrived sullenly, expecting a lecture. Soon they are chattering about how it feels to be Gregor Samsa.

"The opening of 'The Metamorphosis' is a nightmare," says Mika Johnson, a lecturer at Prague Film School and a Franz Kafka fanatic. In Kafka's story Gregor wakes to find himself transformed into a speechless bug. His family bangs on the door, pleading with him to respond; his boss berates him. To Mr Johnson and his team, Gregor's anguish was ideal for virtual-reality (VR) adaptation. "It's a perfect coincidence of technology and text," says Berthold Franke, regional head of the GI, the German cultural association that funded the project. "You're transformed by the headset, then you're transformed again in the story."

"VRwandlung"—the name plays on the story's German title "Die Verwandlung"—is on view in Prague until the end of March. It both showcases a new way to enrich literature, and implicitly demonstrates what is irreducibly special about reading. Visitors find themselves in Gregor Samsa's bedroom; looking down reveals a greyish carapace and six stick-like limbs. Walking around brings floppy antennae into view. A window reveals a drab street. A mirror reflects the predicament that he is—you are—in. The entreaties of mother, father, sister and boss meld with the patter of rain and an ever-faster heartbeat.

"Imagine the strain and stress he's under," Mr Johnson says. "I wanted to preserve all that in the hope of triggering real emotional responses." That he appears to have done. Taking off the headset, Susanne Reif-Breitwieser, Mr Syrovatka's German teacher, exhales sharply. "I'm glad I'm not an insect," she says. "Those annoying antennae, that complete helplessness."

If enthusiasts such as Mr Johnson have their way, literature may be in line for the virtual treatment, after VR-gaming and VR-pornography. "VRwandlung" reveals the technology's potential, and its constraints. One is cost. Immersive VR-systems rely on expensive infrared grids to track users through sensors on their hands and feet, meaning spaces are small. Interaction with computer-generated effects is especially pricey. Then there is the problem of a book's finitude: the inevitable ending contradicts the basic premise of VR, namely that the user can decide the outcome.

In other ways, of course, in its metaphors and ironies Kafka's story is much richer and more provocative than an installation could match. Ms Reif-Breitwieser identifies one deficiency. Praising the project for making a classic enticing to her students, she quibbles with the depiction of the creature. Kafka famously used an indeterminate term, *Ungeziefer*, to describe Gregor's new form (English translations such as "insect" or "vermin" do not convey its ambiguity). He implored his publisher not to illustrate the beast. "I felt immersed in it," says Ms Reif-Breitwieser, "but I'm not sure it's Kafka's world."

Still, other devotees are working on metamorphoses of their own. Along with his students, Joseph Nugent of Boston College is applying VR to James Joyce's masterpiece "Ulysses". "You can't map a city with all its things and its people—the technology is not there and it would be way too expensive," Mr Nugent acknowledges. "You have no chance to replicate the pace or complexity" of the novel. All the same, in the past two years his students have reconstructed five scenes, even if they are mere "slivers" of the book's depths.

Aware of the obstacles, Mr Johnson set out to find a text that fits the parameters of the technology. It occurred to him that the opening of "The Metamorphosis" takes place in a small room and that, initially, interaction with other characters and objects is minimal. Gregor's reactions are paramount, allowing the VR-user to slip into a largely passive role. To heighten the experience he eschewed a purely computer-generated set. Instead a scale model was built, photographed and "stitched together" into a virtual, 3D world—a homage, Mr Johnson says, to "classic Czech animation films", which also gave the room and its surfaces "more texture". "Let's be clear," he emphasises, "it's an adaptation in VR, it's not a reproduction of the text."

For all that, "VRwandlung" captures the allure and risks of modernity in Kafkaesque style. Reiner Stach, a Kafka biographer who helped with the project, thinks the author "would have loved a new technology like this." Kafka once fantasised about combining stereoscopic postcard-viewers with moving pictures to create 3D films. "But he would have immediately seen the dangers, too," Mr Stach adds. What if VR became so immersive that people preferred it to reality? "He would have found that idea *unheimlich*."

This article appeared in the Books and arts section of the print edition under the headline "A metamorphosis of one's own"

Friends in high places

The triumph of America's companies

Citizens United was only one in a long sequence of corporate legal victories

Print edition | Books and arts Mar 8th 2018

We the Corporations: How American Businesses Won Their Civil Rights. By Adam Winkler. *Liveright; 496 pages; $28.95.*

THE *Citizens United* ruling in 2010 was one of the most controversial in the history of America's Supreme Court. The judges affirmed that corporations have a First Amendment right to spend their money to influence elections; the decision seemed to extinguish any hope of serious campaign-finance reform. As Adam Winkler's fascinating book recounts, this was only the latest in a long line of corporate legal victories.

The rights of corporations were not debated in the state conventions that ratified the constitution, nor were companies mentioned in the Federalist Papers, the essays largely written by Alexander Hamilton and James Madison. But corporations have repeatedly been able to exploit laws meant to benefit others. In 1819 a landmark Supreme Court decision regarding Dartmouth College limited the rights of states to interfere in businesses set up by charter; private contracts, it held, should be sacrosanct. That was followed by a jump in the creation of chartered corporations. They were viewed with suspicion by Andrew Jackson, the populist president, who thought they took rights away from the people and gave them to a few.

In 1882 Roscoe Conkling, one of the drafters of the 14th Amendment—designed to give equal citizenship to freed slaves—persuaded the Supreme Court that it had also meant to protect companies. He misrepresented the contents of a journal to help clinch the argument. Sure enough, between 1868 (when the amendment was adopted) and 1912, the justices decided 28 cases asserting the rights of African-Americans, almost all of which were lost. They decided 312 cases on the rights of companies, which succeeded in striking down minimum-wage and child-labour laws. "For most of American history," Mr Winkler remarks, "the Supreme Court failed to protect the dispossessed and the marginalised, with the justices claiming to be powerless in the face of hostile public sentiment." By contrast "the court has insisted that broad public sentiment favouring business regulation must bend to the demands of the constitution."

One tricky issue has recurred. Are companies citizens in the same sense as individuals? Or are they different entities with different rights and responsibilities? The *Citizens United* case was much criticised by Democrats for treating companies as people. But the politics of corporate personhood are complex. For much of American history, left-leaning activists argued in favour of it.

For example, in the 1930s the case of *Grosjean v American Press Company* involved Huey Long, the governor of Louisiana, who wanted to tax awkward newspapers. The Supreme Court said that "A corporation is a 'person' within the meaning of the equal-protection and due-process clauses." It was the first time the Court had decreed that corporations had the right to freedom of speech under the constitution. Later extensions of corporate free-speech rights flowed from left-wing initiatives, too. In the 1970s a consumer-rights group linked to Ralph Nader tried to tackle the cost of prescription medicines. Pharmacists were forbidden from advertising their prices, making it difficult for patients to shop around. Mr Nader's lawyers argued for the rights of customers to hear what the pharmacists had to say.

A focus on the rights of the listener, not the speaker, was at the heart of the *Citizens United* case. Nevertheless, commentators were right to see it as a striking victory for corporate rights. It was followed, in 2014, by the *Hobby Lobby* case, which gave the company an exemption from a federal rule requiring large employers to include birth control in their employees' health plans. This established that businesses enjoyed religious freedom.

Critics such as Leo Strine, chief justice of Delaware's Supreme Court, have pointed out that, in aggregate, court rulings on corporate rights do not make sense. Companies are obliged to prioritise the profits they make for shareholders, rather than seeking to benefit employees or the wider community; that sits oddly with the notion that businesses also have political and religious freedom. The owners of Hobby Lobby affirm that their religious beliefs cannot be separated from the ethos of the business. But they might well insist on a strict boundary between themselves and the firm were a customer to fall in a store and sue them personally for damages.

Mr Winkler shows admirable command of detail in tackling a topic that ought to be at the heart of political debate. Anyone interested in American history, law or politics should read his book.

This article appeared in the Books and arts section of the print edition under the headline "Friends in high places"

Fields of dreams

An epic search for football's next superstars

Inside the most ambitious scouting programme in sporting history

Print edition | Books and arts Mar 10th 2018

The Away Game: The Epic Search for Soccer's Next Superstars. By Sebastian Abbot. *W.W. Norton & Company; 284 pages; $26.95. To be published in Britain in June; £22.*

OF ALL the professions that trade on teenage fantasies, few are as brutal as football. Just 1% of the 10,000 youngsters in English clubs' academies go on to make a living in the sport. Two-thirds of those who earn a contract at 18 are out of the game by 21. The path is even tougher for prospects in Africa, as Sebastian Abbot shows in "The Away Game". His engrossing book follows the fortunes of a handful of teenagers who made it into Football Dreams, perhaps the most ambitious scouting programme in sporting history. Run by the Aspire Academy in Qatar, the search involved 5m boys across the developing world at a cost of more than $100m.

The tale opens in 2007 as Josep Colomer, the scout who nurtured Lionel Messi at Barcelona, navigates the Niger Delta escorted by armed rebels. Supported by 6,000 volunteers across Africa, he aims to assemble a squad of the continent's most promising 13-year-olds by testing half a million of them—every year.

Mr Abbot's book focuses on a clutch of early candidates who are plucked from Ghana and Senegal and transported to unimaginable luxury in Doha. The motives of their benefactor, Sheikh Jassim bin Hamad al-Thani, are unclear. Ostensibly they are there to provide practice for local players in the hope of strengthening the national team, ahead of a bid to host the World Cup in 2022. Some think the real plan may be to make Qatari citizens of Africa's finest.

Not that the players mind. The academy's well-drilled squads thrash youth teams from Manchester United and Real Madrid. They beat a Brazilian side including Neymar and Philippe Coutinho, later the two most expensive players in history.

From there, however, the trajectory is downwards. Some of the trainees flounder; some turn out to have lied about their age. Though FIFA, the sport's governing body, forbids European clubs to sign outside players younger than 18, some of the older ones leave the academy in the hope of finding a glamorous suitor. None succeeds, and most forlornly return home. Those who stay graduate to a second-division Belgian club that the Qataris have bought. One makes it to Barcelona, but never breaks into the first team. After failing to find the next global superstar, the programme closed in 2016.

Mr Abbot describes the exploitation that many African starlets face. The unluckiest are ferried to Europe by dodgy agents, left without a club, and resort to begging rather than returning to Africa in shame. Since he concentrates on the academy, Mr Abbot gives only limited space to such poignant stories, and to the experiences of youngsters from Asia and South America.

Yet that is a minor shortcoming in a masterful account of the drama and science of scouting. One of the strongest predictors of intuition on the field, he finds, is the amount of kick-about football a youngster plays, which gives poor South American kids an edge. Such insights are woven into a lively evocation of football mania in Africa, where every corner bustles with locals in replica shirts: "Messi adjusting the straps on a donkey, Ronaldo patching a fishing net in the shade of a tree."

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A gun on every wall

"Gun Love" reflects a tragic American reality

Jennifer Clement's new novel is appallingly timely

Print edition | Books and arts Mar 10th 2018

Gun Love. By Jennifer Clement. *Hogarth; 245 pages; $25 and £14.99.*

AT THE emergency foster home, they call the children "shoots". The word invokes growth and greenness, but it has a different meaning in the 21st-century Florida of Jennifer Clement's "Gun Love". "We call you children shoots because your parents were shot," a social worker tells 14-year-old Pearl France, the narrator.

Pearl grew up in a trailer park, and not even in a trailer: she lived in a battered Mercury, its tyres flat, the boot full of heirlooms that Margot, her mother, purloined when she fled home as a pregnant teenager. Margot dies halfway through the novel, but her fate is foreshadowed from the first pages. "In our part of Florida things were always being gifted a bullet just for the sake of it," Pearl says.

It would be tempting to call Ms Clement's book timely, were gun violence not so pervasive in America, where on average 19 children are shot every day. Pearl lives in a world so saturated with guns that the only question is when, not if, the trigger will be pulled. After her mother's death she settles into the foster home, but her life there, though happier and more stable, is haunted by the past—in particular by Margot's connection to Eli, a sinister lover who was part of a gun-running ring. "My mother was a cup of sugar," Pearl says in the opening lines. "You could borrow her anytime."

Margot, a rich girl gone bad, is perfect prey for a man like Eli. Too perfect, perhaps: her character suffers another kind of danger, that of veering into stereotype, as does Corazón, her tough yet sentimental Mexican trailer-park neighbour. The ending is predictable. But "Gun Love" is lifted by its language, as in this simple, shocking incantation of the smuggled weaponry loaded onto a bus:

In the belly of the Greyhound bus there was a Smith & Wesson M&P assault rifle, DPMS Panther Arms assault rifle, Smith & Wesson handgun, Llama handgun, Glock pistol, Smith & Wesson pistol, Taurus pistol, Del-Ton assault rifle, .40-calibre semiautomatic pistol, .45-calibre Glock, Beretta pistol, Smith & Wesson semiautomatic pistol, Remington shotgun, Bushmaster XM-15 rifle, .22-calibre Savage Mark II rifle, Springfield Armory semiautomatic handgun, Smith & Wesson semiautomatic rifle, Remington shotgun, Glock .40-calibre semiautomatic pistol, FN Herstal pistol, Beretta 92 FS 9mm pistol, and a Beretta PX4 Storm pistol.

With this hammering list, Ms Clement creates a weird poetry of murderous force. Chekhov's narrative principle—that a gun hung on the wall in the first act must eventually go off—has become a metaphorical rule of storytelling. To reflect American reality, Ms Clement puts a gun on every wall in every room.

This article appeared in the Books and arts section of the print edition under the headline "A gun on every wall"

Output, prices and jobs

Print edition | Economic and financial indicators Mar 8th 2018

Trade, exchange rates, budget balances and interest rates

Print edition | Economic and financial indicators Mar 8th 2018

The Economist commodity-price index

Print edition | Economic and financial indicators Mar 8th 2018

The Economist poll of forecasters, March averages

Print edition | Economic and financial indicators Mar 8th 2018

Markets

Print edition | Economic and financial indicators Mar 8th 2018

Sridevi
Bewitching India

Bewitching India

Sridevi died on February 24th

Bollywood's Number One female superstar was 54

Print edition | Obituary Mar 8th 2018

THE media complained that Sridevi was such an enigma, so intensely reserved. She couldn't deny it. She felt uncomfortable talking to reporters, and for years avoided promotions and parties for her films. When she left her make-up van for a shoot, an assistant holding her *pallu* out of the dust, her bouncers would shout: "No pictures when she walks!", and so the lensmen would wait, in a tizzy, for the moment when she would pause and turn her perfect face to them. But still she preferred not to talk. In her heyday in the 1980s and early 1990s all questions about her plans, her sex appeal or her love interests were deflected with a coy "Ask Mummy". For Mummy, in the traditional way, handled all her property and tax affairs, including the negotiations with besotted producers over how many *lakh* of rupees she would get for every film. At her first screen-call, at the age of four, she hid in her mother's sari out of shyness. She seemed to go on hiding there for much of her career.

Yet she made 300 films, was Heroine Number One in Bollywood for two decades and won six Filmfare awards, India's equivalent of the Oscars. In front of the camera she felt and was quite different, totally uninhibited. She could go from flirtatious to annoyed to rapturous in a matter of seconds, twitch her nose with disdain or slap a line of men across the face and, all the while, keep dancing. Her fans remembered every move from the climactic snake-dance scene in "Nagina" when, in deathly white, furious and venomous, she glided down a staircase to roll and gyrate in front of the evil snake-charmer, stinging his sidekicks with her hands and with the flash of her blue-lensed eyes. In "Himmatwala" her breakthrough film, she pranced so raunchily on a beach with her co-star, in a tight costume of pink and silver stripes, that she earned the nickname "Thunder Thighs". And then there was that scene in "Mr India" in 1987—the film that also showed the whole country how good at comedy she was—when in a dimly lit cave she made love to the invisible man of the title, almost unbearably sensuous as she clung to rusty metalwork or writhed on piles of straw. She wore a plain blue chiffon sari, but it showed every curve, especially when drenched by water. If she looked so gloriously sexy in ordinary dress, could she help it?

That sari had been her idea, after she had rejected the over-the-top sequinned number designed for her. Her power lay in suggesting what every Indian woman in a simple sari with her hair loose could do, if only she had a man who loved her as Mr India did. Equally, her snake-shimmying inspired Egyptian belly-dancers and her likeness as Benazir, a fierce Pushtun character, was woven for years into carpets in Afghanistan.

If she did not respond to this adoration, it was because she felt her work should speak. And besides, she had never lived a normal life. She had been playing to camera, loving it even more than it loved her, since she was a child in Tamil Nadu in the south, starring in Tamil and Telugu films. For a while a teacher came on set, but then she did without schooling. Chatterers said her parents pushed her, though in fact they could not keep her away. At ten and a half she played her first romantic role, since the director had decided that she filled out her sari like a woman, and shortly after that she went to Bombay, breaking into the brashest of India's film industries. Her father was her chaperone, and everything was done for her. She never shopped as a girl, and as a star she did not need to, happy to have her exquisite saris of south silk chosen by someone else.

Her lines, too, were said by other people when she first went to Bollywood, because she knew no Hindi; not a word. Little did they realise that she had spoken her own lines in Malayalam and Kannada films, other languages of the south, without knowing what they meant either. She memorised them phonetically, finding the right emotion somehow. When taking direction she would keep her face so blank that no one had any idea whether she had heard, so deeply was she thinking of the shot, the words and her role, whether a sparkling heroine-princess or (in "Sadma", perhaps her finest piece of acting) a prostitute suffering from amnesia, or a breezy con-woman picking the pocket of a bartender to pay for bottles of beer.

Fights and firecrackers

On screen she triumphed over the worst—scheming stepmothers, lecherous men, evil god-men—that could be thrown at her. "No pain, no gain" was a lesson she had learned off-screen too, though she didn't want to specify what the whole press knew anyway, that she'd pursued a married co-star without success and was married late, at 33, to Boney Kapoor, a producer who already had a wife. That had all settled down, and she had taken 15 years out to bring up her daughters. At home she led a quiet, very systematic life, until she re-emerged in 2012 to make "English Vinglish", a comedy about a mother, mocked by her family for her bad English, who went secretly to classes and surprised them all. But then she had always sprung surprises, bewitching a billion people as the shy girl from Sivakasi who, like the town's famous firecrackers, could go from silent doll to live wire in the split second it took for the cameras to roll.

This article appeared in the Obituary section of the print edition under the headline ”Bewitching India”

Listening underwater
Sing a song of sonar

Listening underwater

Sing a song of sonar

Technology is transforming the relationship between people and the oceans, says Hal Hodson

Print edition | Technology Quarterly Mar 19th 2018

IN THE summer of 1942, as America's Pacific fleet was slugging it out at the battle of Midway, the *USS Jasper*, a coastal patrol boat, was floating 130 nautical miles (240km) off the west coast of Mexico, listening to the sea below. It was alive with sound: "Some fish grunt, others whistle or sing, and some just grind their teeth," reads the ship's log.

The *Jasper* did not just listen. She sang her own song to the sea—a song of sonar. Experimental equipment on board beamed chirrups of sound into the depths and listened for their return. When they came back, they gave those on board a shock. The *Jasper*'s charts said she was in 3,600 metres (2,000 fathoms) of water. But the time it took the soundwaves to bounce back said the bottom of the ocean was just 450 metres below the ship's hull.

The instruments were not wrong. The interpretation was. The *Jasper*'s crew had found a new ecosystem so dense with aquatic life it appeared to their rudimentary sonar to be solid—a "phantom bottom" to the ocean. Unlike the sea's true floor, it moved, its billions of inhabitants rising en masse to feed at night, then sinking away from predators during the day. This "deep scattering layer"—named for the way it was found by the scattering of sound waves—is not local to Mexico. Present in all the oceans, it is one of the largest ecosystems in the world. Its daily rise and fall is their heartbeat, an unseen spectacle of planetary extent.

"Some fish grunt, others whistle or sing"

That such a mass of animals should go undiscovered for so long shows quite how inscrutable the sea has always been. The subsurface ocean is inhospitable to humans and their machines. Salt water corrodes exposed mechanisms and absorbs both visible light and radio waves—thus ruling out radar and long-distance communication. The lack of breathable oxygen severely curtails human visits. The brutal pressure makes its depths hard to access at all.

The discovery of the deep scattering layer was a landmark in the use of technology to get around these problems. It was also a by-blow. The *Jasper* was not out there looking for deepwater plankton; it was working out how to use sonar (which stands for Sound Navigation And Ranging) to spot submarines, and thus help to keep ships like those at Midway safe.

Sonar research has been mostly military ever since, as have various other forms of high-tech ocean sensing. But the new sensorium allowed an exploration of the ocean's depths that became crucial to science and commerce. Sea-floor surveys undertaken in the 1950s and 1960s discovered a chain of underwater mountains snaking through the oceans like the seam on a baseball. This discovery helped transform the controversial notion of continental drift into the far more powerful and explanatory theory of plate tectonics. Modern industrial fishing and offshore oil and gas benefited in similar ways: seeing the seas and their contents mattered.

In the past decade, remote underwater observation has moved to a new level as sonar technology has become more advanced. Computers have become powerful enough to turn the apparent gibberish that is created by numerous sound sources at various frequencies into high-resolution "sound pictures" of underwater objects. And smaller, cheaper electronic components using less power—a gift from the smartphone boom which kickstarted progress in drones, robotics and small satellites—are now putting to sea. They may be just as transformative there as in the skies and in space.

Darling it's better down where it's wetter

All this change promises to bring about a transformation in the way humans interact with the oceans. For most of history, people have had a hunter-gatherer relationship with the seas. That approach no longer works. If overfishing continues at the current rate, the seas will run out of fish. One response to this would be to decry the technological change that has made such overfishing possible. Another is to ask how the latest technology can be used in ways that improve things, undoing the damage of the past and making the old hunting ground a new realm, one that is more productive and more sustainable.

One crucial change brought about by the new technology is a reduction in the number of people involved. Until recently, using sonar was an expensive business, requiring a ship with a crew, towing equipment through the depths behind it. Now underwater drones (such as the one being launched in the picture above) can move around as fast as ocean currents flow, which means they can go wherever they want and stay there if needed. They can communicate acoustically, with each other or with a mother ship. Their lithium-ion batteries—one of those technologies smartphones have greatly improved—can provide power for days.

By removing the expense of keeping humans alive on or under the sea, these technologies vastly expand the volume of the ocean which can be monitored and measured, whether it be for fishery management or weather prediction. They enable the better study of icebergs, underwater volcanoes and every living creature under the sea. And drones will soon be able to transfer data on all of this instantly back to shore from the middle of the ocean, over newly built internet infrastructure.

"When data start to inform decisions, very interesting things happen," says Bilal Zuberi, a partner at Lux, a venture-capital firm. These things include investment in infrastructure. Mr Zuberi envisions herds of wind turbines moving around the seas autonomously, grazing on winds which offer the most power. The possibility of mining previously inaccessible seabeds may become a reality. So may the farming of fish in the open ocean. As befits their origins, the new technologies have military implications, too, as improved undersea surveillance makes it harder for submarines to hide, thus denting their second-strike capabilities.

Jacques Cousteau, a French conservationist, called in 1971 for a shift in how humans see the oceans. "We must plant the sea and herd its animals...using the sea as farmers instead of hunters," he said. "That is what civilisation is all about." It has taken half a century and a technological revolution, but the means of realising Cousteau's vision are now here. This quarterly will examine the technologies that are enabling this virtual settlement of the seas, and the impact it will have. It will also examine the perils such changes could bring.

Modern civilisation has not shown much restraint in the use of technologies which make extracting resources from the earth or the seas easier, as the current overfishing crisis shows. The new developments will make it even simpler to drill or mine or fish in ways that could seriously damage the environment.

But the choice is not between taking these risks and taking no risks. It is about judging those risks against the capacity for wise regulation to reduce the risks already being taken—and to lessen the harm already being done to the seas, their inhabitants and those who rely on them. That capacity for good is also one that the new technologies will increase.

Undersea mining

Race to the bottom

Mining the ocean floor is about to go mainstream

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PATANIA ONE sits in a large shed on the outskirts of Antwerp. Green and cuboid, with an interior steel frame, rubberised treads and pressure-resistant electronic innards, it is about the size of a minivan. In May 2017 it became the first robot in 40 years to be lowered to the sea floor in the Clarion Clipperton Zone (CCZ), about 5,000 metres beneath the Pacific ocean near where the *Jasper* did her pioneering sonar work. There it gathered data about the seabed and how larger robots might move carefully across it, sucking up valuable minerals en route.

The CCZ is a 6m square-kilometre (2.3m square-mile) tract between two of the long, straight "fracture zones" which the stresses of plate tectonics have created in the crust beneath the Pacific. Scattered across it are trillions of fist-sized mineral nodules, each the result of tens of millions of years of slow agglomeration around a core of bone, shell or rock. Such nodules are quite common in the Pacific, but the CCZ is the only part of the basin where the International Seabed Authority (ISA), which regulates such matters beyond the Exclusive Economic Zones (EEZs) of individual countries, currently permits exploration. Companies from Japan, Russia, China and a couple of dozen other countries have been granted concessions to explore for minerals in the CCZ. The ISA is expected to approve the first actual mining in 2019 or 2020.

Shock and ore

This could be big business. James Hein of the United States Geological Survey and colleagues estimated in a paper in 2012 that the CCZ holds more nickel, cobalt and manganese than all known terrestrial deposits of those metals put together. The World Bank expects the battery industry's demand for these, and other, minerals to increase if the transition to clean energy speeds up enough to keep global temperatures below the limits set in the Paris agreement on climate.

One of the firms attracted by this vast potential market is DEME, a Belgian dredging company which has already proved resourceful in seeking out new businesses: installing offshore wind farms now provides it with revenues of nearly €1bn ($1.2bn) a year. Korea, Japan and China all have state-run research projects looking to dredge nodules from the deep sea with robots: "It really is a race," says Kris Van Nijen, who runs DEME's deep-sea mining efforts. At the moment his firm is setting the pace. It has learned a lot from the exploits of Patania One (pictured), such as how hard you can push bearings rated to 500 atmospheres of pressure and how deep treads sink into the deep-sea ooze for a given load.

The idea of mining the CCZ is not new. The Pacific's mineral nodules were discovered by *HMS Challenger*, a British research vessel that first dredged the abyssal depths in the 1870s. Lockheed Martin, an American defence contractor, tried prospecting the CCZ in the 1960s. Its caterpillar tracks were not reliable enough to operate at such depth, so the company imagined two Archimedes screws to drag its vehicle through the mud. (Lockheed's deep-sea mining expertise was later used in a CIA operation to recover a Soviet submarine which sank in the CCZ in 1968.) At the time there was hyped speculation that deep-sea mining would develop rapidly by the 1980s. A lack of demand (and thus investment), technological capacity and appropriate regulation kept that from happening. The UN Convention on the Law of the Sea (UNCLOS), which set up the ISA, was not signed until 1982. (America has still not ratified it, and thus cannot apply to the ISA for sea-floor-mining permits.)

Mr Van Nijen and his competitors think that now, at last, the time is right. DEME is currently building Patania Two, or P2, in an Antwerp shipyard. It will be deployed to the Pacific in 2019. Where P1 was basically a deep-sea tractor, P2 is a full-blown prototype. A sweeping nozzle mounted on its front (which gives it the look of a combine harvester) will suck up tonnes of nodules every minute; the power it needs to do so will flow down a thick umbilical from a mother ship above. In commercial production, a similar cord will pump a slurry of nodules and dirt back up to the ship—an impressive bit of engineering. For the time being P2 will just keep some of the nodules in a container on its back for later inspection.

In order to satisfy the ISA, this new machine does not just have to show it can harvest nodules; it also has to show that it can do so in an environmentally sensitive way. Its harvesting will throw up plumes of silt which, in settling, could swamp the sea floor's delicate ecosystem. A survey of CCZ life in 2016 found a surprising diversity of life. Of the 12 animal species collected, seven were new to science. To help protect them, the mining field will be ringed with buoys, monitoring any plumes of silt that are bigger than DEME had predicted. The operations will also be monitored by a German research ship, funded by the EU.

If P2 succeeds, it will be time for P3, which will be the size of a small house. It will have two drone escorts, one to move ahead of it and one behind. They will monitor how much silt it disturbs, and will shut down the operation if necessary. Thus, P3 will be able to steer along the seabed autonomously. DEME will then build a customised surface vessel, ending up in about 2025 with a new kind of mining operation, at a total cost of $600 million.

The CCZ is not the only sea floor that has found itself in miners' sights. Nautilus, a Canadian firm, says it will soon start mining the seabed in Papua New Guinea's EEZ for gold and copper, though at the time of writing the ship it had commissioned for the purpose sits unfinished in a Chinese yard. A Saudi Arabian firm called Manafai wants to mine the bed of the Red Sea, which is rich in metals from zinc to gold. There are projects to mine iron sands off the coast of New Zealand and manganese crusts off the coast of Japan. De Beers already mines a significant proportion of its diamonds from the sea floor off the coast of Namibia, although in just 150 metres of water this is far less of a technical challenge.

If the various precautions work out, the benefits of deep-sea mining might be felt above the water as well. Mining minerals on land can require clearing away forests and other ecosystems in order to gain access, and moving hundreds of millions of tonnes of rock to get down to the ores. Local and indigenous people have often come out poorly from the deals made between miners and governments. Deep-sea mining will probably produce lower grade ores, but it will do so without affecting human populations.

It will also deliver those ores straight on to ships which can move them directly to processing plants on any coast in the world, including those using solar or wind power, thus reducing the footprint of mineral extraction even more. Having seen the destruction wrought by mining on land, undersea miners are working doubly hard to plough a different furrow.

Herding fish

Net gains

Open-ocean fish farming is becoming easier

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AN UNUSUAL object arrived off the coast of Norway last September. Roughly the weight of the Eiffel Tower and enclosing a volume greater than St Peter's Basilica in Rome, its polyhedral frame measures 68 metres from top to bottom and over 100 metres in diameter. Parked 5km offshore, it looks like a partly submerged bright-yellow Ferris wheel tipped on its side, with a white control tower at its hub. Locals took it for a flying saucer as it passed South Africa on its way from the shipyard in China where it was built. (The picture shows it before it was submerged.) Yet to come are its occupants: 1.5m baby salmon.

Ocean Farm 1, as the structure is known, is the first of six experimental fish farms ordered by SalMar, a Norwegian firm, at a total cost of $300 million. InnovaSea, an American firm, makes large open-ocean aquaculture nets called SeaStations, which are currently used off the coast of Panama and Hawaii, but Ocean Farm 1 is "by far the largest open-ocean fish farm in the world," says Thor Hukkelas, who leads research and development on aquaculture at Kongsberg Maritime, a Norwegian engineering company. Mr Hukkelas's team provided Ocean Farm 1's sensor system: 12 echo sounders mounted on the bottom of the frame, high-definition cameras dangled into the water at different depths, oxygen sensors and movable, submerged feeding tubes.

Fish farming plays an increasingly central role in the provision of sufficient amounts of protein to Earth's population. People eat more fish globally than beef, and farmed fish account for almost half of that amount (see chart). Many wild fisheries are already at or past their sustainable capacity, so efforts to make fish farming more productive are vital.

Ocean Farm 1 aims to automate what is an expensive and difficult business, and to solve two key problems that occur in near-shore aquaculture: that there is not enough space and that it is too polluting. The excrement from millions of salmon can easily foul up Norway's fjords, and their shallow, relatively still water is a breeding ground for sea lice. In the open ocean the water is deeper and better oxygenated. The currents are stronger and so better able to sweep away excrement.

Near-shore farms normally spread feed on the water's surface and allow it to sink, but Ocean Farm 1 has 16 valves at varying depths, through which feed can be pushed. By putting it farther down in the cage it is able to keep the salmon in deeper water. The salmon are fine with this. The sea lice, which like the shallows, are not.

All of this means the number of fish can be increased. The Norwegian government wants to triple its aquaculture production by 2030 and quintuple it by 2050. "Scaling up of traditional aquaculture is not going to reach these high-growth ambitions," says Mr Hukkelas.

Kongsberg is gathering data from all the sensors on the farm to build a machine-learning model, called SimSalma, which learns the behaviour of the salmon in order to optimise their feeding. Currently, human operators on the structure decide when and where to feed the fish by examining the data. By 2019 Kongsberg plans to have automated this, pushing feed at optimum times and places and reducing human involvement. The success and expansion of such projects would represent a major step towards maintaining global fish stocks.

Military applications

Mutually assured detection

Better anti-submarine warfare will mean fewer places for subs to hide

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ON JULY 20th 1960, a missile popped out of an apparently empty Atlantic ocean. Its solid-fuel rocket fired just as it cleared the surface and it tore off into the sky. Hours later, a second missile followed. An officer on the ballistic-missile submarine USS *George Washington* sent a message to President Dwight Eisenhower: "POLARIS—FROM OUT OF THE DEEP TO TARGET. PERFECT." America had just completed its first successful missile launch of an intercontinental ballistic missile (ICBM) from beneath the ocean. Less than two months later, Russia conducted a similar test in the White Sea, north of Archangel.

Those tests began a new phase in the cold war. Having ICBMs on effectively invisible launchers meant that neither side could destroy the other's nuclear arsenal in a single attack. So by keeping safe the capacity for retaliatory second strikes, the introduction of ballistic-missile submarines helped develop the concept of "mutually assured destruction" (MAD), thereby deterring any form of nuclear first strike. America, Britain, China, France and Russia all have nuclear-powered submarines on permanent or near permanent patrol, capable of launching nuclear missiles; India has one such submarine, too, and Israel is believed to have nuclear missiles on conventionally powered submarines.

As well as menacing the world at large, submarines pose a much more specific threat to other countries' navies; most military subs are attack boats rather than missile platforms. This makes anti-submarine warfare (ASW) a high priority for anyone who wants to keep their surface ships on the surface. Because such warfare depends on interpreting lots of data from different sources—sonar arrays on ships, sonar buoys dropped from aircraft, passive listening systems on the sea-floor—technology which allows new types of sensor and new ways of communicating could greatly increase its possibilities. "There's an unmanned-systems explosion," says Jim Galambos of DARPA, the Pentagon's future-technology arm. Up until now, he says, submariners could be fairly sure of their hiding place, operating "alone and unafraid". That is changing.

Hello, buoys

Aircraft play a big role in today's ASW, flying from ships or shore to drop "sonobuoys" in patterns calculated to have the best chance of spotting something. This is expensive. An aeroplane with 8-10 people in it throws buoys out and waits around to listen to them and process their data on board. "In future you can envision a pair of AUVs [autonomous underwater vehicles], one deploying and one loitering and listening," says Fred Cotaras of Ultra Electronics, a sonobuoy maker. Cheaper deployment means more buoys.

But more data is not that helpful if you do not have ways of moving it around, or of knowing where exactly it comes from. That is why DARPA is working on a Positioning System for Deep Ocean Navigation (POSYDON) which aims to provide "omnipresent, robust positioning across ocean basins" just as GPS satellites do above water, says Lisa Zurk, who heads up the programme. The system will use a natural feature of the ocean known as the "deep sound channel". The speed of sound in water depends on temperature, pressure and, to some extent, salinity. The deep sound channel is found at the depth where these factors provide the lowest speed of sound. Below it, higher pressure makes the sound faster; above it, warmer water has the same effect.

Changes in the speed of sound (or for that matter light) cause sound (or light) waves to bend, a phenomenon known as refraction. The higher speed of sound above and below the deep sound channel thus bend sound back into it, allowing it to propagate for thousands of kilometres, especially if the sound's wavelengths are long. It is a natural analogue to the process that keeps light in an optical fibre. Some zoologists believe whales use it as an ocean-wide telephone system.

In the POSYDON system, buoys on the surface would receive a GPS fix from satellites, then retransmit that data into the deep sound channel in acoustic form to submerged submarines and AUVs. Dr Zurk's team is now determining the optimum frequencies for propagation, and modelling ways to correct for variable conditions. The simplicity of POSYDON would allow AUVs to offload a lot of the expensive equipment that they currently use to decipher positioning, says Dr Galambos. That means the possibility of more room on the drones for other useful stuff, or more money for more drones.

Even in heavily surveilled seas, spotting submarines will remain tricky. They are already quiet, and getting quieter; new "air-independent propulsion" systems mean that conventionally powered submarines can now turn off their diesel engines and run as quietly as nuclear ones, perhaps even more so, for extended periods of time. Greater autonomy, and thus fewer humans—or none at all—could make submarines quieter still. "As we pivot from manned to unmanned, no air cavity, maybe no propulsion motor, that's a really challenging platform to find," says Dr Zurk.

A case in point is a Russian weapon called Status-6, also known as Kanyon, about which Vladimir Putin boasted in a speech on March 1st. America's recent nuclear-posture review describes it as "a new intercontinental, nuclear-armed, nuclear-powered, undersea autonomous torpedo". A Russian state television broadcast in 2015 appeared to show it as a long, thin AUV that can be launched from a modified submarine and travel thousands of kilometres to explode off the shore of a major city with a great deal more energy than the largest warheads on ICBMs, thus generating a radioactive tsunami. Such a system might be seen as preserving a second-strike capability even if the target had a missile-defence system capable of shooting ICBMs out of the sky.

Despite such disturbing possibilities, many experts think that the balance of advantage is currently with seekers, not hiders. Sebastian Brixey-Williams of the British American Security Information Council thinks that "tracking and trailing" submarines will, within a decade, become significantly easier. Passive systems which simply listen will be a key part of this. Mr Brixey-Williams predicts that a few important choke points, such as the gap between Scotland and Iceland could now be completely surveilled by an array of just 15 acoustic sensors, far more sophisticated than the chain of hydrophones which did that job in the cold war. If a submarine is detected by such a system, it can then be trailed by another submarine, or some new form of drone.

New cold war

One part of the ocean that has become particularly interesting in this regard is the Arctic. Tracking submarines under or near ice is difficult, because ice constantly shifts, crackles and groans loudly enough to mask the subtle sounds of a submarine. With ever less ice in the Arctic this is becoming less of a problem, meaning America should be better able to track Russian submarines. Its Assured Arctic Awareness programme, also run by Dr Zurk, aims to develop new sensing techniques that can provide year-round monitoring without requiring a human presence. It is working on probes that can be deposited on the ice by drone, then melt their way down to the ocean beneath. Dr Zurk also talks of tagging icebergs with sensors, thus getting free rides across the ocean.

Greater numbers of better sensors, better networked, will not soon make submarines useless; but even without breakthroughs, they could erode the strategic norm that has guided nuclear thinking for over half a century—that of an unstoppable second strike. If a country even suspects that the location of its second-strike submarines might be known, their value for nuclear deterrence decreases. As Mr Brixey-Williams wrote in 2016: "The political tensions and threat to strategic stability that [tracking and trailing] would create should not be underestimated...and may be more dangerous than the technology itself."

Brain scan

Wendy Schmidt

Wealthy individuals are now funding the push for healthier oceans

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PLASTIC, carbon dioxide and farmyard effluent all end up in the oceans. If anyone bears responsibility for them, it is generally believed to be those who put them into the seas, or governments.

Now a growing number of wealthy individuals are putting the oceans at the centre of their giving. One of those is Wendy Schmidt, wife of Eric Schmidt, an ex-chairman of Google. The philanthropic foundation she and her husband started in 2006 focuses on environmental issues of all kinds, with the ocean holding a special place in Ms Schmidt's estimation. "The world is composed of living systems that are interconnected, and the ocean is the biggest," she says.

Her passion for the oceans has not been lifelong. She grew up in suburban New Jersey, where she says watching Jacques Cousteau on the television was her closest encounter with the deep. It was only a year after starting the Schmidt Family Foundation that she learned to sail and became hooked on the seas.

A range of oceanic initiatives followed. In 2009 she and her husband launched the Schmidt Ocean Institute, a separate organisation with its own research vessel, the *R/V Falkor*, aiming to boost research. Ocean scientists may use the ship for free, as long as they commit to sharing their data publicly within two months of their voyage. Ms Schmidt has, since then, sponsored competitions aimed at improving the lot of the oceans. The first, in 2010, offered $1.4m for new solutions to clean up oil spills in the wake of the *Deepwater Horizon* disaster. The second, in 2015, offered $2m for new kinds of sensors to measure accurately the acidification of the oceans—a consequence of increasing carbon-dioxide emissions. The foundation recently launched a "philanthropic venture" arm, which focuses exclusively on funding technology that can be used for ocean conservation.

The pollution of the ocean with plastics is the latest oceanic issue to attract her attention. Lisa Svensson, the UN's oceans chief, declared plastic pollution to be a planetary crisis in December. "I say the oceans are under attack when I talk to people," says Ms Schmidt. "There are microfibres in phytoplankton at the bottom of the food chain. It is alarming."

She sees her role in answering these challenges having two fronts: promoting proper management and increasing public awareness. To the second end, the *Falkor* also has a berth for a resident artist, the better to communicate the wonder of the ocean, and its challenges, to the public. "At the end of my life, I'll feel successful if people who live in Midwest states feel connected to the ocean," she says.

In a plea for better management of the oceans, Ms Schmidt points to fisheries such as the Newfoundland cod and mid-Atlantic bluefish which, after going through crises of depletion in the 1980s, have rebounded once attention was paid to improving their sustainability. Doing the same for the whole ocean will require that it be managed on a global scale. When she says "we've got to figure out how to listen to the Earth", she means it literally.

This kind of global, digital listening turns out to be a speciality in Silicon Valley. Ms Schmidt is optimistic it can give policymakers the help they need to fix the oceans, in spite of the challenges. Technologies that have languished in laboratories for decades (contributing to the widely held truth that maritime technology is always ten years behind) can help measure and manage the oceans. Unleashing those technologies, says Ms Schmidt, is one of the thrills of philanthropy.

Measuring the seas

Gliders on the storm

From sharks to ice shelves, monsoons to volcanoes, the scope of ocean monitoring is widening

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IN NOVEMBER 2016 a large crack appeared in the Larsen C ice shelf off Antarctica (pictured). By July 2017 a chunk a quarter of the size of Wales, weighing one trillion tonnes, broke off from the main body of the shelf and started drifting away into the Southern Ocean. The shelf is already floating, so even such a large iceberg detaching itself did not affect sea levels. But Larsen C buttresses a much larger mass of ice that sits upon the Antarctic continent. If it breaks up completely, as its two smaller siblings (Larsens A and B) have done over the past 20 years, that ice on shore could flow much more easily into the ocean. If it did so—and scientists believe it would—that ice alone could account for 10cm of sea-level rise, more than half of the total rise seen in the 20th century.

The dynamics of the process, known as calving, that causes a shelf to break up are obscure. That, however, may soon change. Ocean Infinity, a marine-survey firm based in Texas, is due to send two autonomous drones under the Larsen C shelf in 2019, the first subglacial survey of its kind. "It is probably the least accessible and least explored area on the globe," says Julian Dowdeswell, a glaciologist at the University of Cambridge who will lead the scientific side of the project.

The drones set to explore Larsen C look like 6-metre orange cigars and are made by Kongsberg—the same Norwegian firm that runs the new open-ocean fish farms. Called Hugin, after one of the ravens who flew around the world gathering information for Odin, a Norse god, the drones are designed to cruise precisely planned routes to investigate specific objects people already know about, such as oil pipelines, or to find things that they care about, such as missing planes. With lithium-ion-battery systems about as big as those found in a Tesla saloon the drones can travel at four knots for 60 hours on a charge, which gives them a range of about 400km. Their sensors will measure how the temperature of the water varies. Their sonar—which in this case, unusually, looks upwards—will measure the roughness of the bottom of the ice. Both variables are crucial in assessing how fast the ice shelf is breaking up, says Dr Dowdeswell.

The ability to see bits of the ocean, and things which it contains, that were previously invisible does not just matter to miners and submariners. It matters to scientists, environmentalists and fisheries managers. It helps them understand the changing Earth, predict the weather—including its dangerous extremes—and maintain fish stocks and protect other wildlife. Drones of all shapes and sizes are hoping to provide far more such information than has ever been available before.

Saildrone, a Californian marine-robotics startup, is looking at the problem of managing fish stocks. Its tools are robot sailing boats covered with sensors which it builds at something more like a factory than a shipyard on the island of Alameda in San Francisco Bay. These 7-metre, half-tonne vessels—it has so far built 20 of them, one of which is shown on the cover of this quarterly—are designed to ply the seas autonomously, using carbon-fibre wings as their sails. The wing has a fin attached to it which keeps it trim to the wind at all times. Its on-board computer (which has a GPS-equipped autopilot), its sensors and its radio get their modest 30 watts of power from lithium-ion batteries topped up by energy from solar panels whenever the sun is out.

One of the first hubs deploying these drones is at Dutch Harbor on Amaknak Island in Alaska; at any given time three of the boats based there are off monitoring a large pollock fishery in the Bering Sea, something they can do autonomously for up to a year before returning for maintenance. They gather data using echo-sounders designed by Simrad, a subsidiary of Kongsberg. Because each species of fish reflects different frequencies of sound in its own way (often because their swim bladders resonate differently) a sonar which emits a wide range of frequencies, as the wideband Simrad devices do, can tell what is a pollock and what is not.

Never mind the pollock

The drones supplement the fisheries' main survey ship, which counts the pollock at the beginning of every season in order to determine how many fish can be caught. Their data give it a better sense of where to look. Sebastien de Halleux, Saildrone's chief operating officer, says they also find more pollock, providing a count 25% higher than that of the official survey vessel. This may be because the drones cause less disturbance and drive fewer fish away. In time he thinks the drones might go beyond helping the existing system and do the job on their own, which would be a lot cheaper.

Pollock are good to eat, and if fisheries are managed sustainably they will remain so in perpetuity. But they are hardly the most exciting fish to monitor. That honour must surely go to the great white shark. Jayson Semmens, a marine biologist at the University of Tasmania in Australia, is using a new generation of sensor tags to study the behaviour of these fearsome fish in more detail than was possible before—not to protect people, as shark attacks are very rare, but to build a scientific understanding of their metabolism. He uses accelerometer data from a tag the size of a grain of rice, attached to the shark's fin with a clamp, to calculate the energy it expends when it breaches out of the water.

The tags are too small to have enough power to send their data straight back to base. But they do not need to be retrieved directly from the shark (which is probably just as well). Their attachments dissolve over the course of their life, so in time they float free, rising to the surface and emitting a simple signal that allows them to be found. Armed with the data they record, Dr Semmens can calculate the fish's total energy needs, and thus how much prey a single shark requires. That can be used to gain an understanding of the flow of energy through the food chain, which is basic to understanding the dynamics of the ecosystem. The flow of energy through terrestrial ecosystems is comparatively easy to study; marine ones are more mysterious.

A tiny sensor that measures a shark's metabolism seems remarkable—but at heart it is no more so than a modern phone. "The accelerometer I use to measure great white shark activity," says Dr Semmens, "is the same one you use to turn your smartphone into a lightsabre." Such tiny tags, which can also measure the temperature and pressure of the surrounding water, are a big step up from the bulky tags of yesteryear, which would provide a single acoustic frequency that allowed researchers to follow the fish if they were close enough. And they are improving rapidly. "People are talking about tags which sample blood from animals underwater," says Dr Semmens.

The same technology can be used for environmental monitoring as well as pure science. Dr Semmens has tagged several endangered Maugean skate in Tasmania's Macquarie harbour with somewhat larger sensors—they weigh 60 grams, instead of 10—that measure heart rate and the dissolved oxygen content of the water. Parts of the harbour are becoming anoxic—deprived of oxygen—because of large-scale near-shore salmon farming. The data from the skate show how much of this is going on, and how much harm it is doing. That makes it easier to argue for changes that boost conservation efforts.

One of the biggest benefits of better measured seas is the possibility of getting to grips with dramatic weather events. The top 3 metres of the oceans hold more heat energy than the entire atmosphere. How much of that energy escapes into the air, and when and where it does so, drives the strength and frequency of storm systems. And there is ever more energy to do that driving. The average surface temperature of the seas has risen by about 0.9°C (1.6°F) in the past hundred years, according to America's National Oceanic and Atmospheric Administration. This means that, since the 1980s, about a billion times the heat energy of the atom bombs dropped on Hiroshima and Nagasaki has been added to the ocean—roughly an atomic explosion every few seconds.

Yet even as the amount of energy the oceans hold has risen, the details of its transfer to the atmosphere remain unknown for large swathes of the ocean. This is particularly important when it comes to understanding something like the South Asian monsoon. The rains are driven by the huge size of the Bay of Bengal and the amount of fresh water that pours into it from the Ganges and Brahmaputra river systems. Because this buoyant fresh water cannot easily mix with the denser salty water below it, the surface gets very warm indeed, driving prodigious amounts of evaporation. Better understanding these processes would improve monsoon forecasts—and could help predict cyclones, too.

That's why it's hotter under the water

To this end Amala Mahadevan of Woods Hole Oceanographic Institute (WHOI) in Massachusetts, has been working with the Indian weather agencies to install a string of sensors hanging down off a buoy in the northern end of the Bay of Bengal.

A large bank of similar buoys called the Pioneer Array has been showing oceanographers things they have not seen before in the two years it has been operating off the coast of New England. The array is part of the Ocean Observatories Initiative (OOI) funded by America's National Science Foundation. It is providing a three-dimensional picture of changes to the Gulf Stream, which is pushing as much as 100km closer to the shore than it used to. "Fishermen are catching Gulf Stream fish 100km in from the continental shelf," says Glen Gawarkiewicz of WHOI. These data make local weather forecasting better.

Three other lines of buoys and floats have recently been installed across the Atlantic in order to understand the transfer of deep water from the North Atlantic southwards, a flow which is fundamental to the dynamics of all the world's oceans, and which may falter in a warmer climate.

Another part of the OOI is the Cabled Array off the coast of Oregon. Its sensors, which span one of the smallest of the world's tectonic plates, the Juan de Fuca plate, are connected by 900km of fibre-optic cable and powered by electricity cables that run out from the shore. The array is designed to gather data which will help understand the connections between the plate's volcanic activity and the biological and oceanographic processes above it.

A set of sensors off Japan takes a much more practical interest in plate tectonics. The Dense Oceanfloor Network System for Earthquakes and Tsunamis (DONET) consists of over 50 sea-floor observing stations, each housing pressure sensors which show whether the sea floor is rising or falling, as well as seismometers which measure the direct movement caused by an earthquake. When the plates shift and the sea floor trembles, they can send signals racing back to shore at the speed of light in glass, beating the slower progress of the seismic waves through the Earth's crust, to give people a few valuable extra seconds of warning. Better measuring of climate can save lives over decades; prompt measurement of earthquakes can save them in an instant.

Ocean internet

Sailing the wired seas

An internet infrastructure is being built to span the oceans

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THE first use the modern world made of the oceans' depths was to run telegraph cables across them. That opened up a new era of intercontinental communication and spurred a new scientific interest in the abyss. Both enterprises have prospered: single cables now carry as much as 160 terabits across the Atlantic every second; oceanographers have mapped and drilled into the ocean floor around the world. But they have not come together. It is now very easy to get vast amounts of data from one side of an ocean to another; but it is hard to get even modest amounts of data out from the ocean itself. A new infrastructure is needed to enable sensors at sea to transfer their data back to land.

Sebastien de Halleux of Saildrone, the firm whose drones keep an eye on Alaska's pollock, dreams of doing much more than that. Saildrone recently increased its build-rate from one a month to one a day; by 2021 Mr de Halleux wants to have a thousand of his little craft sailing the seas. A full Helen of Troy's-worth sounds extravagant. But it is important to put it into context. First, smartphone components make such boats cheap; Mr de Halleux thinks he can build the whole fleet for less than the cost of one research vessel (roughly $100m). Second, the ocean is very big. Divide its surface into 1,000 pieces and each one is still the size of Japan. That is quite a lot of ground for a single little boat to cover.

There is already one research network considerably larger than this. An international collaboration called Argo has a regularly replenished fleet of nearly 4,000 untethered buoys (see map) which divide their time between the surface and the depths, drifting at the whim of the currents. Over ten-day cycles they sink slowly down to about 2,000 metres and back up, measuring temperature and salinity as they go. Their data have revolutionised oceanographers' understanding of their subject. But the network is still sparse—one float for every Honduras-sized patch of ocean.

Though restricted to the surface, Saildrone's craft are much more ambitious. They will not just monitor temperature; they will track fish and pick up pollutants, analyse carbon-dioxide and oxygen concentrations in the water, record the height of the waves and the speed of undersea currents, feel variations in the magnetic field and more. There are already markets for some of these data: weather forecasters, fisheries managers, oil and gas companies. For others the scheme has a "Field of Dreams" approach: build the data set and they will come.

Saildrone has so far raised $29m for this work. Ion Yadigaroglu, managing partner of the Capricorn Group, one of the investors, compares the company to Planet, a satellite company in which Capricorn has also invested. Planet has used smartphone technology and Silicon Valley agility to produce a constellation of over 100 small satellites. They provide images of every spot on Earth every day, allowing all sorts of new insights and monitoring possibilities. "Planet is a scanning platform for the Earth," he says. "Saildrone wants to be a scanning platform for the oceans."

Planet, though, has been able to build a network of ground stations to get its daily terabits of data down from the satellites passing overhead and out to customers. For Saildrone, where the data start off on the surface, the equivalent would be to build its own satellite network. This it cannot afford to do, so, like Argo, it uses satellite services provided by others. And these are expensive.

Argo can afford such satellite services because its floats produce relatively little data—a quick spurt every ten days or so. Saildrone boats produce far more, and so currently have to throw almost all of it away. Mr de Halleux says the drones' filtering algorithms cut the data down by a factor of 60 before transmission. If the company knew exactly what data the market would put most value on that might be acceptable. But with data never routinely gathered before it does not know.

Systems are also needed to get data out of the depths and up to the surface. Eamon Carrig, co-founder of Autonomous Marine Systems (AMS), based in Massachusetts, seeks to meet that need, providing "power, communications and bandwidth for other projects". His "datamarans", which also rely on wind for free propulsion using a solid "wing" sail, are smaller and cheaper than those built by Saildrone. They are designed to deploy sensors and buoys for third parties, such as Argo, and also to act as relays for things which can communicate only through sound.

Jayson Semmens of the University of Tasmania, who tracks sharks with tiny sensors, says that what he would really like to do would be to "track animals that never break the surface, and find a way to exfiltrate data from them". Among other things, live data from underwater animals would allow conservation biologists to manage ecosystems directly, instead of making decisions based on historical averages. It might be possible to get such data swiftly from fish to shore using a local network of AMS drones equipped with acoustic modems as an intermediary.

Other schemes exist for allowing connectivity to pop up as and when needed and swim away when all is done. Jeff Smith of Riptide Autonomous Solutions, a drone company also based in Massachusetts, is working with POSYDON, a programme run by DARPA, to build a system of small torpedo drones which will swim out and create a temporary acoustic communications chain in any area of the ocean that needs it, bouncing information from drone to drone.

The more of such systems there are, the wider the range of research which will be possible—especially if standards now being developed allow all the different systems to talk to each other. New buoys could add to the data Argo provides in particular places of interest without the need for a research ship to schlep out and deliver them. New types of buoy could be added, too. Last year Paul Allen, a co-founder of Microsoft, announced that he would spend $4m on 33 new Argo floats which could go down far deeper than the current ones, profiling temperature, pressure and salinity to a depth of 6,000 metres.

What is most needed, though, is a new generation of satellite internet to get data from the surface to the shore. Happily this seems to be on the way. Various companies are racing to deliver high-bandwidth internet to the entire surface of the Earth using hundreds of small, cheap satellites in low orbits. SpaceX, Elon Musk's rocket business, launched its first prototypes on February 22nd. The main beneficiaries are likely to be people in areas not served by current infrastructure. But to serve all those parts of the world, these services need to serve all the oceans, as well.

The bottom line

With satellite connectivity available at the surface, and acoustic systems deployed as and when needed below, there would be one more thing needed to complete the picture: a map of the ocean floor. Valuable in itself, it would also be a great help to underwater vessels trying to navigate or to prospect for minerals. Being able to compare what sonar shows below you with a map stored on board would make things a lot easier.

The best overall maps of the ocean floor to date have been made from space. Large underwater features like mountains and trenches exert a gravitational influence on the water above them, subtly changing the shape of the surface. Orbiting altimeters can measure those small excursions from mean sea level, and computers can use that data to infer what the sea-floor topography responsible for it looks like. This has produced maps with an average horizontal resolution of 5km—good for getting the gist of things, but little help to a drone trying to find its way.

Maps made with modern sonar systems towed behind research ships are better, but currently cover only 10% of the ocean floor at high resolution. Jyotika Virmani, an oceanographer working at XPRIZE, a non-profit outfit which gives awards for technological progress, is trying to improve this. Nineteen teams from around the world have entered the competition she is running to map the sea floor without using any human-piloted craft at all. The first round of the competition asked the teams to map 100 square kilometres of seabed to a five-metre resolution in under 16 hours. Next year the second round will ask for the same resolution over 250 square kilometres in a day. Ms Virmani is hoping the whole seabed will be mapped to a resolution of 100 metres or better by 2030.

That will not be an end to the mysteries of the deep. But it will mark a new era in their exploration. With easier communications from any point of the surface, a clearer idea of what lies below each of those points, and ever better sensors populating the volume in between, the oceans will be much better known. This will not make them any less marvellous. But it should make it easier to preserve their marvels.