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On the cover

The world's two superpowers have become rivals: leader, *page 11*. How their relationship has come adrift, *page 21*. China is misreading the politics of Western anger: Chaguan, *page 43*

• **The weakness at the heart of Europe** Angela Merkel's coalition is in trouble: leader, *page 12*. Emmanuel Macron's problems, *page 48*. Liberals should not cheer the decline of the big-tent European political party: Charlemagne, *page 52*

• **The Saudi sand trap** Saudi Arabia's alliances are being tested as never before, *page 44*. More reasons for business to steer clear of the desert kingdom—for now: Schumpeter, *page 63*. The world is becoming more dependent on American shale. Can the industry, at last, deliver both profits and production? *Page 57*

• **Progress in America's prisons** There is nothing inevitable about America's over-use of incarcerations: leader, *page 12*. A natural experiment in prison policy between Wisconsin and Minnesota, *page 25*

• **Will quantum break the internet?** How quantum computers will crack encryption that protects online data, *page 71*

The world this week

8 A round-up of political and business news

Leaders

- 11 **Politics and power** China v America
- 12 **Germany** Not so grand
- 12 **Criminal justice** Against pessimism
- 13 **Oil markets** Beyond boom and bust?
- 14 **In praise of the basics** Captain Sensible

Letters

18 On liberalism

Briefing

21 **China and America** The rivals



Free exchange A debate about central-bank independence is overdue, *page 70*



United States

- 25 Prisons in Wisconsin and Minnesota
- 26 Manufacturing jobs
- 27 Rural Democrats
- 30 The #MeToo backlash
- 31 Californian elections
- 32 **Lexington** Changing sides



The Americas

- 33 Mexico City's new airport
- 34 Judging Fernando Haddad
- 35 **Bello** The canonisation of Archbishop Romero



Asia

- 36 Democratising South Korea's economy
- 37 Australia's drought
- 38 #MeToo in India
- 38 South-East Asia sours on the death penalty
- 40 **Banyan** Dousing digital dissent in Kazakhstan



China

- 41 Mainlanders irk Hong Kongers
- 42 Mass internment
- 43 **Chaguan** China misreads Western populism



Middle East and Africa

- 44 Saudi Arabia's reputation
- 45 Weird flight paths
- 45 Meltdown in Zimbabwe
- 46 Chinese media in Africa
- 47 The anti-Lagos



Europe

- 48 Macron's problems
- 49 Spain's budget politics
- 50 Turkey and America
- 50 Why half the people in Luxembourg can't vote
- 51 A film about Polish priests
- 51 Ukraine's church
- 52 **Charlemagne** In defence of big tents

**Britain**

- 53 Selling Brexit at home
- 54 Bullying in Parliament

**International**

- 55 Farm hands vote with their feet
- 56 Why strawberries have become as big as plums

**Business**

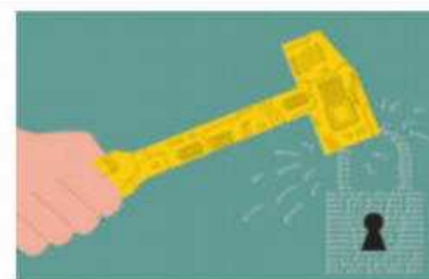
- 57 America's shale industry
- 58 **Bartleby** Executive pay
- 59 The collapse of Sears
- 60 Are pot stocks too high?
- 60 Microsoft's co-founder dies
- 61 Sonos v the tech giants
- 61 Weight Watchers
- 62 Bollywood and tourism
- 63 **Schumpeter** The Khashoggi affair

**Finance and economics**

- 65 Sweating public assets
- 66 Economics and the art of maintenance
- 67 Italy's doom loop
- 67 British retail banking
- 68 **Buttonwood** The equity-risk premium
- 69 A volatile stablecoin
- 69 Swiss banking secrecy
- 70 **Free exchange** Central-bank independence

**Science and technology**

- 71 Quantum computers
- 72 A space rocket misfires
- 73 Infectious travellers
- 73 Storing data in DNA
- 74 Mongooses in Iberia

**Books and arts**

- 75 Thomas Cromwell in fact and fiction
- 76 A new history of America
- 77 A pioneering abstract artist
- 77 Man Booker prize
- 78 **Johnson** Arabic's low profile

**Economic and financial indicators**

- 80 Statistics on 42 economies

Graphic detail

- 81 The new space race

Obituary

- 82 Pik Botha, apartheid's apologist



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Print-edition redesign

Introducing our new look

This week we launch a redesign of our print edition. It includes fresh typefaces and illustration styles, a clearer contents page and a new “Graphic detail” section for data journalism. We hope you like it. Comments are welcome at: redesign@economist.com

A murky outlook

America’s secretary of state, Mike Pompeo, travelled to Saudi Arabia, where he met King Salman and his son, Muhammad bin Salman, the crown prince. Prince Muhammad is under scrutiny after the death of Jamal Khashoggi at the Saudi consulate in Istanbul. Turkish officials say the journalist was murdered by a team of Saudis, many of whom have ties to the crown prince. Mr Pompeo, who also visited Turkey, said the Saudis promised to hold accountable anyone involved in wrongdoing.

Israeli jets struck 20 targets in the Gaza Strip after a house in southern Israel was hit by a rocket fired from the territory, which is controlled by Hamas, an Islamist group. Earlier Israel killed seven Palestinians, some of whom were trying to cross the border fence, amid protests on Gaza’s side of the border.

The World Health Organisation decided not to declare a public-health emergency over an Ebola outbreak in the Democratic Republic of

Congo, but said it remains deeply concerned. The virus is thought to have claimed the lives of about 140 people out of 181 confirmed cases.

The International Committee of the Red Cross said that a second midwife taken hostage by Boko Haram jihadists in north-eastern Nigeria had been murdered. The two women were kidnapped in March.

America killed 60 jihadists from al-Shabab in an air strike in Somalia. It is the largest such raid since November 2017 when about 100 al-Shabab fighters died.

Carry on, Emmanuel

Emmanuel Macron reshuffled his cabinet, though he took his time about it following the resignation of a close ally. The French president appeared to have prevailed in a struggle with his prime minister and others who wanted to take the chance to shift the government to the left. His approval ratings are still dismal.

Andrew Brunson, an American pastor who has been held in Turkey on absurd terrorism charges for the past two years, was released by a court. The move ends a big dispute with America, though other rows, in particular over Turkey’s planned purchase of a Russian air-defence system, persist.



An election in the German state of Bavaria produced heavy losses for the ruling Christian Social Union, a sister party to Angela Merkel’s Christian Democrats, and to the Social Democrats, who fell to a humiliating fifth place as their vote collapsed. The Greens and

the hard-right Alternative for Germany did well.

A student at a college in Crimea, which Russia annexed from Ukraine in 2014, went on a gun rampage, murdering at least 19 people.

Education, not incarceration

An official in China’s Xinjiang region admitted that Muslim Uighurs are being held in “vocational education” centres. Hundreds of thousands of Muslims whom the Communist Party deems too religious are thought to have been shut away in the camps, which the official lauded for discouraging terrorism. He did not say whether the camps’ inmates are being forcibly detained.

In India, M.J. Akbar resigned as a junior foreign minister amid multiple accusations of sexual harassment. He is the most high-profile figure so far to be caught up in the country’s accelerating #MeToo movement. Mr Akbar said he wanted to focus on clearing his name. He has filed a defamation suit against the journalist who first aired the claims.

Anwar Ibrahim was sworn in as a member of Malaysia’s parliament after winning a by-election. Mr Anwar, a former dissident, was previously jailed on bogus sodomy charges. He is expected to become prime minister when Mahathir Mohamad, the 93-year-old incumbent, resigns.

A Vietnamese activist, Nguyen Ngoc Nhu Quynh, was released from prison and allowed to fly to America. Better known as Mother Mushroom, Ms Quynh had been jailed for “crimes against the state” (writing about corruption and pollution).

Testing affirmative action

A trial began in Boston to determine if Harvard discriminates against Asian-Americans. The plaintiffs point out that Asian applicants to Harvard do brilliantly on

academic tests but mysteriously terribly on subjective measures such as likeability. The case is expected to reach the Supreme Court, which has a new conservative majority.

The highest court in Washington state struck down capital punishment, finding that it is “arbitrary and racially biased”. The sentences of all eight men on death row were converted to life imprisonment. Washington is the 20th American state to abolish the death penalty.

The wall begins here

President Donald Trump threatened to cut off aid to Honduras, as perhaps 3,000 people crossed from Honduras into Guatemala, en route to America. Mr Trump said he would punish Guatemala and El Salvador if they let the migrants pass. America provided \$175m to Honduras in 2017, in part to encourage its citizens to stay at home.

Pope Francis conferred sainthood on Óscar Romero, an archbishop who was murdered in 1980 while saying mass by an army-backed death squad in El Salvador. Romero had criticised the country’s military regime, which was engaged in a war against leftist guerrillas, and spoke on behalf of the poor. His murderers were never punished.



A law legalising cannabis for recreational use came into force in Canada. It is only the second country, after Uruguay, to legalise pot nationwide. The federal government set a minimum legal age of 18, though provinces can raise that. Medical marijuana has been legal since 2001.



Sears filed for bankruptcy protection following a long run of losses. The retailer, which revolutionised shopping in the late 19th century with its mail-order catalogue and helped pioneer shopping malls in the mid-20th century, is to close a further 142 stores, including its Kmart brand. Over the years Sears steadily lost market share in the big-ticket goods that lured customers. It applied for Chapter 11 as the bills piled up from suppliers, some 200 of which have stopped shipping their products to the company.

Days of wine and roses

America's big banks reported bumper earnings for the third quarter. Net profit at JPMorgan Chase rose by 24% compared with the same three months last year, to \$8.4bn. Bank of America and Wells Fargo both saw net income grow by a third, to \$7.2bn and \$6bn respectively. At Morgan Stanley and Goldman Sachs profits were up by a fifth. Citigroup made a profit of \$4.6bn, an increase of 12%.

By contrast, **BlackRock's** share price fell sharply after it released its quarterly earnings. Although net profit rose at the world's biggest asset-manager, to \$1.2bn, BlackRock recorded its first net outflow of client funds since mid-2015. Most of the money was pulled by institutional investors amid a pricing war in the investment industry and disquiet in financial markets generally. The firm's total assets under management grew to \$6.4trn.

Denmark's financial regulator rejected **Danske Bank's** choice for a new chief executive. The bank has become embroiled in a huge money-laundering scandal, which led to the resignation of the previous CEO. The regulator believes the next one should have more business experience.

America's federal **budget deficit** amounted to \$779bn for the fiscal year ending September 30th, an increase of 17% from the previous year and the

largest since 2012. That constituted 3.9% of GDP, up from 3.5% in 2017.

Good for workers

In Britain, **wages**, excluding bonuses, grew by 3.1% in the three months to August, the fastest pace since the financial crisis. The annual **inflation** rate dropped sharply to 2.4% in September, from 2.7% in August. Last year the growth in consumer prices outstripped that of wages, but pay started to pull ahead of inflation in February.

One of China's largest producers of vaccines, **Changsheng Biotech**, was fined 9.1bn yuan (\$1.3bn) by the government in relation to faulty data on vaccines for rabies. It is the biggest penalty levied on a Chinese drug firm to date. Changsheng was fined earlier this year for distributing defective children's vaccines.

Under pressure to tackle the spread of fake news, **Facebook** removed more than 800 politics-related pages and accounts from its network because of "co-ordinated inauthentic behaviour". It said the pages were removed for their owners' conduct, not their content, but that didn't

stop accusations of censorship from activists on the left and the right of the spectrum.

Uber was reported to be firming up plans for an IPO within the next six months that could see it worth as much as \$120bn, a vastly higher valuation than estimates based on recent rounds of fundraising.

That's a lot of couch potatoes



Netflix said that subscriber growth in the third quarter exceeded expectations, allaying fears about its shortfall in users in the second quarter. From July to September the video-streaming company gained an additional 5.9m international customers and 1.1m in the United States, bringing its global user base to 137m viewers. It plans to spend \$8bn on original content, outspending rivals such as Amazon and

HBO. Entertainment over the internet is set to proliferate, with titans such as Warner-Media and Disney preparing to stream their own content.

After being fined €4.3bn (\$5bn) by the European Commission in July for abusing the market dominance of its Android operating-system, **Google** said it would comply with the commission's remedies by allowing smartphone-makers in Europe to install all of its apps separately, rather than as a bundle. They will, however, have to pay a licence fee. Google recently launched an appeal against the commission.

Jeff Bezos waded into the controversy surrounding Google's decision to withdraw from the contest for a \$10bn contract to provide the Department of Defence with cloud-computing services. Google pulled out in part because of ethical concerns about how the Pentagon might use its technology. Amazon's boss said that was wrong, and that management must make the right decision "even when it's unpopular". Google had come under pressure from employees to drop its tender, raising questions about whether it has gone too far in bending to the will of its workers.



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China v America

The era of engagement is over. The world's two superpowers have become rivals

FOR THE past quarter century America's approach to China has been founded on a belief in convergence. Political and economic integration would not just make China wealthier, they would also make it more liberal, pluralistic and democratic. There were crises, such as a face-off in the Taiwan Strait in 1996 or the downing of a spy-plane in 2001. But America cleaved to the conviction that, with the right incentives, China would eventually join the world order as a "responsible stakeholder".

Today convergence is dead. America has come to see China as a strategic rival—a malevolent actor and a rule-breaker (see Briefing). The Trump administration accuses it of interfering in America's culture and politics, of stealing intellectual property and trading unfairly, and of seeking not just leadership in Asia, but also global dominance. It condemns China's record on human rights at home and an aggressive expansion abroad. This month Mike Pence, the vice-president, warned that China was engaged in a "whole-of-government" offensive. His speech sounded ominously like an early bugle-call in a new cold war.

Do not presume that Mr Pence and his boss, President Donald Trump, are alone. Democrats and Republicans are vying to outdo each other in bashing China. Not since the late 1940s has the mood among American businessfolk, diplomats and the armed forces swung so rapidly behind the idea that the United States faces a new ideological and strategic rival.

At the same time, China is undergoing its own change of heart. Chinese strategists have long suspected that America has secretly wanted to block their country's rise. That is partly why China sought to minimise confrontation by "hiding its strengths and biding its time". For many Chinese the financial crisis of 2008 swept aside the need for humility. It set America back while China thrived. President Xi Jinping has since promoted his "Chinese Dream" of a nation that stands tall in the world. Many Chinese see America as a hypocrite that commits all the sins it accuses China of. The time to hide and bide is over.

This is deeply alarming. According to thinkers such as Graham Allison of Harvard University, history shows how hegemons like the United States and rising powers like China can become locked into a cycle of belligerent rivalry.

America fears that time is on China's side. The Chinese economy is growing more than twice as fast as America's and the state is pouring money into advanced technology, such as artificial intelligence, quantum computing and biotech. Action that is merely daunting today—to stem the illegal acquisition of intellectual property, say, or to challenge China in the South China Sea—may be impossible tomorrow. Like it or not, the new norms governing how the superpowers will treat each other are being established now. Once expectations have been set, changing them again will be hard. For the sake of mankind, China and America need to come to a peaceful understanding. But how?

Mr Trump and his administration have got three things right. The first is that America needs to be strong. It has toughened the rules on takeovers, to give more weight to national security. It has extradited an alleged Chinese intelligence officer from Bel-

gium. It has increased military spending (though the extra money going to Europe still dwarfs that going to the Pacific). And it has just boosted foreign aid in order to counter lavish Chinese investment abroad (see Middle East and Africa section).

Mr Trump is also right that America needs to reset expectations about Chinese behaviour. Today's trading system fails to prevent China's state-backed firms from blurring the line between commercial interests and the national interest. Government money subsidises and protects companies as they buy up dual-use technology or skew international markets. China has used its state-directed commercial clout in smaller countries to influence foreign policy in, say, the European Union. The West needs transparency about the funding of political parties, think-tanks and university departments.

Third, Mr Trump's unique ability to signal his disregard for conventional wisdom seems to have been effective. He is not subtle or consistent, but as with Canadian and Mexican trade, American bullying can lead to dealmaking. China will not be so easily pushed around—its economy depends less on exports to America than Canada's and Mexico's do and Mr Xi cannot afford meekly to disavow his Chinese Dream in front of his people. Yet Mr Trump's willingness to disrupt and offend has already wrong-footed China's leaders, who thought they could count on America being unwilling to rock the boat.

For what comes next, however, Mr Trump needs a strategy, not just tactics. A starting point must be to promote America's values. Mr Trump acts as if he believes that might is right. He shows a cynical disdain for the values America enshrined in global institutions after the second world war. If he follows that course America will be diminished as an idea and as a moral and

political force. When America competes with China as a guardian of a rules-based order, it starts from a position of strength. But any Western democracy that enters a ruthless race to the bottom with China will—and should—lose.

The strategy should leave room for China to rise peacefully—which inevitably also means allowing China to extend its influence. That is partly because a zero-sum attempt at containment is likely to lead to conflict. But it is also because America and China need to co-operate despite their rivalry. The two countries are more commercially intertwined than America and the Soviet Union ever were. And they share responsibilities including—even if Mr Trump denies it—the environment and security interests, such as the Korean peninsula.

And America's strategy must include the asset that separates it most clearly from China: alliances. In trade, for example, Mr Trump should work with the EU and Japan to press China to change. In defence Mr Trump should not only abandon his alliance-bashing but bolster old friends, like Japan and Australia, while nurturing new ones, like India and Vietnam. Alliances are America's best source of protection against the advantage China will reap from its increasing economic and military power.

Perhaps it was inevitable that China and America would end up rivals. It is not inevitable that rivalry must lead to war. ■



Germany

Not so grand

Angela Merkel's coalition is in trouble, which means Europe is too

YOU MIGHT think that losing over ten percentage points off your vote was a calamity. But the drubbing meted out by the voters of Bavaria to Germany's Christian Social Union (CSU) on October 14th, which saw it lose its majority after ruling Germany's largest state single-handedly for all but five of the past 52 years, turns out to have been only the second-nastiest beating administered that day. The Social Democrats (SPD) were battered into fifth place, lost half their support and now seem to have entered terminal decline. That is a consequence, most analysts agree, of deciding in March to enter into a second "grand coalition" (GroKo, in its German nickname), with Angela Merkel's Christian Democrats (CDU). There is a chance that the collapse of Mrs Merkel's government is only weeks away, with gloomy consequences for a continent grappling with Brexit, an incipient Italian-driven new euro crisis and an ever more cantankerous Russia.

The result in Bavaria was not all terrible news. The Greens, who have become an economically and politically sensible centre-left alternative to the SPD, with a much younger and more enthusiastic base of support, got a huge boost. The hard-right Alternative for Germany (AfD) did less well than many had feared, taking around 10% of the vote compared with the 16% or so they score in national opinion polls. But Bavaria's election is further confirmation that all three of the GroKo parties are in deep trouble.

Nationally, Mrs Merkel's CDU, like its Bavarian sister-party, the CSU, has lost a big chunk of its support to the AfD. This is a reaction to the chancellor's decision in 2015 to admit more than 1m asylum-seekers into Germany. Though it is also because of her willingness to use frugal Germans' cash to bail out prodigal southern members of the euro. For its part, the SPD is being deserted by its supporters in droves because once again it is propping up a chancellor they see as unacceptably conservative. The SPD now faces a bleak choice: to stay in a floundering, bickering

alliance with a party its voters hate, or to leave—probably triggering an election in which it might do even worse than last time.

Nothing will happen before the end of the month. But the SPD might well jump if Hesse, a large state that votes on October 28th, delivers a similar verdict. That will lead to a new election, or possibly an attempt by Mrs Merkel to govern as a minority administration with the Greens. Little of note has been heard from her government on the national, European or global stage since it took office seven months ago and the drift is likely to continue. Even if the GroKo staggers on, the chancellor's days at the top seem numbered. Senior members of her party openly discuss the likelihood that she will be obliged to stand down as party leader (though not, yet, as chancellor) at the CDU congress in December.

The idea, presumably, is to allow her probable successor, the CDU's general secretary, Annegret Kramp-Karrenbauer, a chance to raise her profile before taking over as chancellor in good time for the next election. But it seems unlikely to make much difference to the CDU's fortunes. Modern Germans have an understandable aversion to charismatic leaders, but Ms Kramp-Karrenbauer will test even them.

Feeble government in Germany could hardly come at a less propitious time. Britain seems headed for a no-deal Brexit at worst or many months of crisis at best. Italy's unstable populist coalition has set itself on a collision course with the European Commission by proposing an unsustainable budget. Spain's minority government commands just 24% of the Chamber of Deputies. Sweden has little prospect of forming a government any time soon. And even France is reeling from badly handled crises and a propensity for arrogance that have weakened President Emmanuel Macron at home and annoyed his partners abroad (see Europe section). Weak leaders and parties with nothing to say to anxious voters have allowed support to drift to the extremes. It is not a cheerful picture, and it is likely to get worse. ■



Criminal justice

Against pessimism

There is nothing inevitable about America's over-use of prisons

SO MANY OF America's troubles are intractable. Hyper-partisanship and the culture wars can make reducing gun violence or obesity seem hopeless. But mass incarceration is different. There is ample evidence that America's states can lock fewer people up and still preserve public safety. Just look at Minnesota, which bangs up people at half the rate of neighbouring Wisconsin, though the crime rate in both places is about the same (see United States section). In a few weeks' time voters in Wisconsin and in other states will be asked to choose whether they wish to keep putting so many people inside or try something else. They should vote for change.

America is violent, so it naturally makes more use of prison than many other countries do. But that cannot explain how it manages to be the world leader in locking up its own citizens, both in absolute terms and as a share of the population. China is a one-party state with a billion more citizens than America, yet it incarcerates half a million fewer people (though this does not include perhaps 1m Uighurs interned in camps in Xinjiang). You might think America's legal system and culture are to blame. But the incarceration rate—defined as the number of prisoners divided by the total population—is four-and-a-half times greater than in Britain, which has a similar system and culture. ►

▶ The best explanation for most of this prison binge is four decades of panic, starting with the declaration of a war on drugs in the 1970s. Voters elected prosecutors who promised to lock more people up than their rivals. They chose legislators who promised the harshest possible mandatory-sentencing laws, which took discretion away from judges. In some states prison-officers' unions lobbied for new, bigger jails to be built, so as to provide their members with jobs. The use of pre-trial detention shot up. In places where public defenders are scarce, that resulted in long waits behind bars before a case was even heard.

This is unworthy of the land of the free. It is also a waste of public money. Depending on what is included, estimates of American spending on imprisonment range from \$80bn a year up to \$180bn. There is abundant evidence that you can cut prison numbers and crime rates at the same time. Since the mid-1990s, New York City has seen its prison population fall by almost two-thirds even as violent crime has more than halved.

The states have the power to do something about this, because they do most of the locking up. The federal government imprisons people at a lower rate than the governments of France and Italy. It is the state and local authorities that lift America above El Salvador, a fragile state beset by drug wars, which takes second place in the incarceration league table, and above Turkmenistan, one of the world's most repressive countries, in third. In fact, if American states were countries they would take up every single place in the table's top 20.

Some states are grappling with their part in this. Reducing prison populations is not just a matter of passing a decree, then

sitting back and waiting. States need to make a lot of small changes that, compounded over a decade or more, will eventually amount to something bigger. A list would include alternatives to prison for non-violent offenders, problem-solving courts that use incarceration as a last resort, reserving the longest sentences for those who pose a danger to the public, bail reform and treatment programmes for mentally ill defendants.

Thanks to such measures, America's incarceration rate has fallen a little since 2010, after 40 years of increases. Crucially, the states responsible for this improvement do not fall predictably on either side of the usual Republican or Democratic division. Deeply Republican Texas has long been a pioneer in criminal-justice reform. Deeply Democratic California has reduced its incarceration rate by more than most other states. South Carolina, no American liberal's idea of a model, has pursued a notably enlightened reform to the sentencing of non-violent offenders.

Saving money by saving time

That is not to say reform is always easy. It takes courage and skill to explain to voters that sending more people to prison is not always a sensible way to punish criminals and reduce crime. Even well-designed improvements can fail when they are implemented poorly. Louisiana, which has taken steps to reduce its prison population, is already seeing signs of a backlash.

Yet despite the difficulties, plenty of states have made a start. Mass imprisonment is a bad choice touted by politicians looking for easy votes. Their constituents assumed this would keep them safer. In fact, it only makes them poorer. ■

Oil markets

Beyond boom and bust?

America has become a shale superpower. But it still faces constraints

THE HISTORY of America's shale industry is brief and dramatic. In just a decade the country has seen the spread of innovative techniques to extract oil and gas locked inside shale rock; the lifting of a decades-long ban on crude exports; a price crash that seemed to decimate the industry—and now a price recovery. Next year the shale boom will account for the biggest surge in one country's oil output since the International Energy Agency began keeping track. America is now the world's top oil producer, surpassing Saudi Arabia and Russia.

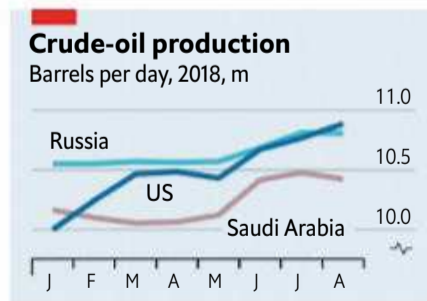
America's strides are all the more striking because they coincide with wobbles elsewhere. Output from many giant petro-states looks shaky at best. Exports from Iran are plummeting and due to sink further when American sanctions take effect next month. Venezuela's production is in freefall. Supplies are vulnerable in Libya and Iraq. Even before the fallout over the disappearance of Jamal Khashoggi, a journalist last seen entering the Saudi Arabian consulate in Istanbul raised questions about the kingdom (see Middle East and Africa section), many analysts doubted its ability to boost production quickly. Saudi oil exports are already near their peak of the past five years.

The upshot is that the world increasingly relies on American shale. In June America produced 13% of global crude oil, nearly twice the proportion of June 2008; that share will probably rise.

This shift is extraordinary, to be sure, but the power it hands to America can also be exaggerated. "The United States is the dominant energy player," Larry Kudlow, Mr Trump's economic adviser, boasted this week, able "to cover any shortfalls". In fact, shale is also bumping against its limits.

In the short term, these limits include bottlenecks in the pipeline infrastructure needed to get oil to market. Companies in the Permian Basin, which spans west Texas and south-eastern New Mexico, are producing more oil than they can pipe out (see Business section). New pipelines due late next year should help.

Other problems are harder to resolve. Extracting oil from shale has become more efficient since 2014: the median break-even price for producing a barrel is \$46. But costs are rising. Executives complain about a long-term labour shortage. Productivity gains in some regions are slowing as wells are drilled closer together. To blast more oil out of rock, companies are now using eye-popping amounts of water and sand. For a single well, hydraulic fracturing (fracking) can involve a total of nearly 65m litres of water, the volume of 25 Olympic swimming pools. That creates logistical and environmental demands. Pumping water back into shale formations is cheaper than carting it away, but that can cause small earthquakes. Colorado is considering new limits on frack- ▶



ing. Other states may decide to follow suit.

International oil companies have the size and logistical expertise to cope with some of these problems. Even as many of them cut spending on complex, long-term projects, they are putting more money into shale. Costs are more predictable and the timeline far shorter than for a giant project offshore. Chevron, BP and ExxonMobil all own large swathes of America's most productive basins. Their entry makes further consolidation likely, as shale specialists seek the benefits of scale. Those specialists that remain are beholden to investors, not to politicians bent on pursuing energy dominance. And their investors increasingly demand that shale firms earn a profit, rather than merely grow. As the industry matures and costs rise, in other words, recent leaps in output will probably become more modest. For the first time American shale companies will this year earn more from

operations than they spend on new projects and dividends, reckons Morgan Stanley, a bank.

About a decade after American shale firms began to surge, their most fervent backers can rightly claim that innovation has given the world a vast new source of oil and gas. Shale producers can indeed ramp up output relatively quickly. But America is hardly energy-independent. Last year the country imported more than 10m barrels of petroleum each day, equal to about half of its consumption. And the ability of the shale industry to dampen oil-price shocks is easily overstated. The Dallas Federal Reserve recently warned of a "growing likelihood" that the shale industry will be unable to keep up with rising demand, leaving the world vulnerable to geopolitical events that cause prices to spike. Being a shale superpower is useful, but it does not mean that America can control the market. ■

In praise of the basics

Captain Sensible

Large economic gains can result from mundane policy improvements

READERS OF *The Economist* are easily roused by debates over unconventional monetary policy, the merits of fiscal stimulus and innovative structural reforms. (Don't deny it.) Other areas of economic policy may lack the same thrilling sense of excitement, but dullness is not the same as irrelevance. There are large gains to be had by doing drab things a little bit better. Take three examples: maintenance, management of state assets and public-sector accounting.

Raising money for repairs is harder than finding the cash for flashy new projects that you can stick your name on. In recent decades America has built many useless new roads, yet the fraction of existing road surfaces that are too bumpy has risen from 10% in 1997 to 21% today. Potholes gradually damage vehicles that drive over them. Faulty locks on the Kiel Canal, which connects the Baltic and North seas, leave ships queuing to get through; sometimes they are forced on a detour around Denmark. Maintenance failures can also lead to fatal catastrophes like the recent bridge collapse in Genoa in Italy.

Yet if the costs of skimping on repairs can become tragically apparent, it is hard to spot maintenance shortfalls across the economy as a whole. Estimating how quickly assets deteriorate is tricky; so too is the job of tracking repairs, which are often undertaken by companies in-house (see Finance section). Canada has the best figures. It reckons that firms spend 3.3% of GDP on maintenance, more than twice what the country shells out on research and development. That makes repairs important to the economy in the short term, as well as over time.

Penny-pinching governments often let infrastructure crumble regardless. Even stimulus programmes typically favour vanity projects. After the financial crisis America spent twice as much per person on transport projects in sparsely populated areas as it did in cities, where the needs are greatest. Diverting more money into maintenance would be an easy win for society.

If some public assets are poorly maintained, others are inefficiently used. Governments own huge asset portfolios, including swathes of land, firms such as utilities or post offices, and finan-

cial assets, such as investments held by public-sector pension funds. The IMF recently studied 31 big countries covering about three-fifths of the global economy and found their collective assets to be worth \$10trn, or 219% of their combined GDP. The yields these assets produce vary wildly. SNCF, France's state-owned railway, earned a return on capital of 7.9% in 2017; Amtrak, America's closest equivalent, holds assets worth \$15bn but makes a loss. The fund reckons that a country moving from the 25th to the 75th percentile for risk-adjusted returns on only some kinds of assets would add annual revenues worth 3% of GDP to its coffers. That is roughly what rich countries earn, on average, from collecting corporate taxes.

How best to encourage more maintenance or to raise asset yields? Our third boring suggestion, improving public-sector accounting, is part of the answer. At the moment governments focus too much on cashflow and annual borrowing. Crumbling infrastructure and forgone yields do not feature in these figures. So when the state tightens its belt, it often preserves day-to-day spending by cutting maintenance and investment, even when doing so harms the public sector's net worth once all the beans are properly counted.

A businesslike focus on the balance-sheet would improve incentives. Finance ministers might invest more, were the resulting boost to public wealth made clear. And if all state bodies had to account for the capital tied up in their operations, they might feel obliged to put it to better use, or to sell it off. Only in one country, New Zealand, is public-sector accounting up to scratch. It updates its public-sector balance-sheet every month, allowing for a timely assessment of public-sector net worth. Britain produces good numbers, too, but with a delay of over a year—too long a lag for the figures to shape policy.

All this may sound more like a cure for insomnia than for economies' ills. Yet getting basic issues right would produce greater gains than many of the brilliant ideas that politicians trumpet in order to dazzle voters. Being boring might not capture attention. But it could actually do some good. ■



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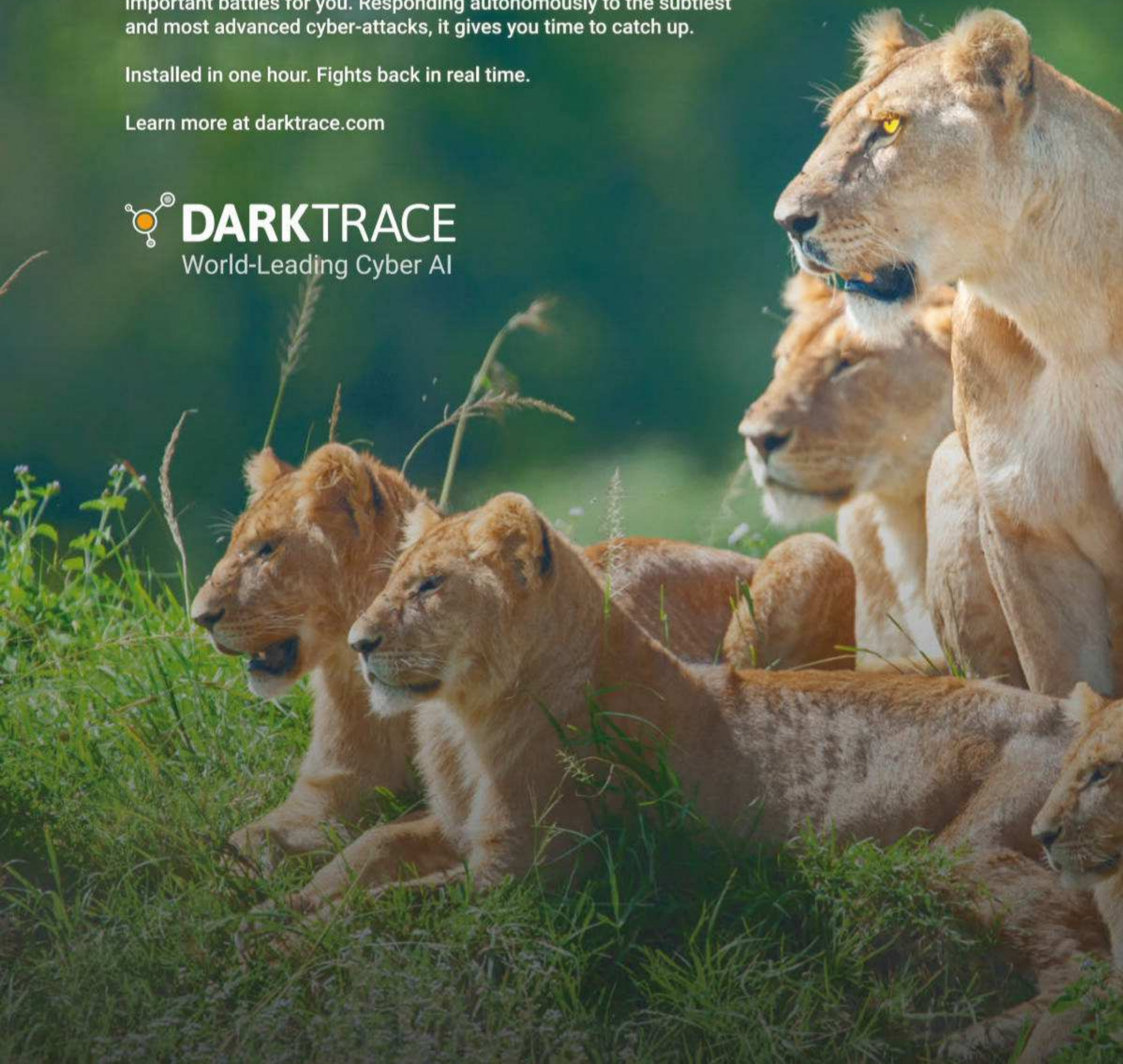
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Demonstrators call for banking reform at a rally to mark the 10th anniversary of the 2008 financial crisis, outside the Royal Exchange building in London, Britain, on September 15

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people, not
for profit!

What Financial Crashes Teach Us

Targeted structural reforms are essential to economic growth and stability

By Wang Yongli

Erupting in September 2008, the global financial crisis has lasted a decade. After the crisis, the worldwide trend of surplus production capacity and inadequate demand could not be reversed and the world economy has remained sluggish, leading to significant changes in the world and creating serious social problems. We need to analyze the root causes and lessons of the crisis so as to better address any likely new crisis.

After the crisis, many reasons were listed, such as greedy financial institutions and financial product investors who cared only for high investment returns but were regardless of the high risks; loopholes in the accounting system and problematic practices and principles of the industry; irresponsible rating firms whose credit scores were not in line with facts; and excessive financial innovation but incompatible financial regulation, which caused systemic risks.

All these need to be rectified, but they are not the root causes of the once-in-a-century crisis. Against the background of globalization and the history of the 20th century, we can figure out the real root cause: the massive surplus caused by information asymmetry and inadequacy during the process of international capital and production capacity transfer. It led to both the Great Depression in the 1930s and the recent Great Recession.

Causes of the crisis

Since the end of World War II, increasing amounts of international capital and production capacity have flowed to

Latin America, Southeast Asia, East Europe and then China, accelerating economic globalization and changing the world trade structure. Along with the arrival of global capital and production in a certain region, asset bubbles and financial risks also emerged and intensified while these funds and production capacity promoted local economic and social development. Once such problems occurred, capital soon moved to other markets, causing financial or economic crises. Affected economies had to input more money and production capacity to rescue the economy, leading to more redundant liquidity and production capacity. As such crises expanded, there was a worldwide surplus of capacity and liquidity, triggering a global financial and economic crisis as a result.

With the expansion of world population and a restriction of the globe's bearing capacity, there has been overcapacity and inadequate effective demand throughout the world, which will not be reversed within a short time. Under such circumstances, stimulus policies will only cause more problems, challenging the effectiveness of many major economic theories and macroeconomic policies.

After the global financial crisis broke out in 2008, major economies of the world significantly increased money supply and expanded production capacity. Although this curbed rapid worsening of the crisis and helped avoid the collapse of the financial market, it also created more risks and new factors for crisis, exhausting the potential of existing policy instruments. Together with rising trade protectionism, unilateralism and

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populism, a more serious crisis is looming over the world.

China's actions

After the crisis broke out, China immediately readjusted its macroeconomic policy and launched a massive stimulus package, making it the first major economy making a rebound. China then became the second largest economy in the world, with its role in international affairs remarkably improved. But after that China faced increasing economic downward pressure, entering a new stage of development where deeper and more extensive reform and opening up is needed.

As China became the second largest economy and the gap with the United States narrowed, the United States has sought to contain China.

Inside China, the economic downward pressure continued from 2011 to the end of 2017.

The 19th National Congress of the Communist Party of China in October 2017 established a goal: By the middle of the 21st century, China will have become a global leader in terms of composite national strength and international influence. This goal is of vital importance. But it inevitably worried the United States. Now the United States has launched a trade war against China, posing new challenges to China's development. Like the first half of the 20th century, the first half of this century is also an era of drastic internal changes and external challenges for China.

China has now entered a key stage of economic transformation, facing various daunting tasks. Of them, preventing and addressing major financial risks has become a top priority.

Since China's accession to the World Trade Organization in 2001, as the economy grew rapidly, its financial sector also grew at high speed. The country ranks first in the world in terms of monetary aggregate, scale of central bank assets, foreign exchange reserves and total financial assets. Rankings of its financial institutions in the world are also improving. After reform and opening up, great changes have taken place in China's financial market.

However, China's financial development still faces many problems in spite of great achievements. Because of the weak basis but rapid development, those in the financial sector have not fully understood monetary finance. Also, the responsibilities of financial regulators remain unclear, leaving many potential risks in the financial structure and financial legal system.

Until now China has not experienced the real test of a local financial crisis. After the bankruptcy of Hainan Development Bank in 1998, no Chinese bank went bankrupt. From financial institutions to regulatory authorities and even the coordinating agency at the national level, none has adequate experience in forecasting and addressing financial risks.

The way ahead

Compared with the financial systems of advanced countries, the Chinese financial sector still falls behind in terms of vitality, inclusiveness, the level of opening up and competition, and in



The National Internet Finance Association of China is inaugurated in Beijing on December 14, 2016, as part of efforts to regulate the burgeoning industry

particular, the international influence. As part of the country's core competitiveness, the financial sector has yet to live up to expectations. Therefore China urgently needs to deepen financial reform and opening up in an all-round way.

A decade after the global financial crisis, facing even more complicated international and domestic economic and financial conditions, China needs to reflect and summarize lessons and experiences from the crisis to address new and more serious crises.

Despite the huge challenges, China still has vast opportunities and great comparative advantages: It is the largest developing country in the process of industrialization, urbanization and informationization, with huge space and dividend for reform. China has \$3 trillion of foreign exchange reserves but its debt level is low, enabling it to withstand external impact; the debt level of the central government is very low, leaving a great space for carrying out proactive fiscal policy; the overall interest rate level is high, leaving ample room for supply-side structural reform in the financial sector; and financial institutions have become more able to address risks. There are good reasons to believe that China will effectively prevent and address financial risks and realize better financial, economic and social development.

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The author is former vice president of Bank of China and a senior researcher with the Chongyang Institute for Financial Studies of Renmin University of China



Philosophical musings

Your essay on reinventing liberalism for the 21st century was a wide-ranging, refreshing reminder of where we've been, where we are and how we need to improve (September 15th). As you said, "the core liberal causes of individual freedom, free trade and free markets have been the most powerful engine for creating prosperity in all history." Significantly, at only two points did your essay mention "capitalism", and even then as something adjacent to free markets rather than integral to them.

Moving forward, liberals need to be clear that their support for free markets does not equate to support for capitalism. The ownership of the means of production clearly merits discussion, but what liberals should all agree upon is that making choices in free markets is a fundamental part of human freedom.

PROFESSOR MICHAEL MAINELLI
Master
Worshipful Company of World Traders
London

Congratulations on 175 years of fighting for the liberal cause. Unfortunately, I have to agree with you. Many of today's liberals have lost their way and are changing the meaning of the word. Who would have thought that "liberals" would champion the curtailment of free speech? That saying something that annoys others could be construed as a criminal offence? That anyone who disagrees with them would be dismissed as a fool or bigot?

Your fight continues.
MALCOLM MEDDINGS
Sulby, *Isle of Man*

This is not the time for mea culpa hand-wringing by liberals. It is thanks to liberalism that we have rights for all minorities, clean air and water, a minimum wage, affordable health care, and so on. The problem is not a complacent upper-middle class obliviously enjoying the fruits of liberalism. The real danger comes from reactionaries who want to bring back the 1950s. Republicans have waged a successful campaign of disinformation and, allied with the religious right, oppose absolutely everything supported by liberals. In their world, America was in decline until January 2017. Newt Gingrich enshrined the principle of "never compromise" in 1994, which the party has adhered to ever since.

JASON CUTLER
Wilton, *Connecticut*

Americans need to rediscover the inclusive heart of American nationalism. The United States is a liberal concept, built upon the principles of liberty, justice and equality before the law. American nationalism is an allegiance to those principles. Historically, however, it has been tainted by the illiberal tendencies of racism and xenophobia, found today in alt-right notions of blood-and-soil nationalism.

We should defang the nefarious nagging of the nativists and re-read revolutionaries such as Thomas Paine and democratic thinkers like Thomas Jefferson, James Madison and Frederick Douglass. Americans must not let fashionable bigotries corrupt the liberal gift of American nationalism. Our experiment must be shared; American nationalism and liberal internationalism can co-exist. The human psyche may demand a tribe, but the progress of humanity demands co-operation.

EVAN WHITE
Newport, *Rhode Island*

People must have the basic reasoning skills to comprehend policy alternatives and their economic and social consequences. Civic education

should be integrated into every part of the curriculum so that policies can be debated in a factual, concrete manner, relying on empirical data, without shrill, emotional attacks on those with differing views. How can citizens understand the implications of a bankrupt pension system, for example, without first knowing how to read a simple graph, or understand the history of social security? Clear-thinking citizens have never been more necessary to the preservation of democracy.

MARK WYLAND
Former state senator
RICHARD LEVAK
Del Mar, *California*

Many liberal myths have sprung up around the repeal of the corn laws. Whatever the rights and wrongs of that momentous shift in social and economic conditions, it had nothing to do with altruism. The battle over the tariffs on agricultural produce in the early-19th century pitted the ascendant urbanising and industrialising capitalist class, which supported the repeal, against traditional land-owners, yeomen farmers and their agricultural workers.

The corn laws kept rural workers' wages high at the expense of those who were slowly being enticed into the new city factories. Abolishing the laws meant that wages and employment opportunities collapsed on the land. Industrial capitalists were able to lure the increasingly impoverished or unemployed land-workers to crowd into their dark satanic mills—rookeries and slums that provided barely more than starvation wages.

ROBERT CLARK
Frankfurt

The challenge to liberalism has come about not because it has failed, but because it has succeeded spectacularly, far beyond the imaginations of its exponents. But liberalism is no longer the reforming upstart it once was; it is like an old, rich patriarch who refuses to yield. It needs new ideas to fix its problems. Rich countries must

pay for damaging the environment by helping developing countries build cleaner economies, not by making these poorer countries curtail their growth. Local cultures should be respected wherever global companies make their mark.

RUSHABH MEHTA
Mumbai

I would be curious to know your thoughts on the relationship between liberalism and the world's great religions, which was missing from your essay. Is sharia law incompatible with liberal thought? How about the Buddhist concept of enlightenment? Confucianism? All have extensive views about the individual and his role in society.

DANIEL HOLMES
Miami

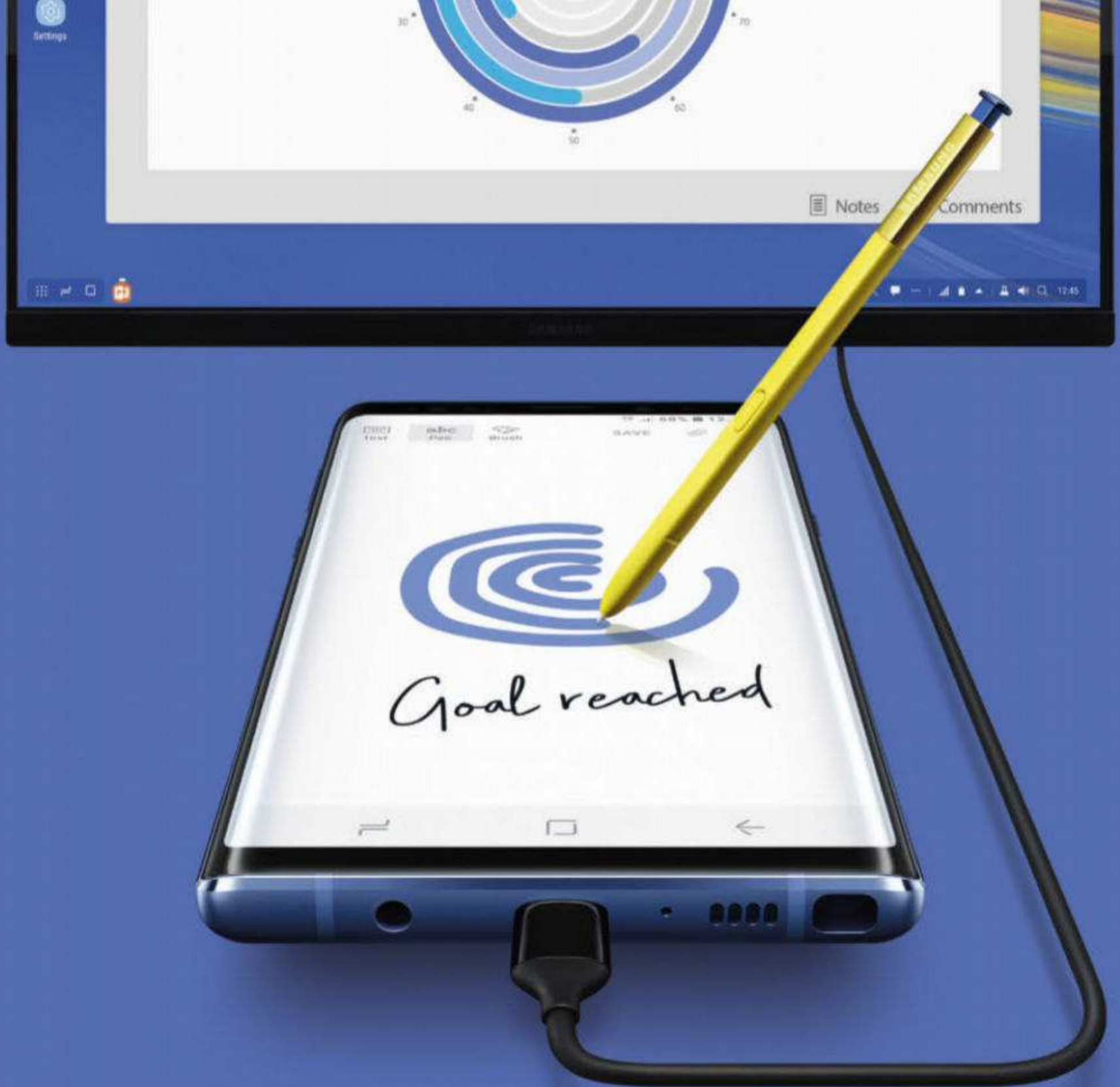
Modern-day liberalism, having become inextricably linked with secular humanism, has a collective blind spot with respect to the passions commanded by religious belief. That is another striking point of divergence from liberalism's 19th-century progenitors, many of whom were also people of faith and advocates of muscular Christianity.

ANDREW WILSON
Portland, *Oregon*

The very intelligence and subtlety of your proposals suggests that the challenge facing liberals is not so much a perception that they are elitist, but rather that liberals tend to embrace complexity and avoid simplicity. Nuanced arguments, however, do not appeal to the majority of people. H.L. Mencken recognised this tension between complexity and simplicity: "There is always a well-known solution to every human problem—neat, plausible, and wrong."

PETER FRASER
London

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The rivals

BEIJING AND WASHINGTON, DC

The relationship between the world's two most powerful countries has come adrift. That spells danger

WANG JIANQIN, in a thick red jerkin worn over her working clothes, does not look like an agent of superpower reprisal. The 60-year-old farmer rears 4,000 pigs in a brick-walled compound in Shunyi district, some 45km from Beijing. About a fifth of the food that she uses to fatten them up is soyabean meal, something China has come to import in vast quantities from the American Midwest.

Over the past 30 years, as the demand for pork in China has outstripped that in any other country, Ms Wang and her peers have done very nicely out of that American soya. And in America farmers have done well out of Ms Wang. Chinese money helped them pay for lots of cheap, Chinese-made goods at Walmart—as well as for the genetically modified seeds and other high-tech inputs stuffed with American know-how that make them so productive.

But this year their earnings will be a good bit down. In April President Donald Trump accused China of stealing intellectual property, coercing American firms

into technology transfers and other unfair trade practices. Mr Trump spent a dizzying spring and summer announcing punitive tariffs, expanding their scope and amping up their severity. There are now tariffs of between 10% and 25% on \$250bn of imports. Mr Trump has growled his willingness to go up to 25% on all of those goods and start in on the remaining \$267bn if he does not get his way.

When China punched back, announcing tariffs on up to \$60bn of American imports, it included a 25% tariff on soyabeans to hurt farm states that had voted for Mr Trump, such as Iowa. Despite China's president, Xi Jinping, having fond memories of the time he spent in Muscatine, Iowa, in 1985, the fact that the state is both second among America's soyabean producers and disproportionately influential in American politics makes it a prime target. Ms Wang was weaponised. As the price of soya has shot up, she says, some of her peers have switched to other feed, and she is thinking of following suit. The Chinese

Feed Industry Association has proposed new standards for pigfeed that cut the soyabean content to just 11-13%—a change that could reduce annual consumption by 10m tonnes.

China wants to do a deal. But America may want more than it is willing to give, because its concerns are wider than trade. Mr Trump sees himself leading a fight against “globalism”, by which he means any order that binds American sovereignty, or fails to put American workers first. As he put it to the UN General Assembly in September, “We reject the ideology of globalism and we embrace the doctrine of patriotism.” And his great patriotic fight is with China. “When I came,” he said in August, “we were heading in a certain direction that was going to allow China to be bigger than us in a very short period of time. That's not going to happen any more.”

A broadly based interdependence ties Beijing's pigs to Iowa's fields, interweaves supply chains and distribution networks across the Pacific and has seen copious Chinese investment in America. That had, until recently, led observers in both China and America to think attitudes like Mr Trump's could be nothing but bluster. Though relations might be testy from time to time, the economic logic which favoured getting along was simply too strong to ignore. But American unease about China's growing technological heft, increasing authoritarianism and military strength is ▶▶

▶ now overriding that logic.

America is undergoing a deep shift in its thinking about China on right and left alike. There is a new consensus that China has a deliberate strategy to push America back and impose its will abroad, and that there needs to be a strong American response. The coalition takes in conventional free-traders in the White House as well as the zero-summers in Team Trump and the national-security hawks in Congress. Pentagon chiefs and the bosses of spy agencies have framed China as the greatest threat to America's security, requiring a "whole of government" response. In civil society, the coalition includes religious conservatives, human-rights advocates, labour unions and old-school protectionists.

On October 4th Vice-President Mike Pence hammered the new attitude home in a de facto declaration of cold war. As well as decrying China's internal repression and its surveillance state, he inveighed against its attempts to hack and bamboozle America: it was employing "political, economic and military tools, as well as propaganda, to advance its influence and benefit its interests in the United States." One example: a supplement in the *Des Moines Register*, Iowa's newspaper of record, which China paid for in an attempt to turn Ms Wang's American suppliers against the administration's trade policies.

Given Russia's blatant attempts to interfere in the election that brought Mr Trump to power, one could be forgiven for rolling one's eyes at this stressing of the mote, as opposed to the beam. But Mr Pence levelled charge after charge, hinting, without supplying evidence, at darker interference. He deplored the China-friendly programmes supplied to dozens of American outlets by Chinese state radio. He accused China of exerting pressure on American universities by threatening to deny visas to researchers, and bribing and bullying Hollywood into portraying it in a positive light.

The vice-president accused the Communist Party of obtaining "American intellectual property—the foundation of our economic leadership—by any means necessary". It would feed this into its "Made in China 2025" plans to dominate advanced industries such as robotics, biotechnology and artificial intelligence. He decried its intimidation of Taiwan, which China believes to be a rogue province, and its broad military ambitions. China, he said, "wants nothing less than to push the United States from the western Pacific and attempt to prevent us from coming to the aid of our allies." This would not stand. The Trump administration, Mr Pence said, "has now pledged to fight back hard on all fronts—and win."

This is not just a war of tariffs and words. In early October Xu Yanjun, a func-

tionary of China's foreign-intelligence agency, was lured to Belgium and then extradited to America on charges of stealing trade secrets from American aerospace companies. It is the first time a Chinese national has been extradited to America for such spying. A few days before that, in what a spokesman for America's Pacific fleet called "a series of increasingly aggressive manoeuvres", a Chinese destroyer came within 40 metres of an American guided-missile destroyer, the *USS Decatur*, which was on "freedom of navigation operations" within waters China stakes a claim to on the basis of a couple of disputed reefs nearby. Warships acting like dodgems feels like an escalation.

The ship that foundered

In an ocean of mistrust, it is worth recalling what still holds. The two countries' bilateral trading relationship remains the world's biggest, despite the trade war. The Chinese diaspora and 350,000 Chinese students in American colleges and universities mean there are a great many personal ties between them. China co-operated in harsh sanctions aimed at getting North Korea to restrain its nuclear programme. Some progress has been made in cracking down on the flow of Chinese opioids to America. And it is not as if the two countries are fighting proxy wars in third countries. This is not—yet—a cold war like the previous one.

But genuine, if sometimes wary, engagement has been replaced by frank talk of strategic competition and deepening mistrust underlined by big tariffs. As Kevin Rudd, a former prime minister of Australia now running the Asia Society Policy Institute, a think-tank, puts it, the ballast that once kept the relationship on an even keel has been jettisoned. What went wrong?

The original ballast, the steadying factor which allowed Richard Nixon's opening to China in the 1970s, was a shared strategic mistrust of the Soviet Union. America's underpinning of East Asia's security gave China the confidence to begin its opening up

to the world in the late 1970s. After the collapse of the Soviet Union, a shared dislike of it was no longer much of a basis for a relationship—especially as the overtly pro-American tone of students in Tiananmen Square in 1989 had made the party afraid that America was bent on toppling communism there, too. But gradually, over the 1990s, the two sides found a new way to steady their relationship: trade.

The era of closest alignment was the early 2000s, after America helped China become a member of the World Trade Organisation. China had been building up its armed forces since the Taiwan Strait crisis in 1996, when a show of naval force by President Bill Clinton brought Chinese missile tests designed to intimidate the Taiwanese to an abrupt halt. But China was not in a position to mount a serious regional challenge to America—where concern about its rapid rise was tempered by an assumption among political and business elites that the rapid expansion of its middle class would bring some measure of liberalisation. It was not just Westerners who imagined that an authoritarian China might liberalise internally and become a "responsible stakeholder", in the phrase an American diplomat, Robert Zoellick, used in 2005. Many Chinese argued the case, too.

There were incidents that raised tensions, such as the forced landing of an American spy plane on Hainan after a collision with a Chinese fighter in 2001. But neither side saw an attractive alternative to getting along.

Then two things changed. The global financial crisis narrowed America's economic lead. After the collapse of its export markets threw some 20m Chinese out of work in just a few months, the government responded with a massive stimulus, rolling out high-speed rail, motorways, sewage-treatment plants, housing projects and more. Chinese GDP bounced back; America's growth remained well below par for years, seemingly justifying a certain technocratic cockiness, as well as a degree of *Schadenfreude*. In 2006, measured in cur- ▶▶



Tag—you're it

rent dollars, America's economy was five times bigger than China's. In 2017 it was just 60% bigger (see chart).

The second change was Mr Xi. His ascension in 2012 began what Chinese officials now call "the new era". He celebrated and sought to entrench the state's leading role in the post-crisis economy. He stifled dissent and tightened the authoritarian screws. His new-era China loaned vast sums to governments with dodgy records on everything from human rights to corruption and the environment. Its Belt and Road Initiative and the lending institutions that support those infrastructural ambitions, along with its talk of "reform of the global governance system", make it plain to Mr Rudd that China is not embracing the American-led global order. It is seeking to change it—at precisely the time that America, under the anti-globalist Mr Trump, is giving up on its support.

American concern over those changes has been exacerbated by a generational shift in its bureaucracy. Douglas Paal of the Carnegie Endowment for International Peace, a Washington think-tank, points out that the public servants who knew China as a poor country and saw the fruits of it opening in the 1990s are retiring. Whether they be the kindly folk who administer development aid or hard-boiled China-hands at the Pentagon or CIA, the younger officials now running China policy have known only a wealthy, powerful nation breaking promises of reform. In 2014 many also saw their own sensitive data, sometimes including information about love lives, drinking habits and finances gathered for security clearances, stolen by Chinese cyber-thieves from the Office of Personnel Management. "That makes the risks personal," says Mr Paal.

Such malfeasance continues. On October 9th CrowdStrike, an American computer-security company, published a report into intrusion attempts it had monitored, identifying China as the most prolific source of nation-state attacks on American computer networks in the first half of 2018. The firm cited evidence of China-based hackers attacking firms in biotech, aerospace, mining, pharmaceuticals, professional services and transport. Foreign diplomats and Western businessmen say that Chinese intruders frequently target sensitive commercial data held within servers in China and even Western home countries. The agreement between Mr Xi and Barack Obama in 2015 that China would refrain from state-sponsored intrusions to steal commercial intellectual property is clearly in poor shape. Controls on Chinese investment in American tech businesses are tightening up.

The Chinese government's response is to declare its support for cyber-security and the protection of intellectual property,



The meet cute

though American firms which have had their technology snaffled say that Chinese courts make no pretence of upholding the same law for all. On October 15th the state news agency, Xinhua, published a commentary calling America "a cyber-predator that has a notorious record of violating other countries' interests and rights." The country's ulterior motive was "fearmongering" against China, it said, citing the "eye-popping" revelations made by Edward Snowden, a former American cyber-spy turned leaker who revealed how America's National Security Agency used hacking techniques and hidden vulnerabilities in high-tech kit to eavesdrop on America's foes—including China—as well as its friends. Xinhua also accused America of "slandering" Chinese high-tech enterprises such as Huawei, a telecoms giant, in order to "stir up Sinophobia in other countries so as to browbeat or hoodwink them into blocking Chinese competitors and saving the market for us companies."

China is also becoming a new source of competition on the high seas, its warships increasingly active from Djibouti on the

Horn of Africa, where China has established its first overseas base, to the East China Sea, where America is treaty-bound to protect disputed islands controlled by Japan. Last April China's largest-ever naval exercise saw scores of ships in the Taiwan Strait. China has also been picking away at the dwindling number of states that maintain official relations with Taiwan.

Raising the stakes

China's military spending has not changed much as a share of GDP; but when your GDP is as large as China's, and growing as fast, you can afford to buy a lot of arms. The International Institute for Strategic Studies, a think-tank, notes that since 2014 China has launched naval vessels "with a total tonnage greater than the tonnages of the entire French, German, Indian, Italian, South Korean, Spanish or Taiwanese navies". What is more, the increasing number of its ships may well understate the rate at which China is improving its ability to sink enemy vessels. China's anti-ship missiles, launched at sea, in the air or from the ground, are more plentiful and more advanced than America's, and some boast longer ranges, too; the same goes for some of its other munitions. That, according to Eric Sayers, who until recently was a consultant at America's Indo-Pacific Command, is what America's planners need to worry about.

A growing array of satellites and sensors, including some on disputed islets, can funnel panoptic targeting data to this wide array of missiles, making it dangerous for hulking American aircraft-carriers to station themselves near flashpoints. "In any air war we do great in the first couple of days," says Christopher Johnson, formerly the CIA's senior China analyst. "Then we have to move everything back to Japan, and we can't generate sufficient sorties from that point for deep strike on the mainland." ▶▶

Rising peacefully?



► If America cannot destroy missile sites on the mainland it risks incurring severe losses in any fights near Chinese shores.

America does have one thing that its rival does not: friends. Many of these, including India, Japan and Taiwan, are glad to see it dispensing with old niceties and calling China a strategic competitor. America, India and Japan hold annual exercises that grow more ambitious by the year, flying aircraft off one another's decks and sharing tips on how to hunt unfriendly submarines. An intelligence-sharing agreement between America and India, which Indian leaders had kept on ice for years, was signed in September, paving the way for more advanced weaponry to flow to India's armed forces. America and Australia have both sounded out Papua New Guinea on the prospect of new bases in the southern Pacific. The "Five Eyes" intelligence alliance, in which America, Britain, Canada, Australia and New Zealand freely share the fruits of their eavesdropping, has been energised by joint efforts to track China's interference in foreign countries.

In fractious times, it is good to talk. Yet lines of communication between America and China are shutting down just as they are most needed. A high-level diplomatic and security dialogue between the defence ministers of America and China, hailed as a "pillar" of the relationship when it was launched last year, was abruptly junked by China last month, after its armed forces fell foul of American sanctions on buying Russian arms. China has also curtailed or cancelled several other military contacts between the countries—not that these have ever been extensive or especially fruitful. A lower profile Military Maritime Consultative Arrangement, in which each side swaps complaints about encounters like that in August, continues to function. Were that to now be abandoned, alarm bells

should really start ringing.

Tensions between the two powers have risen before—but only when there has been a crisis, as in the Taiwan Strait in 1996 or on Hainan in 2001. What is alarming is the degree to which they have heightened without any such flashpoint. Now that the relationship's ballast has been largely jettisoned, future squalls will be even scarier.

Chinese caution might offer some hope. Officials in China are remarkably casual, even dismissive, about the idea that the country's behaviour played any role in stoking today's tensions (see Chaguan). But they still hope to de-escalate the trade war. This is why, though Chinese media routinely call America a bully, and treat its complaints against China as false pretexts for strategic containment, the taps of nationalist outrage have not yet been cranked fully open, and communist propaganda chiefs have not launched a personal campaign against Mr Trump. If the Chinese public has been taught to see the American president as their foe, it is harder to cut a bargain with him.

Self-fulfilling prophecies

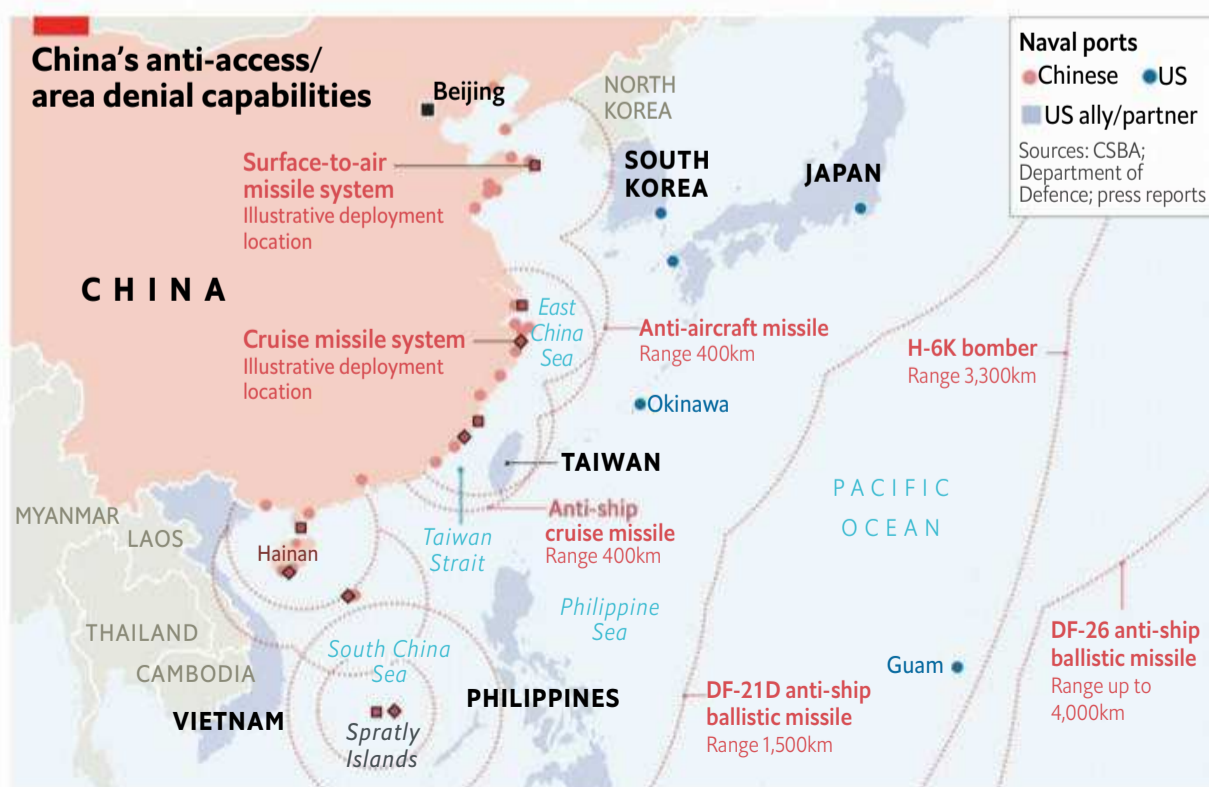
Economic officials in China insist their country remains committed to open markets. Li Wei, head of the Development Research Centre at the State Council, China's cabinet, sets out clearly that this is for reasons of self-interest—a shrewder tactic than merely mouthing pieties about Chinese benevolence. China must continue to open and reform its economy, he says, because of its own development needs. Recalling the phrase of China's paramount leader in the 1980s, Deng Xiaoping, that opening a window to the world would bring in both fresh air and a few flies, Mr Li says that "people generally find that there's quite a lot of fresh air that came in with reform and opening up, not a lot of flies." He

insists that if China punches back on trade, it should be seen as aggression in defence of globalisation, not a rethinking of China's commitment to open to the world.

But an ambition for further development is hardly going to placate America. Take the Made in China 2025 initiative unveiled in 2015 by the State Council and filled with references to "indigenous innovation" and self-sufficiency in high technology, a cause that Mr Xi has made his own. Though Chinese diplomats now downplay the plan's importance—lamenting that, intended for domestic consumption, it has become a focus for international concern—it was enshrined in the central government's latest Five Year Plan, approved last year. A study undertaken by the European Chamber of Commerce in China in 2017 that tallied up central and local government announcements found hundreds of billions of dollars in subsidies, research funds and other forms of support. In sectors from electric vehicles to industrial robotics, foreign firms face pressure to hand over core technologies to Chinese joint-venture partners, merely to keep market access. Mr Pence fumes that "Beijing now requires many American businesses to hand over their trade secrets as the cost of doing business in China."

The charge that America would not tolerate China growing larger under any circumstances used to be something of a fringe view in Beijing. Now there is a debate at the top of the government as to whether it is in fact true, and that America has become a foe so implacable that there is no point making concessions to it. That atmosphere makes it harder to avoid a deeper trade confrontation. Even if Mr Trump surprises the world once again and settles for a deal over trade that he can tout as a win, the mood of competition over regional security could bring tests of strength on the seas and in the sky, as well as miscalculations and possible clashes.

Well-connected scholars and retired officials have shared their concerns with Western contacts about a febrile mood within China's national-security establishment. They detect genuine excitement over the prospect of a great-power contest in which China is one of the protagonists. This coincides worryingly with the squeezing of public space for discussion. Scholars are not now supposed to debate foreign policy in the open, and strident nationalists dominate what debate there is. Even the idea of an expensive arms race with America strikes some Chinese experts as a fine plan, given their confidence in the long-run potential of their economy. In this dangerous moment, blending grievance and cockiness, it seems astonishing to remember that less than a generation ago Chinese leaders assured the world that they sought only a "peaceful rise". ■





Prison

A tale of two states

MILWAUKEE

Lessons from a natural experiment taking place in Wisconsin and Minnesota

A BROKEN TOOTH sent Antonio Amphy, an engaging 42-year-old with a grey goatee, behind bars for six months. After taking a pill to ease his pain, he failed a drugs test and broke the terms of his parole. (He is completing a 24-year sentence for a murder in 1994.) Mr Amphy has been sent back inside other times, he says, for smoking marijuana or failing to meet his parole officer.

Mr Amphy, who was released in Milwaukee last week, listens as others offer similar accounts. A woman says her depressed boyfriend was re-imprisoned for not meeting his officer—after attempting suicide he was in intensive care for liver failure. “He’s dying and they lock him up!”, she exclaims. A sex-offender on parole says his officer failed him over a lie-detector test. Six weeks back inside cost him his job and he came home to a trashed apartment.

Cases of technical revocations—dubbed “churn” or “back door entry to prison”—are dismally common. “Basically it’s impossible not to violate” parole conditions, suggests Pamela Oliver, a sociologist at the University of Wisconsin in Madison. Returning to prison undermines efforts to go straight. “This is going to continually mess up my life, it’s all so difficult trying to get started again”, says Mr Amphy, in tears. Revocations can reset the parole time re-

maining to be served. Though his sentence should be over, he still has five years to go.

That is both miserable for individuals and does little good for the state, because churn adds to an already over-stuffed prison population. In Milwaukee around one-third of those on parole go back inside at some point, says a local researcher. Reform campaigners say some 3,000 people in the state are reimprisoned each year despite committing no new crime, a rate they say is far above the national average.

Ed Wall, who until recently ran corrections in the state, calls this “an endless treadmill of throwing people back in prison for technical violations”. He wants to reform that. Carl Fields, another ex-prisoner, former “street dude, hustler and knucklehead” agrees. He served 16 years for shooting at (and missing) policemen when he was a teenager and will be on parole until 2033. An articulate campaigner, he also wants to close an overcrowded, high-rise, 1,000-bed prison tower, the Milwaukee Secure Detention Facility (MSDF). It appears to be a fortified office block downtown but is crammed with inmates on revocations.

Wisconsin has not taken lessons from other states that kept prison populations relatively low or have found ways to cut them. South Carolina and Michigan for example have adopted non-custodial means,

→ Also in this section

26 Booming manufacturing

27 Rural Democrats

30 The #MeToo backlash

31 The mid-terms in California

32 Lexington: Switching parties

such as community service, for those who break parole terms. South Carolina has cut its prison population by 12%, lowered spending and closed three prisons between 2010 and 2015.

Mr Fields says Wisconsin should “get on the same track” as Minnesota. The two states, roughly similar in population, size, wealth and culture, have adopted sharply different approaches to prison in the past 40 years. They form a natural experiment, contrasting Wisconsin’s tough-on-crime methods with neighbouring Minnesota’s more progressive ones.

The states diverged after the 1970s, when “liberals in Wisconsin saw ourselves as twinned with Minnesota”, says Kenneth Strait, a researcher in Wisconsin. Inmate populations (in prison and county-run jails) rose fast, partly because of hardening sentences in both states. Minnesota had locked away 132 inhabitants per 100,000 in 1978, which jumped to 434 people by 2015, says the Vera Institute of Justice. Wisconsin’s sentencing was tougher still: its inmate population leapt from 178 to 925 per 100,000 residents.

Wisconsin’s 35,000-strong jail and prison population now far exceeds Minnesota’s 16,000. Wisconsin’s prisons guzzle state funds at twice the rate of next door: \$150 is spent for every Wisconsinite to \$74 per Minnesotan. A growing body of elderly lifers with soaring medical bills will push costs much higher. At times, state funding for prisons—about \$1.2bn, or \$38,000 per prisoner yearly—exceed spending on Wisconsin’s university system.

Nor has Wisconsin’s tougher regime obviously limited crime any better than its neighbour’s laxer one: rates are similar in each state (violence is somewhat lower in ▶▶

Minnesota). Yet Scott Walker, Wisconsin's governor, knows that many voters like toughness whatever the actual outcomes. "He's running on fear" observes Mr Amphy. Mr Walker attacks his Democratic opponent, Tony Evers, for saying prison numbers should come down.

Once out of office, even formerly tough guys quickly grasp how big prison populations are harmful. Typical is Mr Wall, "a cop of 30 years" who fiercely favoured harsh sentencing before he ran Wisconsin's prisons. Now he wants "change in all elements" such as softening sentences, easing parole, more help to treat mental health and offer job skills. "If I can get the message, anyone can get it", he says.

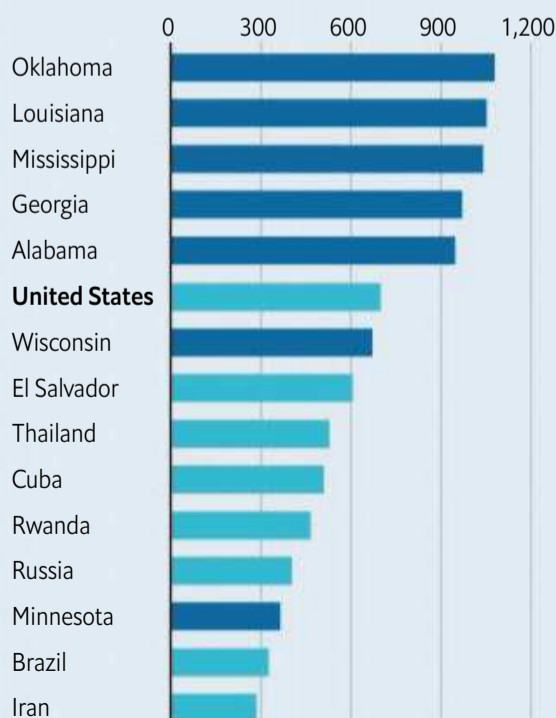
Tommy Thompson, a Republican governor for 14 years, also regrets overseeing a boom in prisoners. "We warehouse them. Constantly building prisons is not the way to go. Minnesota is not, and their crime is no worse than ours", he says. He is keen to lead a reform programme, but says state politicians "are afraid as hell" of change. Mr Walker won't even visit his own prisons, declaring there's "no value" in doing so.

What could reform include? Mr Thompson wants vocational studies and early release for perhaps one-third of current prisoners. Kelly Mitchell, of the Robina Institute at the University of Minnesota, says various combined efforts are needed. A start would be setting up an independent sentencing commission like one she used to run in Minnesota. It advises legislators on how any new law would affect prison numbers and its cost to taxpayers. Even tough-on-crime legislators soon turn more cautious when obliged to include such information in their bills, she says.

Justice league

Prisoners per 100,000 people

Selected countries and American states, 2018 or latest



Sources: Prison Policy Initiative; World Prison Brief

A rethink of sentencing also makes sense. Minnesota has reduced penalties for infractions such as drug offences, as it tries to cut revocations. The state also uses problem-solving courts that aim to correct non-violent offenders' behaviour without recourse to jail time. The rewards such courts offer can be as cheap as cinema or bus tickets, or applause from judges, lawyers and parole officers, but they work.

One of the biggest differences is that Minnesota sends only convicted felons to prison, giving counties and jails charge of those awaiting trial or whose offences are minor. Counties and jails turn out to be likelier to release offenders for (cheaper) community supervision. That only works, however, given enough funds for treating mental health and addiction, plus training for those who supervise offenders.

Wisconsin needs change there. Lower

spending on its social services means addicts and the mentally ill are "consciously channelled into prison," argues Ms Oliver, the sociologist. She says local authorities have a financial incentive to push patients off their own welfare budget and into state-funded prisons. That helps explain why so many mentally ill people are behind bars. The MSDP, for example, reports that 62% of inmates have diagnosed mental-health problems. That no sunlight penetrates its double layer of walls and tinted windows may be a factor, too.

Mr Amphy says those who oversee big prison populations "don't know what they do to people's lives", including to families left behind. Another ex-prisoner observes that sending a father to prison increases the odds his son will follow. While the governor looks away, Wisconsin is storing-up problems for future generations. ■

Manufacturing jobs

The producers

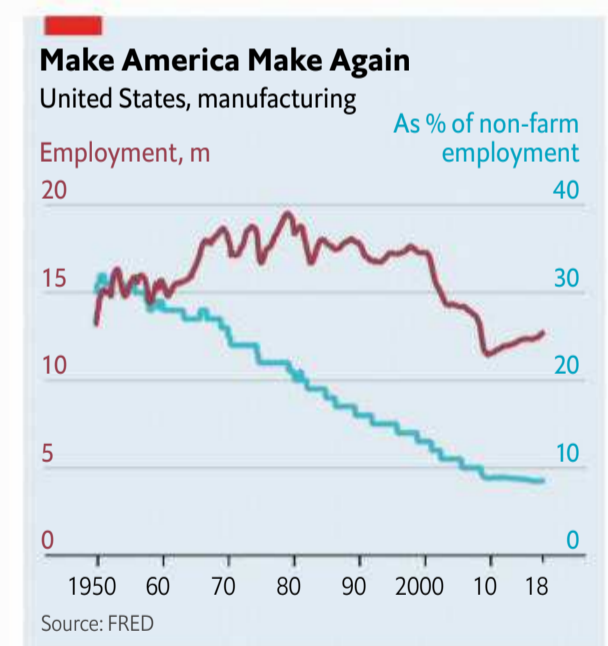
WASHINGTON, DC

Factory employment is defying expectations. Should the president get the credit?

"NATION LONGS for one more day with a dying manufacturing sector." This headline, published in 2014 by the satirical website the *Onion*, anticipated both President Donald Trump's fears and the retorts he gets from his critics. Mr Trump campaigned on a promise to bring back jobs in manufacturing after decades of decline. To those who see the future of the American economy in services, these promises seemed backward. When he was head of the National Economic Council, Gary Cohn reportedly asked the president which he would prefer: sitting in nice air-conditioned office, or standing on his feet all day.

In 2018 it looks as though the president is winning the day. Industrial output is on a tear, and the last few months have seen the best run for growth in manufacturing jobs since the late 1990s. After spending about two decades on a steady march downwards, manufacturing's share of the labour market appears to have all but stopped falling. Between 1948 and 2008, manufacturing employment fell as a share of private non-farm employment by around 0.4 percentage points each year (see chart). Since January 2010 it has fallen by only 0.3 points in total.

Put another way, the number of American manufacturing jobs has been rising almost in line with overall employment for the past eight years, defying both historical experience and expectations. In the recoveries from the recessions of the 1990s and



the 2000s manufacturing never regained its share of the labour market. In 2017 the Bureau of Labour Statistics forecast that the number of manufacturing jobs would continue to fall at an average annual rate of 0.6% per year between 2016 and 2026.

What is going on? It is possible that the surprising strength of manufacturing employment is a temporary phenomenon, and that it will soon revert to its earlier, downward trend. Is it a prelude to an industrial revolution, in which humans will be replaced by a more programmable kind of factory worker?

Peter Schott of Yale University points out, however, that over the past 60 years ►►

▶ the norm has been for the number of manufacturing jobs to recover fully after downturns. The early 2000s was an exception because of a large increase in goods imported from China. If recovery is normal, perhaps it is unsurprising that the current one has lasted so long, because the downturn in 2008 was so deep.

Alternatively, the robustness of manufacturing jobs could reflect a more permanent shift. “It seems unlikely that the share of manufacturing employment will go to zero. Maybe we have hit the point where the share flattens off,” says Mr Schott. The trend is similar in both non-durable goods and durable goods industries, even though durable goods include things like cars, where sales tend to be more sensitive to the economic cycle.

Robert Lawrence of Harvard University argues that the shift away from manufacturing employment during the second half of the 20th century was mostly the result of gains in productivity, rather than competition from imports. More so than in other sectors, technological progress allowed fewer workers to make more stuff. Consumers did not respond to the resulting lower prices by buying very much more of that stuff, so employment fell.

Since the recession, productivity growth in manufacturing relative to services has slowed. Mr Lawrence calls the associated jobs boom the exception that proves the rule. Overall, one can have growth in manufacturing productivity, or growth in manufacturing employment, but not both, he suggests.

The lacklustre productivity growth could be a temporary feature of the economic cycle. An abundance of workers looking for jobs since the financial crisis has kept a lid on wage growth, perhaps blunting companies’ incentives to invest in labour-saving automation, thereby reducing productivity growth. According to numbers crunched by Nick Bunker of Indeed, a job-matching website, manufacturing is one of the few sectors where the number of unemployed workers continues to exceed the number of job openings.

Mr Trump’s brand of import-blocking economic nationalism is supposed to encourage companies to bring production back to America. It is possible that his threats to rip up trade deals and impose tariffs are making risk-averse business executives keener to plant their factories at home. However, tariffs on imported steel and aluminium could be pushing them in the opposite direction, by raising input costs for American factories. The same goes for tariffs on imported Chinese parts.

In any case, the manufacturing renaissance Mr Trump is presiding over does not mark a return to those bygone days when America was great. Historically, the sector was seen as a gateway into the middle



One medium bucket, to go

classes for Americans with only a high-school education. But over time the composition of employment has shifted towards managerial and professional roles, and away from production jobs that can be done by those with less schooling. Manufacturing workers today are also less likely to be unionised than they once were, so they have fewer benefits.

The type of work being done is changing, too. The rise since 2011 in manufacturing employment has been concentrated production of food and transport equipment, which includes carmaking. Meanwhile, printing, computer-making and the production of clothes each account for a smaller share of manufacturing jobs than they did seven years ago.

Where did we go right?

Jobs are also moving geographically. Since the recovery started, the East North Central region, which includes places like Michigan and Illinois, has captured a share of employment gains that exceeds its share of job losses during the recession. Meanwhile the Middle Atlantic region, which includes New York and Pennsylvania, has seen no net increase in manufacturing employment at all since 2011.

In politics, however, not all places are created equal. Calculations by *The Economist* suggest that the counties that voted for Mr Trump in November 2016 have experienced larger manufacturing job gains since 2011. They have also tended to see the largest gains since the election. In these places, manufacturing’s share of overall employment has risen relative to the rest of the country. Far from dying off, manufacturing in America appears to be humming the president’s tune. ■

Rural Democrats

Still on the line

OTTAWA AND WICHITA

Democrats try to rebuild their relationship with rural America

THE OLDEST working cinema in America is in neither Hollywood nor New York. It holds pride of place in Ottawa, Kansas, a vibrant small town that sits square in the middle of acres of farmland. Though the Plaza Cinema shows mainstream films most days, a recent Tuesday evening drew throngs for a rare revival: a viable Democratic congressional candidate.

Paul Davis is an amiable lawyer and former state representative running even with his Republican opponent, Steve Watkins, in a heavily rural, overwhelmingly white district that President Donald Trump carried by 18 points. He has managed this, he says, by running a campaign focused on “kitchen-table issues: health care, tariffs, jobs and the economy.” This is a common refrain (only furniture salesmen use the phrase “kitchen table” more often than Democrats running outside urban centres) that hints at an opportunity and a challenge for rural Democrats.

The opportunity is the vast centre ground left open by Republicans’ Trumpian turn. Occupying it requires a change of attitude more than new policies. The challenge is overcoming decades of toxic decline—an exceedingly tall order.

Conventional wisdom says that rural voters began deserting the Democratic Party in 2008, when they were turned off by Barack Obama, a black man from a big city. This is untrue: Mr Obama won 43% of the rural vote, three points more than John Kerry had four years earlier. Over the next eight years, however, support for the party cratered outside big cities: Hillary Clinton won just 30% of rural voters. Republicans won statehouses that Democrats had held for decades; in several competitive states they cemented their hold on power through gerrymandering.

But Democrats also pulled back from rural America. Bill Bishop, author of “The Big Sort”, a 2008 book about how Americans increasingly live in like-minded communities, notes that Mr Obama visited rural locations infrequently while in office. As Deb Kozikowski, a 2016 Democratic superdelegate who heads an advocacy group called Rural Votes, bluntly puts it: “Democrats need to show up...We don’t have an engagement problem; we just don’t engage.”

Democrats won in 2008 and 2012 with a coalition of educated progressives, young people and non-white voters; rural regions tend to be older and whiter with fewer col- ▶



**Wealth
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The new face of wealth and legacy: How women at the highest levels of wealth help society

Report written based on research commissioned by **RBC Wealth Management**

As more women and younger people acquire more wealth, they are thinking about how they can make a positive societal impact more than ever before. In particular, women and the next generation are focused on collaborating with others to help more women and young girls have opportunities to lift themselves into better circumstances.

When women, particularly younger ones, acquire US\$5 million+ in assets, they tend to reach a tipping point where they take more control of their financial decisions, align their investments with their giving goals and use their wealth to improve the world.

93%

of female HNW individuals think women have greater opportunities to impact financial planning than they did in previous generations

For example, while men at the US\$5 million+ wealth level cite tax benefits as the top influence on where they decide to give, women in the same bracket most often cite the ability to make the greatest impact.

These are among the findings of a survey of 1,051 high-net-worth

individuals (HNWIs) around the world by The Economist Intelligence Unit, commissioned by RBC Wealth Management.¹

“There are more female wealth creators [at the highest levels] than in the past, and within wealthy families overall, more women are taking the lead in terms of planning how the family’s wealth is used, particularly in the long term,” says Catherine Grum, head of family office services at KPMG.

23%

of HNW women say the ability to measure impact is a top influence on where they decide to give, compared with 11% of men

By taking control over their financial decisions, women can better connect how they use their wealth to build their legacies.

To discover more findings from this EIU research on how women are redefining the meanings of wealth, giving and legacy, visit:

rbcwealthmanagement.com/legacy

Report written by

The
Economist

INTELLIGENCE
UNIT

¹From March to May 2018 The Economist Intelligence Unit (EIU), commissioned by RBC Wealth Management, undertook a study across Canada, China, Hong Kong, Singapore, the UK and US of 1,051 HNWI with at least US\$1 million in investable assets.

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Democratic campaign HQ

► lege graduates. The party focused its energy where its voters were—a natural enough strategy, but one that contributed to a vast sea of red between the coasts. And as Tim Marema, editor of the *Daily Yonder*, an invaluable rural-focused blog, notes, “the way you talk to rural voters resonates far beyond just those areas.” Plenty of rural areas are now solidly suburban, as American cities have grown; and rural people who moved to cities to work often still identify with where they were raised.

Similarly, Mr Bishop argues that the fundamental division in American political geography is less between strictly urban and rural regions than between the central cores of cities of more than 1m people and everywhere else. Between 2012 and 2016, Democratic vote share in central counties of major metro areas rose. Over the same period the party’s vote fell most steeply in rural areas and cities of less than 250,000.

South-west of Ottawa, Wichita, a modestly-sized city, anchors a congressional district that extends into rural southern Kansas and last elected a Democrat in 1992. But James Thompson, a civil-rights lawyer, nearly flipped the seat in a special election last year, and is challenging the incumbent, Ron Estes, again in this cycle. Unlike many Democrats who have sought seats in moderate or Republican-leaning areas, Mr Thompson is an unabashed progressive. And, says Jan Nichols, a progressive activist from a small town near the Oklahoma border, “Jim supports everybody. He goes to every rally. He’s right there with us.”

Democrats in West Virginia’s third district or Maine’s second—rural, white areas that Mr Trump overwhelmingly won in 2016—could say the same thing about Richard Ojeda or Jared Golden, both progressive

#MeToo polled Measuring the backlash

Survey respondents have become more sceptical about claims of sexual harassment

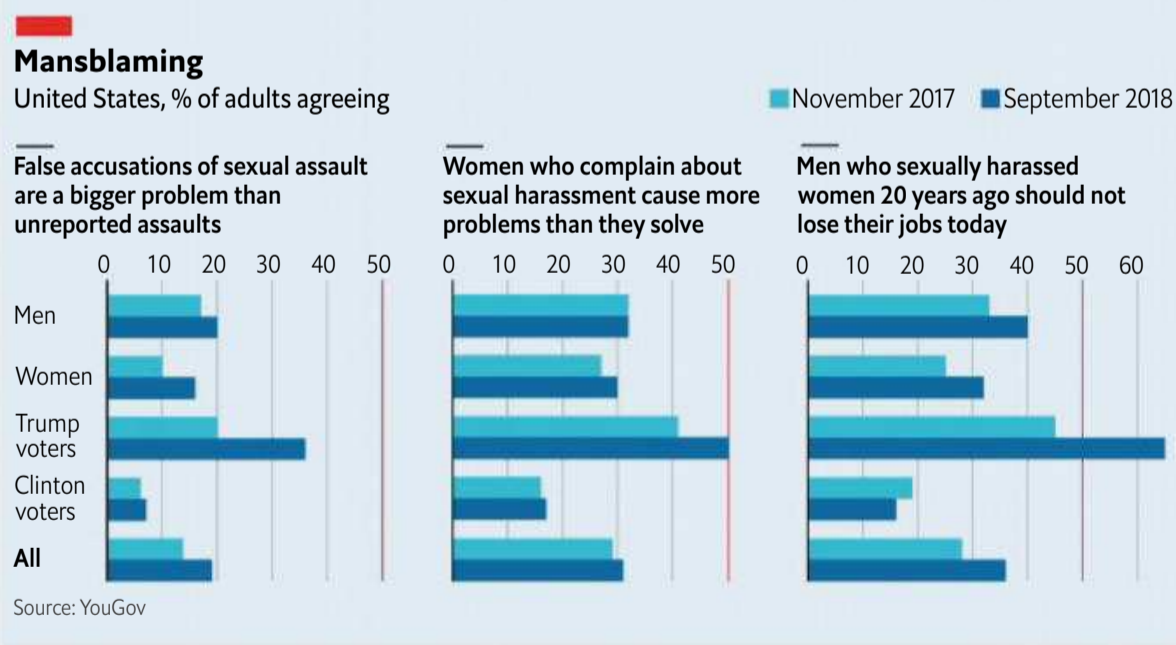
ONE YEAR ago Alyssa Milano, an American actress, posted on Twitter: “If you’ve been sexually harassed or assaulted write ‘me too’ as a reply to this tweet.” Within 24 hours she had received more than 500,000 responses using the hashtag “#MeToo”. In the past 12 months, the hashtag has been tweeted 18m times according to Keyhole, a social-media analytics company. The phrase has come to encapsulate the idea that sexual misconduct and assault are underreported.

Yet surveys suggest that this year-long storm of allegations, confessions and firings has actually made Americans more sceptical about sexual harassment. In the first week of November 2017, YouGov polled 1,500 Americans about their attitudes on the matter, on behalf of *The Economist*. In the final week of September 2018, it conducted a similar poll again. When it came to questions about the consequences of sexual assault and misconduct, there was a small but clear shift against victims.

The share of American adults responding that men who sexually harassed women at work 20 years ago should keep their jobs has risen from

28% to 36%. The proportion who think that women who complain about sexual harassment cause more problems than they solve has grown from 29% to 31%. And 18% of Americans now think that false accusations of sexual assault are a bigger problem than attacks that go unreported or unpunished, compared with 13% in November last year. (The National Sexual Violence Resource Centre, an American non-profit organisation, estimates that 60% of sexual assaults are not reported to police, whereas between 2% and 10% of assault cases are falsely reported.)

The change of opinion has been more pronounced among women than among men. But rather than breaking along gender lines, the #MeToo divide increasingly appears to be a party-political one. One effect of the fight over Brett Kavanaugh’s nomination to the Supreme Court may have been to turn #MeToo into yet another issue pitting Republicans against Democrats. On each of these three questions, the gap between Trump and Clinton voters in percentage points is at least six times greater than the one between men and women.



first-time candidates with the sorts of backgrounds and positions that would get them hooted out of Seattle or Boston.

Mr Ojeda is a pro-gun (regretful) Trump voter; Mr Golden says he has “no intention” of voting for Nancy Pelosi, for House speaker should Democrats retake the House. Both candidates talk about schools and hospitals a lot. In fact, in conversations with progressive activists and Democrats from rural Kansas, Virginia and Massachusetts, as well as elected Democratic state of-

officials from Wisconsin, Minnesota and Indiana, Mr Trump rarely came up. The travails of Robert Mueller, Stormy Daniels, Jared Kushner, Saudi Arabia, and Brett Kavanaugh never did.

The Democratic brand remains toxic in rural America. The Democrats’ road to retaking the House runs through the suburbs, not the countryside this year. But the Democrats did not lose rural America in one cycle; it will take more than one for them to rebuild. ■

The mid-terms in California

Orange is the new purple

IRVINE

Unusually, California has some of the closest elections in the country

STATE ROUTE 91 winds south from the hilly exurbs of Riverside County, a place of citrus orchards, indoor shooting ranges and Make-California-Great-Again signs. Turning off past Saddleback church, one of America's largest megachurches, the road heads towards the richer, Democratic suburbs of coastal Orange County. At Huntingdon Beach, the congressman for the district, Dana Rohrabacher, is into his stump speech. "What a wonderful place to live," he shouts. "But the quality of life will not survive if we have open borders and millions of ..." His peroration is drowned out by the roar of the crowd. But the biggest noise in Californian politics is the gathering murmur of a Democratic wave. It could sweep away a decades-old Republican dominance of this area.

Southern California is a treasure trove of Democratic target seats in the mid-term elections to be held on November 6th. Seven Republicans are defending seats in districts that Hillary Clinton won in the presidential contest of 2016. That is half the Grand Old Party's delegation in the state. Democrats need a net gain of 23 seats to seize control of the House of Representatives. California could take them a third of the way there. If there is a blue wave, with Democrats winning 30 or more extra seats, many will have to come from the Golden State. In hope of such a result, the party is throwing money at what were once solid Republican seats. In the 22nd district, where Republicans have out-voted Democrats by two to one since 2002, the Democratic challenger has raised over \$4m, ten times as much as any of his predecessors.

As usual, special factors make each race look unique. In one seat—the 25th in Los Angeles County—the Democratic challenger is a bisexual, gun-owning goat farmer who used to run a charity for the homeless. In another—the 50th district near San Diego—the Republican incumbent has been indicted for illegally spending campaign contributions on his family rabbit. He has also accused his opponent of infiltrating Congress on behalf of Islamic terrorism, saying the man's grandfather had been the architect of the Black September massacre at the Munich Olympic games (the grandfather was indeed involved, but his grandson never met him, is a Christian, and has condemned the massacre). California's races are also unusual because, in 2011, a new redistricting body redrew some boundaries

to make them more competitive.

But behind these special factors lie two trends that link them all. One is demographic change. The other is the suburban unpopularity of President Trump. Five of California's most competitive races are in or near Orange County, the densely-populated suburbs between Los Angeles and San Diego, which were once an unassailable Republican fortress. "The oc" incubated Barry Goldwater's conservatism and was home to Richard Nixon. Until 2016, its voters had last backed a Democratic presidential candidate in 1936, when they voted for FDR. But the fortress has fallen to shifts in the population. Orange County, which used to be the colour of pith, is now minority majority with 34% of its population Hispanic and 21% Asian. Its voter registration reflects the change. It is 35% Republican, 34% Democrat and 27% independent, the definition of a competitive district.

The change that has most salience, though, is the rise in the number of university-educated people, especially women. In four of the five closest-fought districts in the county, graduates make up 28-34% of voters. Fully three-quarters of California's female college graduates disapprove of Mr Trump (compared with 58% of male graduates and 61% of women who did not graduate). More than two-thirds say they will vote Democratic.

Such terrain would be tough for Republicans at the best of times. But the personal-

ity of Mr Trump aggravates the demographic itch, which is the other trend. Californians are on the opposite side of many of the president's battles. Obama-care, for example, gave health insurance to three times as many uninsured people in California as in any other state. California's attorney-general has sued the Trump administration 44 times on issues ranging from the environment to net neutrality.

Given all that, it is perhaps surprising that Democrats are not doing even better. In a recent poll by the Institute of Governmental Studies at the University of California, Berkeley, the Democrats are ahead, or tied in all the races polled. But their lead is outside the margin of error in only two. That implies that if there were a swing back to Republicans, the party of Trump could hold most of its Californian seats. A swing the other way could see all seven seats fall to the Democrats. With hardly any voters undecided, the difference between those outcomes will be turnout, where Republicans have always had an edge.

But there are two differences this year. One is that college-educated women vote in large numbers, offsetting some of the Republicans' turnout advantage. The other is that Democrats seem fired up. "I've never seen the energy and the sort of investment in the field that I've seen this year," says Jared Rivera, a political organiser for the service employees' union. "It's not even close." In primary elections held earlier this year to choose candidates, Democratic turnout in the Orange County seats was 14-15 points higher than it had been in 2014, the most recent comparable year. Republican turnout was lower by the same amount. If that were a precursor to a big blue wave, it would give the opposition party control of the House. More remarkably, it would give Democrats political control of Orange County for the first time in 82 years. ■



Right back where we started from

Lexington | Boot and the beast

As partisanship deepens, those who change their minds become more precious



AMERICANS ARE “restless in the midst of abundance,” Alexis de Tocqueville observed, continually changing their track “for fear of missing the shortest cut to happiness.” This sense that something better might be around the next corner is visible in choices over where to live: despite a recent decline, Americans are still much more likely than the French to migrate within their own country. It also shows up in the realm of the sacred. Episcopalians become evangelicals, Catholics leave their childhood faith and sometimes come back, Muslims become atheists.

One part of life where this restlessness does not apply is politics. Almost everyone who voted for Donald Trump in 2016 had voted for Mitt Romney four years earlier, just as almost everyone who voted for Hillary Clinton had previously voted for Barack Obama. People who vote tend to settle on a party with which they identify in young adulthood, then stick with it. By contrast, half of American adults have switched religious denomination at some point, according to the Pew Research Centre. The datasets do not line up in a way that makes the conjecture possible to prove, but it is a fair bet that, at least among those most engaged in politics, Americans are more likely to change their religion than to change their party.

Partisanship eats away at the sense that it is possible to think for yourself. Partisanship also obviates the need to take opposing views seriously. Faced with a political decision, such as whether to support Brett Kavanaugh’s nomination, or talks between America’s government and North Korea’s, it is far easier to listen to the people you normally agree with and adopt their view. Weighing up evidence is hard, time-consuming work: in this respect, partisan thinking is another shortcut to happiness.

When thinking is so entrenched, those who change their minds have a kind of superpower, for only they can demonstrate independent reasoning. That explains the fascination with the small subgroup of voters who chose Obama in 2012 and then Trump in 2016. Psephologists and journalists treat these creatures as ancient Romans treated birds, studying their flight paths to see what the omens are. Writers who have switched sides, though less numerous, exert a similar fascination.

The most penetrating criticism of Donald Trump’s presidency has come from people like Bill Kristol, David Frum, Jennifer Rubin,

Eliot Cohen, Bret Stephens and Max Boot, whose work is powerful because their conservative credentials are sound. Some of them have remained Republicans, hoping eventually to reform the party from within. Mr Boot has moved further, arguing in a new book “The Corrosion of Conservatism” that the Republican Party is beyond repair and should be “burned to the ground”.

Voiced by a lifelong Democrat, that suggestion would invite eye-rolling. Mr Boot, who devoured copies of William F. Buckley’s *National Review* as a teenager in California in the 1980s, idolised Ronald Reagan and became the editor of the *Wall Street Journal*’s opinion pages at the age of 28, cannot be dismissed so quickly.

The American conservative tradition he grew up in rejected the blood-and-soil conservatism more common in Europe. European conservatism developed in opposition to the French revolution; American conservatism idolises the revolutionaries who declared independence. The American style was open, tolerant, optimistic—the opposite, in fact, of the simple certainty offered by aristocratic Europeans in their draughty drawing rooms that things used to be better. Mr Trump offers something closer to that nostalgic tradition, only with air conditioning.

Mr Boot would like to say, as Reagan did of the Democrats, that he didn’t leave the party, the party left him. But Mr Trump’s rise has changed Mr Boot’s perception of the movement he spent 20 years trumpeting. Though aware that some Republicans preferred creationism to geology, or were convinced that the only way to guarantee freedom was to own more guns, Mr Boot took them to be a paranoid few. Now he is the fringe. Having spent decades defending his fellow Republicans from accusations of racism, Mr Boot believes that, though “not all Trump supporters are racist [...] virtually all racists, it seems, are Trump supporters. And all Trump supporters implicitly condone his blatant prejudice.”

From East Hampton to Hampton Inn

The reward for this independence of mind has been a kind of social death. Invitations to weekend at grand houses in the Hamptons have dried up. “This is how all social, ideological or religious movements police their members—by making clear that agreement will be rewarded with greater social standing and support, and disagreement punished with ostracism.”

Some of Mr Trump’s supporters have noted with glee how ineffective the attempts by conservative intellectuals to wrest the Republican Party away from Mr Trump’s control have been. They should be cautious about declaring victory too early. The original neoconservatives left the Democrats, joined the Republicans and ended up running the country for a while, further proof of the out-sized influence of those who cross the aisle.

More surprising has been the reception Mr Boot has received from Democrats ever since he started to agree with them. The “most doctrinaire leftists”, he writes, seem to think that nothing short of “ritual suicide will atone for my ‘war crimes’, which upon closer examination seem to consist of supporting an invasion of Iraq that was backed by bipartisan majorities in both houses.” The handful of Trump voters who express public regret are too often treated with the same scorn by the president’s opponents.

Wavering Trump voters, like never-Trump conservatives, pose an obvious challenge to Republicans. But they are putting a test to Democrats, too. Religions know that converts are special, that there is more rejoicing in heaven over one sinner who repents than over 99 righteous people who do not need to. Political parties interested in winning majorities should treasure switchers too. ■



Mexico City's new airport

Letting passengers pilot the plane

MEXICO CITY

The president-elect is putting the country's biggest infrastructure project to a vote, before he takes office

AT ELSA RÍOS GONZÁLEZ'S hair salon in Atenco, east of Mexico City, the chatter turns to the most controversial issue in town, the construction of an international airport. Mexico's biggest infrastructure project, known as NAICM, is being built just a few kilometres away. Opinion in Atenco is divided. Some of Ms Ríos's clients fret about the noise and pollution the airport will bring. Others hope for riches. "No one is well informed enough" to judge its merits, says the hairdresser.

Andrés Manuel López Obrador, who will become Mexico's president on December 1st, disagrees. A longtime foe of the project, he has put its fate in the hands of voters through a referendum-like "consulta", to be held on October 25th-28th, more than a month before he takes office. How this unorthodox plan turns out will reveal much about what promises to be an unorthodox presidency. A veteran populist, Mr López Obrador portrays himself as an instrument of the will of ordinary Mexicans. He will offer them an opportunity to vote him out of office midway through his six-year term. The airport *consulta* is a preview of the sort of direct democracy that he says will char-

acterise his administration.

As mayor of Mexico City from 2000 to 2005, Mr López Obrador sent survey-takers door to door to find out what people thought of his initiatives. He was fishing for the answers he wanted, some said. His first presidential foray into popular democracy will be more contentious. Unlike recent votes on airports in Berlin and in Nantes in France, the *consulta* does not just test opinion of citizens in the vicinity. It will be organised by Mr López Obrador's inner circle, not by the national electoral institute (INE). Activists from Mr López Obrador's Morena party will set up and monitor 1,073 booths in about 500 municipalities, home to 80% of the population. Just 1m ballot papers will be printed for a nationwide electorate of 90m people. They will be counted by a little-known NGO. Without access to the INE's electoral rolls, it is unclear how the poll workers will prevent

→ Also in this section

34 Judging Brazil's Fernando Haddad

35 Bello: The lessons of Óscar Romero

people from voting more than once.

Participants will be asked to choose whether to press on with construction of the x-shaped airport, which is already 30% completed, or to scrap it. The alternative is to supplement the existing airport with a new one at the Santa Lucía military airbase north of Mexico City. Mr López Obrador says the result will be binding, whatever the turnout.

Few doubt that something must be done. The capital's airport, the busiest in Latin America, handles 50% more people than it was designed to do. It has no space to expand. The number of passengers is growing by nearly 10% a year. The boggy land near Atenco is one of the few areas available for a replacement. Vicente Fox, Mexico's president from 2000 to 2006, tried to buy land cheaply on the east side of the area from farmers, who protested with machetes. In 2014 the current president, Enrique Peña Nieto, said the airport would be built on the western side, on land owned by the federal government.

Half-baked ideas

It would eventually serve 120m passengers a year, more than any other airport in the world today and treble the capacity of the capital's existing airport. Its backers say it will attract firms that might otherwise make Panama or Brazil their Latin American hubs and bring jobs to the capital's poor eastern districts. If Mr López Obrador cancels NAICM, which was designed by Norman Foster, a British architect, and is being built by a company controlled by Car- ▶

▶ los Slim, Mexico's richest man, he will unnerve investors whose confidence he has tried hard to secure.

But the project has been criticised from its inception. It will imperil 100,000 migratory birds that alight in the area and, critics contend, cause more flooding in flood-prone eastern Mexico City. Two-thirds of Mexicans have never been on a plane. That makes the airport look to some like a bauble for the rich. The 285bn-peso (\$15bn) price tag is 70% higher than the government originally budgeted.

These shortcomings are the result of Mexico's slapdash process for planning and approving big projects. Developers rarely consult residents who will be affected by them or publish information on sub-contractors. Although contracts to build NAICM were awarded in a transparent way, the companies that secured them are not required to report regularly on their progress. That feeds a suspicion that cost overruns are the result of corruption. The government published only an executive summary of its report on the airport's environmental impact.

Such problems are compounded by politics. Mexican presidents, who serve just one term, rush to build pet projects, or at least to make enough progress that their successors are obliged to complete them. Construction often starts before blueprints are final. NAICM's perimeter wall started going up before builders knew where the airport's entrance was; they had to make expensive changes. Agencies responsible for projects often do not talk to each other. Mexico's shoddy procedures bedevil infrastructure projects of all descriptions, including line 12 of Mexico City's metro and a planned drainage tunnel for the capital. "The problem is not the cake, it's the oven," says Mariana Campos of México Evalúa, a think-tank.

In the case of NAICM, Mr López Obrador says he prefers a different cake. Repurposing the Santa Lucía airbase is the sort of low-budget, low-impact alternative that appeals to the ostentatiously austere president-elect. But the new cake has problems. Santa Lucía is farther from the city centre than NAICM. Some passengers would have to transfer to a different airport to catch connecting flights. Planes landing at and leaving the two airports, all of which must pass through the same corridor in the city's north-west, risk colliding. That is "a safety issue that the Mexican authorities would surely never allow", says Bernardo Lisker of MITRE, an institute that studies air traffic.

That decision now will supposedly be made by the people. Polls suggest that Mexicans favour completing the new airport by two to one, but the *consulta* may not reflect that. As few as 100,000 people will participate, some analysts believe. Ms Ríos, who wants construction to continue, plans to

stay home. A determined get-out-the-vote effort in one corner of the country could swing the result. Some observers suspect that Mr López Obrador is engineering a vote in favour of NAICM, giving him an excuse to complete a project that he claims to oppose but would be difficult to abandon.

The controversy over NAICM is a sign that Mexico's democracy is maturing, argues Onesimo Flores, an urban-planning expert. The elite can no longer feel comfortable "ramming projects through", he says. But Mr López Obrador's alternative looks ill-considered. He has shown scant interest in improving slipshod planning procedures. His own favourite projects, such as a "Maya train" through Mexico's south, have already been endorsed by voters through his election, he claims. If Mr López Obrador has changed his mind about Mexico City's new airport, this month's vote may give him political cover. It is not a blueprint for the projects of the future. ■

Brazil's presidential election

Decent, dull and doomed

SÃO PAULO

Fernando Haddad probably cannot beat Jair Bolsonaro

PERSONALITIES USUALLY matter more in Brazilian politics than parties do. But if Jair Bolsonaro, a right-wing populist, wins the presidential election on October 28th, it will be largely because voters despise the left-wing Workers' Party (PT) of his run-off rival, Fernando Haddad (pictured). Dislike of the PT, or *antipetismo*, "seems to be the biggest party in the country", wrote Maria Cristina Fernandes, a columnist, in *Valor*, a business newspaper. Mr Bolsonaro is way ahead in the polls.

Disgust with the PT, which governed Brazil from 2003 to 2016, is justified. In the early years, under President Luiz Inácio Lula da Silva, the economy grew and poverty fell. The presidency of his successor, Dilma Rousseff, which began in 2011, was a disaster. Her mismanagement of the economy helped cause Brazil's worst-ever recession. Corruption on a massive scale came to light through the Lava Jato ("Car Wash") investigations. She was impeached on unrelated charges. Lula is now serving a jail sentence for corruption.

But *antipetismo* predates Lava Jato, which tainted other big parties, too. Rejection of its leftist ideology, which is legitimate, is sometimes tinged with snobbery. Tereza Ruiz, a teacher, says her father regarded Lula, who never attended university, as a "semi-literate". Such voters are receptive to Mr Bolsonaro's message that the

PT is uniquely dangerous. It did not merely govern badly and corruptly, Mr Bolsonaro says. Given a second chance in power, it would turn Brazil into another Venezuela, an impoverished dictatorship.

That is a misreading of the party and its candidate. "The PT doesn't have impeccable democratic credentials," but it has "always played by the rules of the democratic system," says Sergio Fausto, a director of the Fundação FHC, a think-tank founded by Fernando Henrique Cardoso, a former Brazilian president (and a political foe of the PT). Although voters have strong reason to doubt that a future PT government would be good for the economy, "a disastrous economic policy is not the same thing as extremism," points out Claudio Couto, a political scientist at the Fundação Getúlio Vargas, a university.

Compared with Mr Bolsonaro, who insults minority groups and likes dictators as long as they are right-wing, Mr Haddad is a reassuring figure. Though his party leans left, he is a moderate. A former professor with degrees in economics, law and philosophy, he was education minister in Lula's government. Mr Haddad appointed university rectors on merit rather than political connections, a novel policy, and designed ways to increase enrolment of poor and non-white students.

As mayor of São Paulo from 2013 to 2016 he reduced a budget deficit and secured for the city an investment-grade credit rating. But he angered drivers by making more room for cyclists and pedestrians. To poor voters, he came across as aloof and professorial. In his bid for re-election in 2016 he was thrashed.

For much of this year's campaign the PT has talked mainly to its base, poor people with fond memories of Lula's presidency. That made some sense. It was with their votes that Mr Haddad entered the second round. But it reminded other voters of what ▶▶



Can you hear the drums, Fernando?

▶ they most dislike about the party.

Rather than showing contrition, the PT expressed self-pity. The impeachment of Ms Rousseff was a “coup”. Left-wingers like Gleisi Hoffmann, the party’s president, have talked of pardoning Lula. Many Brazilians fear that the PT would put a stop to the Lava Jato investigation if it regained power.

Its campaign manifesto, written while Lula was still the PT’s candidate (he was disqualified on September 1st), bears the stamp of the party’s left. It suggests that overspending on pensions, the biggest threat to economic stability, will be solved

by economic growth and cutting benefits for public servants (it won’t). The plan calls for a reversal of a labour-market reform carried out by the current president, Michel Temer, and more lending by state-owned banks. It would require the central bank to target employment as well as inflation. It proposes, ominously, a constituent assembly to revise the constitution.

After entering the run-off Mr Haddad moved towards the centre. He has begun speaking about the PT’s “errors”; replaced PT red in posters with Brazilian green and yellow; and disavowed parts of the mani-

festo, including the plan to summon a constituent assembly. He promises to curb spending and resists the idea of pumping up growth with subsidised lending. He avoids talk of pardoning Lula, to whom he has stopped paying prison visits. Ms Rousseff’s administration did not impede the Lava Jato investigations, he points out.

But Mr Haddad and the PT have probably left it too late to convince Brazilians that they have learned from their mistakes. As a result, Brazil is poised to elect a president who poses a real threat to the country’s young democracy. ■

Bello The lessons of a martyr

Archbishop Romero was a brave man with a complex political message

HE WAS ALREADY a popular saint. For years the faithful have congregated every Sunday for mass by his tomb in the crypt of the cathedral in San Salvador, inspired by the man they called San Óscar or San Romero de América. Now it is official. On October 14th in Rome, Archbishop Óscar Arnulfo Romero was canonised, almost 40 years after he fell to a gunman’s bullet while finishing a private mass at a chapel that is today a site of pilgrimage. He had recited the 23rd Psalm: “Yea, though I walk through the valley of the shadow of death, I will fear no evil.”

If it took the Vatican almost 40 years to recognise Archbishop Romero as a saint, that is because his example has been controversial. Often seen as ideologically left wing, he was above all a martyr for his faith and his church. Born in a modest household in a mountain village, he was regarded as a conservative when he was named archbishop in 1977. It was his country’s circumstances that made him a radical.

El Salvador had been ruled by the army and a coffee oligarchy for almost half a century. In the 1970s their grip was challenged by left-wing trade unions and peasant groups, with help from radical priests. Nowhere else in Latin America did “liberation theology” have a bigger impact. At a conference in 1968 Latin American bishops had adopted the liberation theologians’ “option for the poor” and denounced the “institutionalised violence” of capitalism and poverty. “We should not be surprised that ‘the temptation for violence’ arises in Latin America,” they went on.

That seemed to describe El Salvador, where the army blocked peaceful change. In 1972 a reformist coalition was denied victory in a presidential election by



fraud. The left took up arms. As guerrilla groups emerged, they were met with repression, backed by the United States. The church was a particular target: 12 priests were murdered before the archbishop, and others were later.

Archbishop Romero said he had to defend the church, and that meant criticising the ruling junta. “We do not overlook the sins of the left,” he said weeks before he died on March 24th 1980. “But they are proportionately fewer than the violence of the repression.” The day before he was killed he had beseeched: “no soldier is obliged to obey an order to kill if it is against the law of God.” The ferocity of the repression in defence of what he saw as an unjust regime had led him to the verge of proclaiming a just war. When a dictatorship “closes all channels of dialogue...the church speaks of the legitimate right to insurrectional violence,” he said.

That was perhaps morally defensible. But it was politically problematic. The guerrillas were too weak to protect their supporters. More than 60,000 were murdered by the army and its allies. But had

the guerrillas triumphed militarily, they would almost certainly have tried to impose Cuban-style communism in El Salvador—in denial of the human rights that Romero championed.

Instead, his martyrdom would eventually contribute to a different outcome. El Salvador descended into civil war. But his murder, ordered by an army-linked death squad, and that of three American nuns months later, brought international condemnation of the junta. Even as it continued aiding the murderous regime, the United States would slowly push for a democratic transition and coax the army to accept a peace deal, signed in 1992. It offered El Salvador hope of a fresh start.

Tragically, that has been dashed. Gang violence makes El Salvador one of the world’s most violent countries and the economy is stagnant. In a country named for the saviour, prosperous citizens have never been prepared to pay the taxes needed to provide public security and equal opportunity.

Liberation theology can boast some lasting achievements. It was a catalyst for the human-rights movement in Latin America. It trained a generation of grassroots leaders who have fought peacefully for social justice, and have helped to put the reduction of inequality on the region’s political agenda. But it ultimately failed. It didn’t offer a way out of poverty because it was anti-capitalist and championed collectivism. Many of the poor prefer the messages of self-betterment offered by evangelical Protestantism.

Four decades after San Óscar’s murder the church has preoccupations other than social justice. Its credibility has been damaged by its cover-up of abuse by paedophile priests. The church today needs champions as saintly and beloved as San Óscar.





South Korea's economy

Promise postponed

DAEGU

The president is struggling to curb the power of big business

CHO IMHO is angry. Perched on an enormous black leather chair, the director of South Korea's association of small businesses throws up his arms in despair as he discusses the government's economic policy. Mr Cho reserves particular ire for the recent increase in the minimum wage to 7,530 won (\$6.65) an hour, 16% more than it was a year ago. The leap is the centrepiece of the government's plan to revive the economy by boosting the incomes of the poor; further hikes are planned. Mr Cho claims many of the firms he represents are considering shutting down. Others have shed staff. "It's crazy, a disaster," he says.

Mr Cho is a proud right-winger from Daegu, a nest of South Korean conservatism. His aversion to the policies of the left-leaning president, Moon Jae-in, is perhaps not surprising. But in recent months a spate of disappointing employment data and loud protests from businesses have stirred unease within the government. The finance minister, for one, has sounded surprisingly equivocal about the increases.

Mr Moon has pledged to stick to his strategy of "income-led growth", which remains popular with voters. But he now says that the minimum wage will not rise as quickly as originally planned. He also de-

moted Hong Jang-pyo, an adviser who was one of the policy's architects. Some observers believe that Chang Ha-sung, his chief of staff for policy and the other main advocate of income-led growth, may be next to go. "There are tensions between the committed reformers and those who are worried about political backlash," says Jun Sung-in of Hongik University in Seoul. "Currently, the worriers are winning."

Small wonder: according to South Korea's statistics agency, the income of the lowest 20% of earners fell by 3.7% in the

Another Korean rift

Full-time workers earning less than two-thirds of median earnings
2017, % of total



Source: OECD

*2016

→ Also in this section

37 A calamitous drought in Australia

38 A victory for #MeToo in India

38 The death penalty in South-East Asia

40 Banyan: Digital dissent in Kazakhstan

second quarter of this year compared with the same period last year (for high earners, it rose by 12.4%). That suggests that job losses have more than offset increased wages among those whom the policy is intended to help. There has certainly been no spurt in the growth rate, which continues to hover around 3%.

It is not obvious, however, that the increase in the minimum wage is to blame for the disappointing data. There are other potential culprits: uncertainty resulting from the trade war between America and China, worries earlier this year about South Korea's own free trade agreement with the United States and the slowdown in construction as a result of tighter mortgage-lending rules. Still, the sudden increase may have tipped the scales.

The thrust of Mr Moon's reforms, which seek to boost innovation and productivity at smaller firms, is broadly right. The labour market suffers from extreme polarisation between big conglomerates, called *chaebol*, and most other employers. The *chaebol* offer the most coveted jobs, but most South Koreans are employed in small firms. Productivity in such businesses, which are concentrated in the service sector, is vastly lower than in the *chaebol*—hence the huge gap in wages (see chart). Wages for the bottom 10% of earners have barely risen over the past two decades.

Next year's budget envisions a 10% jump in overall expenditure, with more than a third of the extra money earmarked for social spending. The basic pension will rise, there will be more funding for child-care and small firms that hire young people will receive a subsidy. A recent report by ▶▶

▶ the OECD, a club mostly of rich countries, says these measures are affordable. At 45% of GDP South Korea's public debt is less than half the OECD average of 110%. It also spends far less on social services than most other OECD countries.

But some of the reforms may be counterproductive. The complex array of subsidies intended to help small businesses implement the minimum wage and to encourage them to hire more workers, for instance, may help boost the purchasing power of poorer South Koreans. But it may also prop up barely profitable "zombie companies", keeping workers in marginal jobs and so undermining efforts to raise productivity.

Mr Moon has also pledged to "democratise" the economy, by which he means reduce the dominance of the *chaebol*. Despite much such talk from past governments, however, the assets of the five biggest have grown from the equivalent of 41% of GDP in 2001 to 60% last year, according to Park Sangin of Seoul National University. In other words, they are growing much faster than the economy as a whole.

Yet Kim Sang-jo, whom Mr Moon appointed to head the trust-busting Fair Trade Commission, has softened his rhetoric. He appears to be relying more on co-operation from the *chaebol* than on regulation or lawsuits to unravel their complex and opaque ownership structures. In September Mr Moon took *chaebol* bosses, including several who have served time for corruption, on a chummy trip to North Korea to advertise the potential for investment, should the North abandon its nuclear weapons. "All our governments have ended up making policy for the *chaebol* in the end," says Mr Jun of Hongik University. "It looks like Moon will be no different."

A third strand of Mr Moon's reforms, to chip away at a culture of absurdly long working hours and encourage more spending on fun, is also yielding mixed results. A new presidential directive limits the maximum number of hours a week that people are allowed to work at 52, down from 68. This month a study by KT, a telecoms firm, suggested that leisure spending went up in residential areas after the directive came into force.

The amount of time people spent in or near their workplace, in contrast, fell by 55 minutes a day. This suggests that the policy is working as intended, with one important caveat. KT only detected this shift in central Seoul, where most ministries and big companies are based. In areas dominated by startups and smaller firms, there was little or no decrease in working hours. And a downside of the directive was also discernible: bars and restaurants in central Seoul reported a loss in business. Reshaping the South Korean economy for the little guy turns out to be a big challenge. ■

Drought in Australia

A hot new normal

COONABARABRAN

Farmers will have to get used to an ever more scorching climate

TWICE A WEEK Ambrose Doolan pays for a lorry to drive 1,000km to stock up on fodder. His cattle farm near the town of Coonabarabran, in northern New South Wales, turned to dust after the rains failed this winter; few farmers in the state have feed to spare. To keep his cows from starving, Mr Doolan relies on a potent blend of hay, molasses and cotton seed, trucked in from across the country. His animals chew through 30 tonnes of it every day, at vast cost. Mr Doolan has farmed through dry spells before. None, he says, was as severe as this.

The drought afflicts a huge area of eastern Australia, running from south-western Queensland into South Australia. Some spots have been short of rain for years, but a hot, dry winter has pushed the region into crisis. Almost all of New South Wales, a state responsible for a quarter of Australia's agricultural output by value, is parched. Trees have died, crops have withered, animals have shrunk to skeletons. In Coonabarabran, where water is strictly rationed, some residents have moved their washing machines outside so that the run-off can hose their gardens.

Drought is a fact of life in Australia. The sun-beaten country has struggled through at least ten catastrophic ones since the mid-19th century. But they are now more



Not a green shoot to be seen

frequent and severe. Scientists at the University of Melbourne, reconstructing rainfall patterns using tree rings, ice cores, sediment and corals, reckon that the big droughts of the past few decades were more acute than any in the past 400 years.

A "double whammy" of climate trends indicates that worse lies ahead, says Will Steffen, an American climate scientist. First, the Australian continent has warmed by about 1°C since 1910, making droughts more crippling when they occur. Second, rainfall is ever less reliable. The fronts that used to drop rain over Australia's southerly breadbaskets have begun to stray southward, to the open ocean. Since the mid-1990s, deluges in south-eastern Australia have declined by around 15% in the crop-growing seasons of late autumn and early winter. Mr Steffen predicts a further drop of 15% by around 2030.

Many farmers have been forced to send their animals to slaughter. The cull may leave the number of livestock in Australia at a record low; wheat yields could be the feeblest in a decade. Those like Mr Doolan who keep their animals alive at great expense are gamblers. They bet that when the rains return and other farmers start rebuilding, the value of their herds will soar. Previous droughts have taken about a percentage point off Australia's growth rate. And the strain is not just economic: the suicide rate in the outback has risen sharply during the latest drought.

State and federal governments have responded with billions of dollars in emergency funds for cheap loans, household allowances and mental-health services. In New South Wales farmers can claim subsidies of up to A\$30,000 (\$21,000) for transporting feed and livestock. Landholders are grateful but want more. "A tin of beans doesn't feed the cows," grumbles an old hand in Coonabarabran.

But some city folk argue that taxpayers should not have to subsidise farmers in tough years, given that profits in good times can be enormous. The government has not matched emergency handouts with a long-term plan to cope with global warming. On a recent rural tour, the prime minister, Scott Morrison, suggested that farmers do not "care one way or the other" whether climate change contributes to the problem. His right-of-centre government has ditched a policy that would have enshrined emissions targets in law, all but abandoning goals set under the UN's Paris Agreement three years ago. Australia's emissions have been rising.

The dry spell shows no sign of breaking. In Coonabarabran, Mr Doolan watches the skies. If rain comes before Christmas, he says, his investment will pay off. In future he may stockpile bumper crops in silos. "Drought is like the tide," he muses. If he weathers one, there is sure to be another. ■

Sexual harassment in India

Pests decried

DELHI

A minister's resignation boosts #MeToo in India

THE MINISTER'S exit proved well-timed. It fell during the festive week of Navaratri, when Hindus celebrate the mythical victory of the ten-armed goddess Durga over the wicked, buffalo-headed, cobra-enclosed demon Mahishasura. The resignation on October 17th of M.J. Akbar, a junior minister, marked the first big triumph for India's #MeToo movement, and perhaps a turning point for women's rights.

Mr Akbar, a suave and erudite former newspaper editor, responded with fury to allegations that he repeatedly made unsolicited advances on female subordinates. Asserting that no one had accused him of any form of assault, he dismissed the stories as "fabricated, spiced up by innuendo and malice". Mr Akbar's lawyers lodged a private criminal defamation case against Priya Ramani, his initial accuser. The minister also suggested that the accusations were politically motivated.

Within hours, however, some 19 other former female colleagues volunteered to testify against Mr Akbar. Among other things, they alleged that during his newsroom days he had habitually ogled female underlings, touched them inappropriately and scheduled meetings in hotel rooms when he was not fully clothed. Mr Akbar abruptly decided to step down to defend his reputation "in a personal capacity".

Mr Akbar is the biggest fish, but not the only large one, to be ensnared by such accusations. Since September a score of prominent figures in media, the arts, academia and business have been parrying claims that range from date rape to stalking, groping or merely insistently texting female colleagues. Some have lost their jobs; others have been suspended. Many, pilloried on social media, have gone silent.

Some have fought back, even while expressing sympathy for the #MeToo movement. Varun Grover, a popular comedian, issued a detailed rebuttal of anonymous charges that he had molested a fellow student in his college years. He invited his accuser to present her own detailed case, even if she wished to remain anonymous, because it was important for the movement that the testimony of women should be substantiated. "Revolutions can be messy but they can't be perceived as unjust," he says.

The sudden exposure of sexual wrongdoing in high places has prompted fierce debate. Accusers who have gone public risk



Mahishasura had it coming

a barrage of insults on social media, including charges of publicity-seeking or of having invited abuse by their own moral laxity. Mimi Mondal, a Dalit (formerly known as Untouchable) writer, notes that since curbing sexual abuse requires women's testimony to be taken seriously, Dalit women stand at a double disadvantage.

It is true that, so far, the exposure of male misbehaviour has been limited to the uppermost crust of Indian society when, in blunt fact, lower class women suffer immensely more. Some 52% of Indian women, according to government health surveys, believe it is permissible for husbands to beat their wives. A recent online survey found that 78% of people who claimed they or a relative had suffered sexual abuse at work had not reported it.

The elite nature of India's #MeToo movement has also invited criticism from the political right. "This entire debate of sexual exploitation...is peculiar to certain industries, involving glamour and money," sneers the *Organiser*, a journal considered the mouthpiece of India's biggest Hindu-nationalist group. "Why is it so that the professions like modelling and acting are infested with such incidences?" Its answer is that "so-called liberal elites" have strayed from the proper path of virtue.

But who is to lead people on that path? Long before the current wave of exposures of sexual predators among the wealthy and privileged, "godmen" of varied faiths provided the most glaring examples of male misbehaviour. In the past decade alone at least a dozen prominent gurus, priests and "babas" have been tried and jailed for rape. In a recent case in the state of Haryana one Baba Amarpuri stands accused of drugging, raping, filming and blackmailing some 60 women. No wonder the avenging goddess Durga is so well loved. ■

The death penalty in South-East Asia

Good news and bad

SINGAPORE

There are fewer executions in the region, but more extra-judicial killings

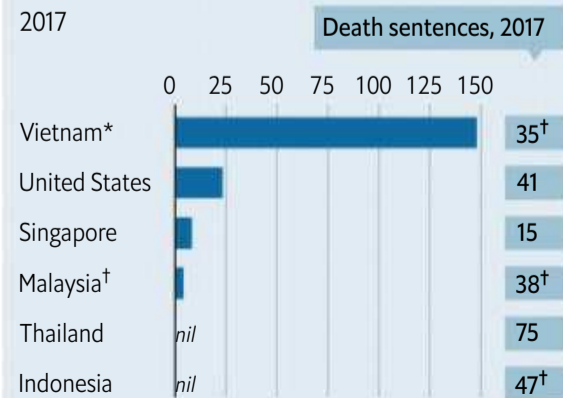
MALAYSIA IS HARDLY known for the leniency of its punishments. Sharia (Islamic law) applies in some states and canings offer a violent public spectacle. Even so, the country's new government no longer wishes to deal in death. On October 10th Liew Vui Keong, a minister, announced that the death penalty would be abolished, although the necessary legislation has yet to be introduced in parliament. That would leave only four countries in South-East Asia still conducting executions: Indonesia, Singapore, Thailand and Vietnam. And even among these hold-outs, there are signs of change.

Vietnam, with a population of more than 95m, is by far the most prolific executioner in the region (see chart). It does not normally disclose the number of prisoners put to death. But last year it reported that 429 had been executed in a 151-week period between 2013 and 2016, a much higher number than had been estimated previously. Singapore, the next on the list, carried out only eight hangings last year.

In Singapore and elsewhere, the death penalty remains popular with voters. But it is less and less so with lawmakers, who are more aware of the foreign criticism it attracts, especially because it is sometimes used for non-violent crimes such as corruption and drug offences. In recent years Vietnam has abolished it for crimes such as producing or trading counterfeit food and possessing drugs. Last year Malaysia and Thailand scrapped mandatory death sentences for selling drugs. In Indonesia a new law under discussion in parliament would introduce a ten-year probation period before an execution occurs. ▶▶

A dwindling toll

Number of executions 2017



Source: Amnesty International

*Average annual number of executions August 6th 2013-June 30th 2016
†Minimum estimate



GROWTH FOR EUROPE

With a rich raw material base and a high-potential nuclear power industry, Ukraine can become a new growth point for Europe

Ukraine's abundant mineral resources encompass the entire periodic table. The country is particularly rich in elements that are crucial for nuclear power—uranium, zirconium and titanium.

However, this raw material base is undervalued and underdeveloped. Modern mineral exploration companies can remedy the situation.

"Having such a rich mineral resource base, Ukraine should have a well-developed infrastructure, including one for the preparation of deposits for investment. For this preparation, deep and detailed work of new-generation geological companies is required. Companies ready to take the risks of such preparation were absent here until recently," says Olexander Nastenka, director of Ukrgeoposhuk, a company engaged in the preparation of geological facilities for development. "We took the risk because we believe Ukraine's mining industry is exceptionally investment-intensive."

“Ukraine is one of the first countries to chart a course to modernise its nuclear industry.”

Moving beyond oil and gas

Gennadiy Butkevych, chairman of the supervisory board of Nuclear Energy Systems of Ukraine (NESU), attributes this undervaluation to the need for structural reform.

"We, the representatives of Ukrainian large capital, see the potential of the mineral and raw materials base, power engineering, and industry in general. Our capital is already working in Ukraine in various areas. At the same time, we see a huge underestimation of the country as a whole, as well as of separate industries. This is due to the need for structural reform. Local capital understands the importance of applying Western standards in the mining and energy sectors, since even the very transition to these standards increases Ukraine's capitalisation, and hence of the businesses here. We are working to ensure that the country's capitalisation grows, and any investor could feel it," he says.

Ukraine is one of the world's top ten nuclear energy producers. It expects to start supplying electricity to the EU via an "energy bridge" to Poland and Hungary as early as 2019.

According to Vitaliy Yakimenko, head of R&D at NESU, "Ukraine's advantage is its scientific base and NPP [nuclear power plant] personnel training system, which have been formed over decades. In the long term it may become our export potential, since we can export knowledge and developments."

Ukraine is one of the first countries to chart a course to modernise its nuclear industry. Energoatom, the national nuclear operator, is planning to replace outdated Soviet reactors

with safe and innovative small modular reactors (SMRs). In February Energoatom signed a Memorandum of Understanding (MoU) with Holtec International, a US-based supplier of equipment and systems for the energy industry.

Ukraine is also making great efforts to diversify its nuclear fuel supplies. While Russia was previously supplying 95% of Ukraine's nuclear fuel, that figure had dropped to some 60% by 2017. Moreover, Ukraine has everything needed to build a nuclear fuel production plant on its territory. The only question is: who will be its external financial and technological partner?

With its unique energy potential, Ukraine may become a key electricity supplier to Europe. The EU will then have an opportunity to switch from oil and gas to a universal end product—electricity.



Olexander Nastenka



Gennadiy Butkevych



Vitaliy Yakimenko

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► There is regression, too. Singapore imposed a moratorium in 2011 during a review of mandatory sentencing before resuming executions in 2014. In June Thailand carried out its first execution since 2009. In the Philippines President Rodrigo Duterte would like to reintroduce the death penalty, a view shared by many of those who voted for him. But legislation to do so has stalled in Congress. The new speaker of the House of Representatives, Gloria Macapagal Arroyo, is a former president who helped to bring about the abolition of the death penalty in 2006.

As encouraging as the growing ambivalence about executions is, however, the region suffers from enormous numbers of extra-judicial killings in which the authorities often participate. Myanmar has not formally executed anyone since 1988. Yet a UN report last month said that its army had slaughtered more than 10,000 members of a Muslim minority, the Rohingyas, in a pogrom which began last year.

Indonesian authorities shot dead more than 60 drug suspects last year. They claim, unconvincingly, that all the killings occurred in self-defence, or as suspects at-

tempted to flee. In the Philippines Mr Duterte's war against drugs has unleashed murder on an appalling scale. Police and vigilantes have killed more than 20,000 suspects in around two years, according to human-rights groups and opposition politicians. For the most part the victims have been petty users and dealers, rather than kingpins. Mr Duterte has himself boasted on occasion about participating in such killings in his previous job as mayor of the city of Davao; at other times he has disavowed any role. But he certainly has not disavowed the practice. ■

Banyan Dousing digital dissent



Citizens of Kazakhstan are just one click away from jail

AS THE WORLD'S largest landlocked country and surrounded by a sea of authoritarianism, Kazakhstan goes to extraordinary lengths to put itself on the map—and show what a normal, upstanding country it is. Its 78-year-old ruler, Nursultan Nazarbayev, obsesses over hosting conferences, conventions and expositions: Banyan was once in Almaty, the commercial capital, for the world arm-wrestling championship. Last year Astana, the grandiose capital laid out by Mr Nazarbayev, hosted Expo 2017. Kazakhstan's pavilion, topped by a giant blue orb, was quickly nicknamed the "Death Star". "Normal" does not come naturally to Mr Nazarbayev's Kazakhstan.

Still, it can try. A fortune is spent on public relations to polish the country's democratic credentials. At the start of the decade it triumphantly hosted a summit of the Organisation for Security and Co-operation in Europe (OSCE) a group that promotes free elections among other things. Kazakhstan's own are certainly impressive. After the presidential election in 2016, the Leader of the Nation even had to apologise. In other democracies, he acknowledged, winning with 97% of the vote on a 95% turnout might raise eyebrows. Nonetheless, the pained Mr Nazarbayev explained, "I could do nothing. If I had interfered, I would have been undemocratic."

The OSCE is just one group that thinks Kazakhstan's political norms fall short of democracy. Mr Nazarbayev has eradicated organised opposition in a country of 18m and hounded parties out of existence, their leaders jailed or muzzled. Only two tiny parties other than the main troupe of presidential cheerleaders sit in the national assembly. Candidates who ran for president against Mr Nazarbayev admit to voting for him.



Public space for dissent has been closed. Goons break up even the smallest gatherings. Labour leaders are in prison. Press and television long ago climbed into the regime's lap.

Once, oil nicely lubricated an economy controlled by a handful of oligarchs and the sovereign-wealth fund. Drops trickled down to ordinary folk—the economy was a Central Asian success. But lower oil prices and a falling currency have hit hard. Ordinary Kazakhs resent living drab, pinched lives at odds with Astana's bling. The grumbling is growing, and finding its way online, where the authorities have taken their hunt for enemies. A "rumour-spreading" law means citizens are just one click away from jail. This year police have registered 46 cases for prosecution.

A married couple from the oil town of Aktau, Ablovas Dzhumayev and Aygul Akberdi, are now paying for dabbling in virtual dissent. They were arrested after complaining about Mr Nazarbayev's rule on Telegram, a messaging application. Last month Mr Dzhumayev was convicted and jailed for three years for seeking the forc-

ible overthrow of the state. Ms Akberdi's trial continues.

The most bizarre case concerns three men who participated in an informal political discussion club in Almaty. They are on trial on charges of hatching a terrorist plot, which carries a sentence of up to 12 years in jail. The case stems from a peculiar video circulated via WhatsApp. It shows three men in white masks touting fake machine guns and threatening to perpetrate jihad. None of the accused is known for links to extremism, and none of them even features in the supposedly incriminating video, which looks suspiciously like an amateurish production by the security services. (One does appear in another film the police have produced as evidence.) All three insist they are being framed.

Both sets of cases have a common thread: Mukhtar Ablyazov, an oligarch who fled Kazakhstan in 2009. He paints himself as champion of democracy keen to replace strongman rule. The Aktau pair made their comments in a forum run by a banned group which Mr Ablyazov founded. One of the video trio also expressed support for Mr Ablyazov's goals before his arrest.

The regime's obsession with Mr Ablyazov is puzzling. He has been convicted in absentia of plundering a bank he once ran, so he cannot return to Kazakhstan without going to jail. Although he denied related allegations in a court in London, he fled Britain after a judge ordered him jailed for concealing assets. He now lives in France after a court there struck down an extradition order on the grounds that it was lodged for political reasons. Admiration for Mr Ablyazov in Kazakhstan is slight. Perhaps the authorities fear his message more than the man himself.



Migration to Hong Kong

One-way highway

HONG KONG

Prejudice against an influx of mainlanders is rife

INSIDE AN AUSTERE room in an industrial building in Hong Kong, a dozen or so middle-aged women, many with small children by their side, arrange chairs in a circle. They are new migrants from mainland China who have come to attend a free Cantonese-language conversation course run by a local NGO. The youngsters, who have recently enrolled at local schools, are already near-fluent. Their parents, however, often find themselves reverting to Mandarin, their mother tongue, when the going gets tough. Each time this happens, the instructor, a native Hong Konger, politely reminds them to stick to Cantonese, even if it makes their children blush.

The border between Hong Kong and mainland China operates much like an international one and mainlanders are not free to enter the city at will. But up to 150 mainland Chinese are allowed to settle in Hong Kong every day under the one-way permit scheme, a programme set up in 1980 that lets mainlanders apply to reunite with relatives in the territory. Since Hong Kong returned to Chinese sovereignty in 1997, around 1m mainland Chinese have immi-

grated to Hong Kong in this way, accounting for 90% of the city's population growth in recent years. One source of the influx is marriages between mainlanders and locals, which account for a third of all marriages registered in the territory, up from just 7% in 1996.

No territory is an island

The influx has helped to fuel a "localist" movement, whose members say they are campaigning to preserve Hong Kong's way of life. Many natives take this to include a shared language and respect for the rule of law. One-way permit holders, in particular, arouse resentment. Locals blame them for pushing up house prices and taking school places; spreading bad manners such as spitting and talking too loudly; driving down wages and claiming welfare. Only 21% of newcomers aged 15 and over on the

→ Also in this section

42 Justifying mass internment

43 Chaguan: Misreading populism

family-reunification scheme have been educated beyond secondary school, compared with 32% for the population as a whole. Barely half of adult one-way permit holders are in work.

A common belief among locals is that the scheme attracts too many poor and uneducated mainland women who will marry any Hong Konger, including blue-collar workers shunned by many native-born women, just to claim welfare in the city. And many Hong Kongers, including members of the local legislature, suspect that some mainlanders buy one-way permits from conniving officials for as much as HK\$2m (\$255,000) each. (The governments in Beijing and Hong Kong deny this.)

Identity politics also plays a role. Recent surveys by the University of Hong Kong show that growing numbers of locals identify themselves exclusively as "Hong Konger" rather than "Hong Konger and Chinese", and would sooner call themselves "Asian" and even "global citizens" than "Chinese". This stems in part from misgivings about the mainland's interference in Hong Kong's affairs. Pride in a distinct Hong Kong identity often descends into outright discrimination against mainlanders. In recent years young Hong Kongers have organised "anti-locust" rallies, waving placards blaming mainlanders for crowded shopping malls and restaurants.

A woman who moved to Hong Kong in 2008 from the north-eastern province of Jilin to join her husband says she suffered from "severe depression" during her first ▶

► four years in the city, owing in part to the discrimination she faced. She recounts how street vendors mocked her Cantonese and commuters hurled anti-mainland epithets at her when, for instance, she veered off designated paths for pedestrians. Immigrants from neighbouring Guangdong province, where Cantonese is spoken, fare better in Hong Kong, notes a language instructor. Yet they, too, might benefit from taking additional Cantonese lessons to “correct their accent”, the instructor explains. “Hong Kong employers prefer those with local accents.”

Many mainlanders quickly become disillusioned with their new life in Hong Kong. Earlier this year Hong Kong’s home-affairs department conducted a survey of more than 6,000 one-way permit holders who have lived in the territory for less than a year. It found that nearly 60% had “difficulties adapting to life in Hong Kong” and a quarter had enlisted the government’s help in finding a job. This is despite the fact that two-thirds of one-way permit holders come from Guangdong, the Chinese province that is most similar to Hong Kong culturally and linguistically.

Zhang Fen, a former kindergarten teacher in the southern city of Guangzhou, the capital of Guangdong, could only find part-time work at McDonald’s and school canteens during her first few years in Hong Kong, although she does not attribute her travails to discrimination. She regrets falling out of the ranks of the *xiaokang* (moderately prosperous) class in Guangzhou and joining the *diduan* (lowly) stratum in Hong Kong. Greater personal freedom in the city, such as unrestricted internet access, cannot compensate for grimmer living conditions such as a bunk bed shared by four family members, Ms Zhang says.

Many new arrivals depend on the free services of local NGOs to help them settle in. One such is the HKSKH Lady MacLehose Centre, which offers drama classes to help migrants gain self-confidence. Mission to New Arrivals, a Christian non-profit, teaches newcomers arts-and-crafts and helps them to sell their creations. A vocational-training centre affiliated with the Hong Kong Association for Democracy and People’s Livelihood, a political party, trains migrants in trades such as housekeeping and massage. All instruction is strictly non-political, says an employee.

Hong Kong’s government also tries to stop politics intruding on the issue. Carrie Lam, Hong Kong’s chief executive, has repeatedly rejected the idea that she might try to negotiate a reduction in the daily quota of one-way permits with the authorities on the mainland. Instead, with a degree of prejudice similar to those she is denouncing, she has described locals who consider mainlanders a blight on the territory as “brainwashed”. ■

Xinjiang

Cat leaves bag

BEIJING

The party launches a propaganda campaign to justify its internment of Muslims

FOR A YEAR or more the Communist Party has feigned bafflement when asked to comment on evidence that it has detained without trial at least several hundred thousand Muslims, and perhaps more than 1m, in the far-western province of Xinjiang. On October 16th it changed tack, abandoning its denials and loudly defending the internments. A report broadcast on state television contained footage said to have been shot within one of the many “vocational and educational training centres” that China has built or renovated since 2016, when it began ramping up measures against separatism and religious extremism which it says threaten the region. The report suggested that China’s methods for preventing terrorism could serve as inspiration for others.

The 15-minute news package—filmed in and around an institution in the town of Hotan in southern Xinjiang—featured male and female detainees in government-issued tracksuits receiving Chinese-language instruction, lessons in law and politics and training in such trades as carpentry, baking and sewing. After class, inmates played chess in a small air-conditioned dormitory; some took folkdance lessons. “My thinking was simple,” remarks one inmate, speaking of the time before he was sent to the institution, “My life was poor.” “I can’t imagine what would have happened if I hadn’t come here,” adds another.

In addition to the video, Xinhua, the

state news agency, published an interview with Shohrat Zakir, one of the Xinjiang region’s bosses. Mr Zakir insisted that the party had made Xinjiang safe from “bombings, assassinations, poisoning, arson” and other perils. He said that the Xinjiang government aimed to “educate and save” people suspected of minor offences, but provided no details of how many people have entered its camps or how long they might have to stay there. He said China’s actions combined “punishment with leniency” and implied that it was fulfilling a counter-terrorism pledge it had made to the UN. He emphasised that detainees’ education, food and shelter were all generously provided free of charge.

The re-education system’s public unveiling was a grim vindication of sorts for journalists, academics and campaigners who have been monitoring its development and who had pressed the government for an explanation. But the party’s spin was galling. People who have worked or spent time in Xinjiang’s re-education camps say that their population includes many run-of-the-mill types whom the officially atheist Communist party has somehow calculated to be overly religious. They say the educational content includes dubious tasks such as the learning of party songs, that some detainees have been made to consume pork and alcohol as punishments, and that there have also been instances of physical abuse. In October Human Rights Watch, a campaign group, flagged reports that the party has been sending children of detained parents to government-run orphanages even when other family members are available to care for them. The suspicion is that authorities would like to part even moderate Muslims from their beliefs.

In advance of their propaganda push officials in Xinjiang had revised and clarified the region’s public-security regulations, perhaps to give officials slightly more scope to argue that the detentions are compatible with Chinese law. The party may be gambling that a stauncher defence of its activities will help deflect growing international condemnation. But the main point of the propaganda push, in all likelihood, is to convince ordinary Chinese that it is not up to anything unreasonable in Xinjiang. Who, after all, could object to free baking and folk-dancing classes?



More security risks

Chaguan | Populism and the People's Republic

China is misreading the politics of Western anger about globalisation



THE ERA of populist politics in the rich world is hard work for China. Its leaders generally dislike change in foreign capitals, preferring to deal with old friends or devils they know. Young leaders, in particular, can be bumptious, and in need of training in how to avoid annoying China. On the upside, turmoil in Western capitals offers new ways to put foreigners in their place. A European envoy in Beijing describes how Chinese officials greet visitors who raise such issues as the rule of law or political freedoms. Rather often, he reports, Chinese hosts cite the financial crisis that gripped Europe and America in 2008 (but which largely spared China) and the rise of populist parties. “They say: ‘We have been using our system for millennia, and your system doesn’t work.’”

Delightful though it is to gloat, on balance China is getting this populist moment wrong. Chinese leaders are too cynical about elections in the democratic West, and about the lessons that even messy campaigns can offer. They are not cynical enough about their own authoritarian system, refusing to see how it induces a sort of democracy-blindness. Even well-informed officials and scholars misread political dynamics around the world.

The really perilous response involves disdain, and a serene confidence that voter anger is evidence of domestic failure in the West. Precious few Chinese voices question the political sustainability of a global economic order from which China has profited so copiously, claiming to be a developing country with the right to subsidise domestic firms and close markets to foreign rivals, while growing to become the second largest economy on Earth.

China is right that big, proud Western parties of government have had a rough few years. The invasion of Iraq is sometimes added to the list of self-inflicted wounds that China avoided. But too often China misreads the underlying causes of Western woes.

China got the American election of 2016 wrong several times over. Beforehand Chinese officials and diplomats barely concealed their horror at the thought of a President Hillary Clinton. They saw the former secretary of state as a scold on human rights and a hawk on national security. They mistook Donald Trump for a New York businessman without fixed beliefs, not realising that he has believed in one big thing for 40 years, namely the merits of a good trade war. After his election China decided Mr Trump was a blow-

hard who could be bought off by purchases of American goods. Now they ascribe his rise to American decline, and to the rage felt by a superpower as it is overtaken by a harder-working, more disciplined China. In September China’s State Council turned this sore-loser theory of Trumpism into a 71-page white paper.

The white paper on US-China trade sets out to prove with numbers and graphs that unemployed Americans are wrong to believe China unfairly stole their jobs. It argues that China is being scapegoated for America’s own domestic policy failures. It notes that America lacks re-training schemes for laid-off workers and is stingy about redistributing wealth. It upbraids America for refusing to sell China pricey bits of sensitive high technology, which would close the trade deficit nicely. “No job lasts for ever,” the paper chides, adding that multinational firms, American investors and consumers gained handsomely overall from trade with China. As economic analysis, the white paper has strong and weak points. As a political response to Mr Trump, it is frighteningly obtuse.

Chinese officials have matching theories about political upheaval in Europe. They can sound somewhat admiring of European social democracy and its systems of redistribution. But when pondering European populism, they talk of a refusal to embrace the hard reforms with which China is grappling. Chinese officials are just as suspicious when they hear foreign political and business leaders assert that if China does not address such issues as overcapacity in its steel industry then it risks stoking populist anger abroad. Their hunch is that the West dislikes losing and will use any pretext to hold China back.

The upside of disaster

Many Chinese critiques of Western populism are rooted in truth. But cynicism is leading China astray. For recent elections have not just been humiliating for mainstream Western politicians. They have also been painfully instructive in valuable ways. Elites—at least those capable of introspection—learned how little they are trusted by voters who did not prosper amid rapid globalisation. Thoughtful elites further learned that aggregate economic gains do not replace the human need to feel useful, respected and heeded, as individuals. In a lesson of especial relevance to China, big Western parties have learned that, during economic booms, it is easy to overestimate mass support for elite policies.

Some years ago Fritz Scharpf, a political scientist, made a useful distinction between two sources of political legitimacy. Adapting Abraham Lincoln, his theory describes polities that gain “input legitimacy” by electing citizen representatives and then holding them directly accountable, ie, that offer government of and by the people. Others claim “output legitimacy” by enacting successful policies; ie, they offer government for the people.

Chinese leaders inhabit a universe that revolves around output legitimacy. They justify one-party rule by pointing to such achievements as economic growth and social stability. Though concerned with public opinion and eager for discreetly gathered feedback, they are appalled by chaotic, fact-free elections in the democratic world. Yet Western elites were taught the opposite lesson by their defeats by populists—namely, if voters do not feel listened to, displays of technocratic expertise are not enough.

This is more than a trade dispute. Increasingly China and the West disagree on the legitimacy of each other’s complaints. China’s leaders do not have to respect Mr Trump and his ilk. They should respect the forces that he rode to victory, which were building for years. If not, this crisis will outlast him, and them. ■



Saudi Arabia

The kingdom and the cover-up

CAIRO AND ISTANBUL

Saudi Arabia's alliances are being tested as never before

WHEN AMERICA'S secretary of state, Mike Pompeo, met Saudi officials in Riyadh on October 16th, they smiled, posed for photographs and talked about jet lag. They did not dwell on the Saudi journalist, Jamal Khashoggi, allegedly carved up with a bone saw. Two weeks earlier Mr Khashoggi, who lived in self-imposed exile, walked into the Saudi consulate in Istanbul and disappeared. After days of dissembling, the Saudis have dropped the pretence that he left the building that same afternoon. Few doubt that he is dead or that his fellow citizens killed him. The question is what the West ought to do about it.

To judge by Mr Pompeo's jovial demeanour in Riyadh, both the American and Saudi governments want the issue to go away. He grinned through a meeting (pictured) with the crown prince and de facto ruler of Saudi Arabia, Muhammad bin Salman, and praised the Saudis for their pledge to investigate. His boss, President Donald Trump, has repeated denials from both the king and crown prince. "Here we go again with, you know, you're guilty until proven innocent," said Mr Trump.

The Saudis may yet be forced by the co-

pious evidence against them to admit some measure of guilt, perhaps calling Mr Khashoggi's death an abduction gone bad. If so, they will need to explain why one of the men flown to Istanbul for the operation was a forensic expert—unnecessary for a rendition, but handy if you plan to dismember a corpse. In shielding Prince Muhammad from blame, they may pin the debacle on "rogue" officers. This would beggar belief. The prince has amassed more power than any past Saudi ruler and has a firm grip on the security services.

Death and denial

Still, Mr Trump may choose to accept this dubious story. He is counting on the Saudis to hold oil prices steady next month by maintaining global supply, as America hits Iran, their shared enemy, with new sanctions that aim to cut off its oil exports. He also sees the kingdom as an important market for American weapons manufacturers. Mr Trump still crows about a \$110bn arms deal he made last year. That number is inflated, but he seems to believe it and is loth to jeopardise future deals. Lurking in the background is Russia. A Saudi journal-

→ Also in this section

45 Erratic Arab aviation

45 Zimbabwe's economic crisis

46 Chinese media in Africa

47 Nigerian cities

ist close to Prince Muhammad has warned that, if Mr Trump abandons the kingdom, Saudi Arabia could turn to Vladimir Putin.

Turkey is making a whitewash more difficult. Its investigators have plied the media with details of the alleged murder, including descriptions of a supposed audio recording of Mr Khashoggi's horrific last moments. Its president, Recep Tayyip Erdogan, and his ministers tread more carefully. None has publicly accused the Saudis of wrongdoing. Officials in Ankara are reluctant to confront the kingdom alone and want to secure American support before corroborating their claims. Any hard evidence of Mr Khashoggi's murder gives them great leverage—perhaps to extract Saudi investment in their ailing economy.

Even if Saudi Arabia gets through this episode without a rupture, it has done incalculable damage to its reputation. Both Democrats and Republicans in Congress are furious. Lindsey Graham, a Republican senator and Trump ally, has long supported close ties with the kingdom. But on October 16th he went on "Fox and Friends" (Mr Trump's favourite programme) and called Prince Muhammad "a wrecking ball", adding: "He has got to go" and "I'm gonna sanction the hell out of Saudi Arabia." Lawmakers have already invoked the Magnitsky act, which could impose sanctions on anyone found culpable for Mr Khashoggi's death.

America, especially under Mr Trump, has been willing to work with brutal autocrats. Unreliable autocrats may be a different matter. Prince Muhammad has a record of impulsive behaviour, from the blockade ►►

of Qatar to the abduction of Lebanon's prime minister. His war in Yemen has turned into a lethal quagmire. The disappearance of Mr Khashoggi brings that record into sharper focus. Meanwhile, some in Washington believe that since the kingdom is no longer the world's largest oil producer, thanks to American fracking, it need no longer be treated with kid gloves.

Prince Muhammad never promised to make Saudi Arabia a liberal democracy. He offered his subjects a deal: accept my rule in exchange for social liberalisation and economic modernisation. But the crown prince cannot hold up his end of the bar-

gain if he turns the kingdom into a pariah. Many big firms have already withdrawn from an investment conference in Riyadh scheduled for October 23rd (see Schumpeter). Some royals wonder if he will end up bringing down the whole regime.

The monarch can change the crown prince. He has already done so twice. But King Salman is 82 and ailing. His moments of lucidity are said to be dwindling, and his son controls access, even reportedly putting his mother under house arrest to keep her from advising her husband. Some hope a family council might choose a new heir. Its members would be hard-pressed to con-

vene inside the kingdom. Many of the prince's siblings now quietly spend more time abroad. "To see people from [the royal family] living as refugees, it's a shock," says a royal from a neighbouring Gulf country.

Prince Muhammad has neutralised the clerical establishment, the National Guard and other centres of power. He would be difficult to dislodge. "I fear the day I die I am going to die without accomplishing what I have in my mind," he once said in an interview. The man who pledged to create a new Saudi Arabia may end up like so many Arab autocrats before him, putting his own position before that of his country. ■

Arab aviation

Take the long way home

DOHA

Where the shortest distance between two points is a squiggle

IN CALMER times the flight from Dubai to Beirut ends with stunning vistas of the hills of Damascus and the mountains of Lebanon. But for years the airspace over Syria has been crowded with warplanes. The Gulf airlines no longer use it. Instead Emirates, the flag carrier of Dubai, detours across Saudi Arabia and Egypt, adding 700km to the trip. The journey takes even longer on Qatar Airways, which was barred from Saudi airspace after a dispute between the Gulf countries erupted last year. Its route from Doha to Beirut resembles a crook: north over Iran, west across Turkey and south down the coast. What should be a 1,825km flight drags on for 2,865km.

The best way to visualise the Middle East's many conflicts is, literally, from 30,000 feet. Because of wars and political disputes, large bits of the region are off-limits to passenger jets. A straight line between Cairo and Amman is about 500km. That line crosses north Sinai, though, where Egypt is fighting an Islamist insurgency. Pilots fly south to avoid it, adding an extra 190km to their trips. Libya and Yemen are beset by civil wars, complicating routes to Africa.

Since most Arab countries do not recognise Israel, their airlines avoid it. Even the national carrier of Egypt, which signed a peace treaty with Israel 40 years ago, skirts Israeli airspace. (It operates a daily flight to Tel Aviv via a subsidiary, Air Sinai, often on an unmarked Embraer.) Royal Jordanian is a rare exception, but it cannot cross Israel en route to Lebanon. As the crow flies it is 220km from Amman to Beirut. As Royal Jordanian flies they are 1,070km apart, an almost circular route that dodges both Israel and Syria. El Al faces similar restrictions: to reach Asia the Israeli carrier flies all the

way down the Red Sea, to the Horn of Africa, before turning east.

For travellers this is a nuisance, adding an extra hour or two to journeys. But for airlines it imposes real costs. Qatar Airways posted a \$766m profit in the 2017 financial year. In the 2018 financial year (which ended on March 31st) it lost \$69m. Operating costs were up by 15%; passenger numbers were down 9%. "We didn't raise the ticket price," says Akbar al-Baker, the CEO. "We had to absorb the additional cost." Emirates and Etihad, the flag carrier of Abu Dhabi, run five daily flights to Beirut. With the detour around Syria, they log an extra 2.7m km every year. Depending on the aircraft, that means up to 19m litres of additional jet fuel, about \$11.4m at current prices.

Travellers in a hurry do have one option. Middle East Airlines (MEA) of Lebanon kept flying throughout the country's 15-year civil war, despite losing half of its fleet to shelling. The dangers over Syria have not fazed it. MEA did reroute in April, as America weighed a punitive strike over a Syrian chemical-weapons attack. But only briefly. Soon after the cruise missiles landed, MEA's planes were back in Syrian skies.



Zimbabwe

Lost in the supermarket

HARARE

A deepening currency crisis evokes memories of hyperinflation

AT A SUPERMARKET in Harare, Zimbabwe's capital, the finance minister is staring aghast at a pack of nappies. "This is absolutely ridiculous!", exclaims Mthuli Ncube. "\$49!" A manager says it cost \$23 two weeks ago, before pointing out other eye-watering items such as \$20 Coco Pops.

Escalating prices are all too familiar to Zimbabweans. So are shelves bereft of staples and snaking queues at petrol stations. "What we are facing now, we last faced in 2008," says Arrison Banda, a driver waiting in line. A decade ago hyperinflation devastated Zimbabwe. The crisis this time is subtly different. But it too has the potential to shatter a fragile economy.

In 2009 hyperinflation caused by reckless government spending and money-printing forced it to abandon the Zimbabwean dollar and adopt the American greenback. That, along with the sane fiscal policies of a government of national unity, helped to stabilise the economy.

But in 2013 Zanu-PF, the party led by Robert Mugabe, took back sole charge and went on a spending spree using other people's money. Instead of printing it, the central bank simply began seizing up to 80% of dollars from exporters and replacing them with electronic money, notionally worth the same amount. In 2016 it began printing "bond notes", which are supposedly as good as proper dollars.

This coercive Ponzi scheme could only last if dollars kept coming in. But as soon as people realised they could not withdraw their dollar deposits, they stopped making them. There are more than \$9bn of deposits in the banking system, but just \$120m in hard currency underpinning them (see chart on next page), according to Msasa ▶▶

▶ Capital, a financial advisory firm. There is a thriving black market swapping “zollars”, slang for local dollars, for physical ones.

Emmerson Mnangagwa, president since toppling Mr Mugabe in a coup last year, hoped that after winning elections in July he would be able to turn to Western governments for help. But this plan was ruined when his soldiers killed six protesters soon after the vote. Without international backing, Mr Mnangagwa and Mr Ncube, his cerebral technocratic finance minister who was appointed last month, have had to go it almost alone.

On October 1st Mr Ncube announced two reforms. The first was a 2% tax on the value of electronic transactions. The second was the division of bank accounts into a “good” account for us dollars and a “bad” account for zollars. This has led to a belief, encouraged by the memories of 2008, that the local currency will be devalued.

The result has been chaos. Over the past two weeks zollars have been trading at as little as 17 cents to the dollar. The devaluation has led to a surge in prices—and not just in imported goods like nappies. Football fans attending the Zimbabwe v Democratic Republic of Congo game on October 16th were shocked to learn that ticket prices had doubled on match day.

There is a scramble to buy goods while the zollar is still worth something. Lots of shops have run out of staples, as customers rush to buy 50kg bags of sugar or maize. Others are doing a roaring trade in goods that will keep their value, such as generators or cement. Indeed, there is a building boom, as people Hoover up materials.

Many businesses have stopped accepting zollars altogether. One manager of a construction company describes how a week ago he paid for 700,000 bricks in zollars to build a lodge. This week the supplier cancelled the order, demanding dollars.

The human cost is mounting, too. At the Parirenyatwa hospital in Harare, Gertrude Bhunu, 64, shows an empty packet of medicine: pharmacies want dollars. Boyfriends looking to marry have also been

caught out: their future in-laws are refusing to accept the bride-price in zollars. One boss of a local company says he spends 75% of his time sourcing money. Every business is trying to maximise dollar assets and zollar liabilities on its balance-sheet.

The response from the government reflects its chaos and divisions. Ministers from the old guard are trying to bully and ban their way out of the crisis, rounding up small-scale currency traders and outlawing the use of jerry cans at petrol stations. (People are using plastic bags instead.) For his part, Mr Ncube is insisting that a zollar remains worth a dollar, imploring people to trust the dual account system, and to give him time to implement reforms.

The IMF and the World Bank will not offer support unless Zimbabwe repays its arrears to multilateral creditors. America opposes any plan to restart lending. Mr Ncube is forced to turn to outfits such as Afrexim, a pan-African bank that is mulling a \$500m loan. Zimbabwe has also borrowed \$250m from Gemcorp, a London-based investment fund. Not only are the terms of these loans murky, but they do not address the causes of the currency crisis—a lack of trust in a government that keeps ruining the economy and in the synthetic dollars it has effectively printed. ■

Chinese media in Africa

Soft power and censorship

JOHANNESBURG AND LUSAKA

China's state-run news outlets are struggling to win African audiences

EVER SINCE the Kenyan government signed a deal in 2014 for a state-owned Chinese company to build a railway between Nairobi and Kenya's main port in Mombasa, the project has attracted controversy. Its price per km was three times the international benchmark and four times the original estimate. Many Kenyans suspect corruption inflated its cost.

Unsurprisingly, such issues have received little airtime on CGTN Africa, a branch of China's state television company, which opened its headquarters on the continent in Nairobi in 2012. When CGTN aired a package on the railway in July, the network praised it as “a case study” of China-Africa relations. In the Africa of CGTN's imagination, every deal is “win-win” and, of course, “harmonious”.

Chinese media Africa have a long history in Africa. The first bureau of the state news agency, Xinhua, opened in Cairo in 1958. Radio Peking, a state broadcaster, began transmitting to east Africa in 1967. But China's presence did not grow markedly



Installing a Jackie Chan can

until 2008, notes Yu-Shan Wu of the University of Witwatersrand in Johannesburg. The run-up to the Beijing Olympics of that year had been marred, in China's view, by criticism of its policies of “non-interference” over atrocities in Sudan and Zimbabwe. “China realised it had to do more to shape global perceptions of it,” says Ms Wu.

As well as the opening of the CGTN bureau, 2012 saw the launch of *China Daily Africa*, a newspaper, and *ChinAfrica*, a magazine, both published across the continent. At least half of the staff of these outlets are African journalists, though it is clear where power lies. CGTN has two editorial meetings: one for all staff and another where Chinese editors seek approval for the stories from their bosses in Beijing. “Once it touches on Chinese state interests, censorship kicks in,” says Emeka Umeji, a Nigerian academic who has studied CGTN.

The main constraint on the influence of Chinese news, however, is that it is boring. “You never hear people saying ‘I saw this on CGTN,’” says Bob Wekesa, a Kenyan academic who studied for his PhD in China. When not showing footage of middle-aged Chinese men in suits talking in a room in Beijing, CGTN has middle-aged African men in suits talking in a studio in Nairobi.

The channel does not release viewership data. But research by Herman Wasserman of the University of Cape Town and Dani Madrid-Morales of the University of Houston suggests that in Kenya, Nigeria and South Africa the number of viewers is many times smaller than for CNN, the BBC and Sky News. In another study using focus groups, they found that, among its Kenyan and South African viewers, opinions of China were “predominantly negative”.

Chinese influence on African media is nevertheless growing in more subtle ways. These efforts are not part of a master plan ▶▶

Deposit, no return

Zimbabwe, hard cash holdings*
As % of commercial bank deposits



Source: Reserve Bank of Zimbabwe

*Cash held in national banks plus balance held at foreign banks

▶ drafted in Beijing. But taken together, the three main techniques for gaining influence may be more effective than old-fashioned propaganda.

The first is a mass training programme for African journalists. About 1,000 reporters or others working in media firms attend courses in China every year. They are lectured on Chinese history and take trips. One participant recalls a visit to a village in Shaanxi, a relatively poor province: the aim was to win sympathy by showing that China “was still a developing country, just like us”, she says, her scepticism showing.

A second, nascent source of influence is via Chinese investment in private companies. In 2013, for example, state-backed Chinese investors (including a subsidiary of CCTV, CGTN’s parent company) bought a 20% stake in Independent Media, a South African company. Azad Essa, a columnist for the *Independent*, says that in August he was dismissed after writing about China’s abuse of Uighurs, a Muslim minority.

The third, and most important, development is the expansion of StarTimes, a private pay-TV company with close links to the Chinese government. Increasingly it is the primary vehicle for the expansion of Chinese soft power in Africa. Since it began operating in Rwanda in 2008, StarTimes has branched out to roughly 30 countries across the continent.

The nature of its presence varies from country to country. In about 20, StarTimes has carried out, or agreed to carry out, the switchover of television broadcasts from analogue to digital signals. These projects are usually done with a local partner, and funded via a loan to the domestic government from the Export-Import Bank of China. (Many of these deals have been criticised for a lack of transparency.) In roughly 25 countries StarTimes is delivering a project of the Chinese government to bring solar-powered satellite TV to 10,000 remote villages across Africa.

As well as providing infrastructure, StarTimes also produces and distributes content. It boasts of having 10m of Africa’s 24m pay-TV subscribers (though independent analysts are highly sceptical of the claim). Its bundles of channels include Chinese Super League football, kung-fu movies and soap operas. StarTimes even hosts competitions for African actors to dub dramas into languages such as Hausa and Swahili, a move few Western broadcasters have bothered with.

Entertainment can be more important than news in shaping mass opinions of countries, notes Mr Madrid-Morales, pointing to the importance of Hollywood to views of America after the second world war. Chinese efforts are, at least for now, on a small scale in a crowded market. But in the long run fictional dramas may prove more influential than fictional news. ■

Nigerian cities

The anti-Lagos

REDEMPTION CITY

What happens when Pentecostal churches become urban planners

THE NEW church in Redemption City is only half-built. Already this great aeroplane hangar of a building measures 1.5km by 1km. Compared with it, Tesla’s “gigafactory” is a poky warehouse and St Peter’s Basilica is a quaint parish church. Yet the church is not the most extraordinary thing about Redemption City.

In 1983 Enoch Adejare Adebayo, a former maths professor who had become General Overseer of the Redeemed Christian Church of God, acquired a small patch of land north of Lagos, Nigeria’s biggest city. At first it was used for occasional prayer meetings. But as the church grew into one of the world’s largest under Mr Adebayo’s charismatic leadership, the prayer camp turned into a permanent settlement. Today about 12,000 people live in Redemption City, which sprawls over at least 2,500 hectares. The population is expected to double by 2036.

Most African cities are messy, especially around the edges. Suburban roads are invariably crooked, unpaved and unsigned. Houses are plonked down wherever people can acquire land. Many homes are half-built, because their owners have no land titles and so cannot take out mortgages. To deter scammers, some of them are spray-painted with messages like: “This property is not for sale. Beware fraud”.

In Redemption City the streets form a grid. The roads are signed, with names like Hallelujah Close and Praise Close. Some have speed bumps—things that would be wholly redundant on a normal African road. Every plot is the same size: 21.3 metres by 21.3 metres. There are few

half-built houses, because the church checks that families have enough money to complete them, and sets a strict time limit. All the homes are in gated communities, numbering 15 so far.

Everything tends to work. Whereas Lagos hums with diesel generators, Redemption City has a steady electricity supply from a small gas-fired power station. It also has its own water supply. “We make life easy,” says Pastor Fola Sanusi, the man in charge of Redemption City’s growth. The city also makes rules, of the kind that could never be enforced in the hurly-burly of Lagos. “No parking, no waiting, no trading, no hawking”, reads one sign.

In theory, Redemption City is for members of the Redeemed Christian Church of God. When a family wants to move away, it is supposed to sell its house to the church, which will sell it on to a suitably pious person. Each house is supposed to have a “mission room” for the use of a church worker. In practice, however, the properties seem to be finding their way onto commercial estate agents’ websites.

It is an odd place but not entirely exceptional. On the road between Redemption City and Lagos, other Pentecostal churches, such as the Mountain of Fire and Miracles Ministries, are building godly cities of their own. In Lagos, the large Deeper Life Bible Church has constructed traffic lights and a bridge, and has turned some parishioners into traffic wardens. Pentecostal Christianity has already remade many Africans’ spiritual lives. Now it is remaking their cities.



Eat, pray, direct traffic



France

Wading through water

PARIS

Emmanuel Macron's problems are more of style than substance, but still matter

FOR A POLITICIAN with a passion for theatre, Emmanuel Macron has a poor mastery of suspense. On October 2nd he lost his interior minister, Gérard Collomb, who had complained about the French president's "lack of humility". It took him two weeks to find a replacement, and the longer the wait went on, the more it fuelled conjecture. Was the president too enfeebled to attract good candidates? Was his young party's talent pool that shallow? Might even the prime minister, Edouard Philippe, be having second thoughts? On October 16th, when Mr Macron finally unveiled his new team, it was a mix of unknowns and loyalists that scarcely made a splash.

If Mr Macron was hoping to reboot his presidency with a headline-grabbing line-up, this was not it. The solid but discreet Mr Philippe remains in his job, as does Bruno Le Maire, the finance minister. Into the interior ministry steps Christophe Castaner, the outgoing head of La République en Marche (LREM), the party Mr Macron founded just two years ago. A former Socialist, he brings political balance to a government led by an ex-Republican, Mr

Philippe. A one-time mayor from south-east France, who never attended elite Parisian schools, the burly Mr Castaner is also a useful counterpoint to Mr Macron, a former investment banker and graduate of the high-flying Ecole Nationale d'Administration. No specialist in security, Mr Castaner is backed by a new junior minister, Laurent Nuñez, the outgoing head of the domestic intelligence service.

Yet the new team is better understood as an attempt to bring fresh blood and stability, rather than star appeal, to government. The reshuffle was cautious, rather than flashy; balanced, rather than innovative.

→ Also in this section

49 Spain's budget politics

50 Turkey and America

50 Voting rights in the EU

51 Catholic scandals in Poland

51 Orthodox churches

52 Charlemagne: Big tents

Above all, Mr Macron, who campaigned as "neither on the left nor the right", has maintained the political equilibrium. He gave jobs to centrists, Socialists, En Marche youngsters (including Gabriel Attal, aged just 29) and those from the centre-right (notably Franck Riester, a former Republican who braved party disapproval to back the legalisation of gay marriage).

Will this be enough for Mr Macron to recover his grip? The president's approval ratings have collapsed, from 53% at the beginning of the year to 33% in October (see chart overleaf). Four out of eight pollsters show him to be (just) more popular than François Hollande, his much-derided Socialist predecessor, at this point in their respective tenures; two show him level; and another two have him as more unpopular still. Mr Macron was badly damaged this summer by the poor handling of a scandal concerning his former bodyguard, and then by a series of clumsy remarks that came across as arrogant towards ordinary voters. The departure of Mr Collomb, one of the first Socialists to back Mr Macron's new party, and who shed a tear during the presidential inauguration, was both a crushing personal and symbolic disavowal.

In a televised address this week, Mr Macron vowed to continue as before. The reshuffled government marks less a shift in policy than an attempt to get on with the job. The paradox is that, on substance, Mr Macron is still pushing the country in the right direction. As Charles Wyplosz, an economist at the Graduate Institute in Ge- ▶▶

neva, puts it: “France is undergoing a profound transformation...but each reform makes the previous one forgotten.” The streets this autumn, usually strike season in France, have been uncommonly quiet. Substantial reforms to the labour market, state railways, public training schemes, university access and the school-leaving *baccalauréat* have all gone through. Mr Macron next plans to reform unemployment benefit, and unify the dozens of state pension schemes into a single system, with equal, portable rights for all.

Up to a point, Mr Macron can afford to be unpopular. Few people like change, even when they have voted for it, and those touched the most like it the least. Retirees, for instance, are irate because of higher social charges on their pensions. Over the past year, his poll ratings among the over-65s have dropped by 21 points, faster than for any other age group. Yet Mr Macron not only spelled out this policy during his campaign. He designed it as part of a strategy of reducing charges on those in work, which had to be paid for.

With a surer touch, Mr Macron might also have shrugged off the label that stuck to him early on: “president of the rich”. The timing of his cuts to corporate and wealth taxes, announced just weeks after his election, was a necessary early signal that France was changing. But Mr Macron has failed to convince voters that he has balanced such measures with social policy, partly because his approach is not to increase benefits but to invest in education. He has made nursery school compulsory from the age of three, and halved class sizes for five- and six-year-olds in tough areas. Such reforms could be life-changing, but will take a long time to show results.

The underlying problem, in other words, is less substance than style. Mr Macron is accident-prone. When he strides off to shake hands and chat to voters on walkabouts, he more often than not ends up lecturing them. The president, says someone close to him, is finally getting the message.

“Sometimes my determination or my straight-talking has upset or shocked people,” a grave Mr Macron conceded on television this week. “I hear the criticism.”

Mr Macron still retains the solid support of 71% of those who voted for him in the first round of the presidential election. His parliamentary majority is robust, and he runs one of the few single-party governments in a politically fragmented Europe. Yet the highly centralised presidency of the French Fifth Republic, and Mr Macron’s tendency to micro-manage, mean that he is the one who needs to show that he has regained control of the agenda. The president has recruited a new team. Whether it succeeds is ultimately up to him. ■

Spain’s budget politics

Sánchez’s sums

MADRID

Taxing and spending are to rise—but only a little

“WE’VE SPENT years being told that the crisis was over. The time has come for Spaniards to feel it.” With that, María Jesús Montero, the finance minister in the new Socialist government of Pedro Sánchez, unveiled a draft budget for 2019 that modestly increases social spending while raising some taxes too. It comes along with a proposed 22% increase in the minimum wage. For the government, these measures mark an overdue assault on rising income inequality and a rebuilding of the welfare state after years of austerity. For the opposition, they will kill off an economic recovery now in its fifth year. Both are exaggerating. In doing so they are setting some clear battle lines ahead of an election that must come by mid-2020 at the latest.

Mr Sánchez heads a minority government which unexpectedly came to power in June after a censure motion toppled Mariano Rajoy, his conservative predecessor. Mr Rajoy had picked up the pieces after an economic slump in 2008-12. He gradually trimmed the fiscal deficit from 11% of GDP in 2009 to 3.1% last year, mainly by cutting spending.

Mr Sánchez’s budget is the result of an agreement between his Socialists and Podemos, who are further left. It proposes additional spending of €5.1bn (\$5.9bn, or around 0.5% of GDP), mainly on pensions, student grants, housing and social care. But it also projects new revenues of €5.7bn, from small increases in personal and corporate income taxes, and new imposts on share transactions and digital platforms. Officials stress that the budget will cut the deficit from 2.7% of GDP this year to 1.8%, a

target agreed with the European Commission. And Spain’s tax burden will remain below the European average.

The projected increase in revenue looks ambitious. Raymond Torres of Funcas, a think-tank, says he thinks the deficit will end up at about 2.2% of GDP. That would be in line with Mr Rajoy’s performance. But the risks are increasing. Growth, while still healthy, is decelerating. The cost of servicing a public debt that stands at 97% of GDP is set to rise.

With the unemployment rate still at 15%, many economists worry that the steep rise in the minimum wage will discourage hiring, especially of younger workers. Under Mr Rajoy, unions and bosses had agreed to a more gradual increase. However, the minimum wage kicks in for fewer than one in 20 workers, despite Spain’s comparatively low wages. Mr Torres thinks average wages will rise next year by 2.1%. That is more than the growth in productivity but only slightly above inflation. The rise may help to boost flagging consumption.

Pablo Casado, who has replaced Mr Rajoy as leader of the conservative People’s Party (PP), called the budget “irresponsible, impossible and suicidal”. In fact, the most irresponsible item is an increase in pensions, which the PP supports. But his comment suggests that both sides see a political opportunity to be exploited.

To get the budget approved in Congress, Mr Sánchez needs not just Podemos and the Basque nationalists but also the Catalan separatists. They say they will vote for it only if the government intercedes to free their leaders, imprisoned over an unconstitutional independence bid. Mr Sánchez cannot and will not do that. In the end the Catalans will probably fall into line.

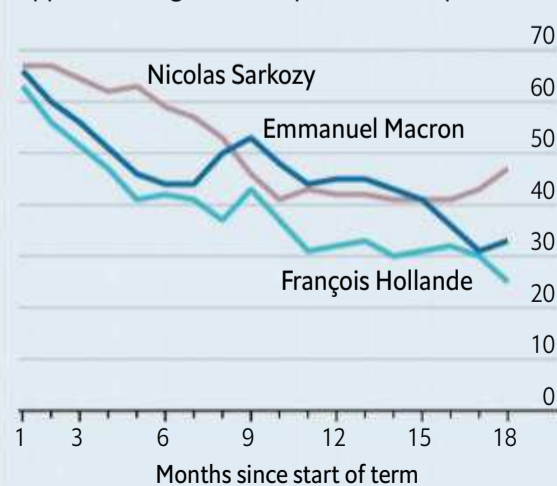
But the PP could still block the budget in the Senate, where it has a majority. If it does so, Mr Sánchez might choose to call an election. He would offer Spaniards a clear choice between a slightly bigger state and less inequality, or slightly lower taxes and perhaps faster growth. That’s democracy. ■



Does it add up to a majority?

Following François

Approval rating of French presidents, % polled



Source: Ifop

Turkey and America

Leaving on a jet plane

The NATO allies avoid a head-on collision

ANDREW BRUNSON had been convicted in Turkey's pro-government press long before he was sentenced in court. The American preacher, detained since 2016 on charges related to a failed coup against President Recep Tayyip Erdogan, was often referred to in the Turkish press as a spy. Had the coup succeeded, Mr Brunson would have been crowned head of the CIA, one paper claimed; south-eastern Turkey would have turned into a Christian Kurdish state, said another. Mr Erdogan personally accused the pastor of "dark ties" to terrorist groups. Mr Brunson's supporters say such allegations are preposterous.

At a hearing on October 12th, the case turned positively surreal. Witnesses who previously claimed to have seen him cavorting with Kurdish separatists withdrew their statements. The prosecutor asked for a reduced sentence. The judge gave the pastor three years, but ruled that he had spent enough time in pre-trial detention, and had him released. A day later, the man at the heart of a crisis between two NATO allies was on a plane home.

The American and Turkish presidents both denied negotiating Mr Brunson's release. "I don't make deals for hostages," Donald Trump tweeted, though he then thanked Mr Erdogan for allowing the pastor to walk free. The Turkish leader protested. The court's verdict was the product of his country's "independent and impartial" judiciary, his office said. Turkey observers let out a collective chuckle.

The Turkish economy let out a sigh of relief. Had the court kept Mr Brunson in custody, America would have almost certainly imposed new sanctions on Turkey. (Mr Trump was reportedly set to order all American diplomats based in the country to return home.) Turkey has already been feeling the symptoms of a severe credit crunch and a looming recession. Earlier this summer, after Mr Erdogan reneged on a deal that would have allowed Mr Brunson to return home, America froze the assets of two of his ministers and doubled tariffs on Turkish steel and aluminium exports. The Turkish lira went into a tailspin. New sanctions would have provoked another sell-off, pushing Turkish companies laden with hard-currency debt closer towards the abyss. The court ruling has offered some of them a glimmer of hope. The lira reached a two-month high on October 16th.

Mr Brunson's release has also bought

Voting rights

Taxation without representation

Half of those living in Luxembourg cannot vote

LUXEMBOURG VOTED for a new parliament on October 14th—but 48% of those who live there were not allowed a ballot-paper. Under current rules, voting is compulsory for Luxembourgish nationals who are under 75, but residents who are not citizens cannot take part in national elections.


This is not unusual. Most countries have similar rules. But, according to the Migrant Integration Policy Index, Luxembourg has "one of the most exclusive national democracies in the developed world, with the largest share of adults disenfranchised in national elections". In comparison, in Germany 7.8m residents, a mere 11% of those of voting age, cannot vote in national elections for the same reason. The reason is Luxembourg's high population of Eurocrats and other foreign types.

This "democratic deficit" has been

debated since the 1980s. After a scandal drove Jean-Claude Juncker's Christian Social People's Party (CSV) from government in 2013, the next coalition saw a chance for reform. In 2015 the government ran a referendum to grant a national ballot paper to residents if they had lived in the country for ten years and had voted in local and European elections.

Though it is rare for a country to allow foreign citizens to vote in national elections, there was precedent. New Zealand has the most inclusive system, granting the vote to all permanent residents after one year of residence. Chile does it after five, Malawi after seven and Uruguay after eight. However, on the day, the proposal was quashed by 78% of voters (only citizens were eligible, of course). Right-wingers turned a debate about democratic deficits into one about Luxembourgish identity and language. Others (of course) used the vote to pass judgment on the centre-left coalition.

The legacy of the defeat drags on, with all parties talking of tradition and homeland during the election campaign, and the government carefully keeping quiet about the democratic deficit. It may have been a clever move for the coalition parties, which maintained enough support to govern again, while the once-dominant CSV failed to make a comeback and the Greens, as in Bavaria the same day, did well. A government spokesperson admitted the representation issue remains a problem, but said only that the government was "carrying out further analysis to find the best solution". It had better get a move on. In just a few years, eligible voters will be a minority.



Turkey some wriggle room in an explosive dispute with Saudi Arabia, which is suspected of murdering Jamal Khashoggi, a journalist, inside its consulate in Istanbul on October 2nd (see Middle East and Africa section). Turkey and America have avoided a head-on collision, and Mr Trump sounds delighted to have the pastor back home in time for November's mid-term elections. But tensions between the two NATO allies are not going away. A handful of American nationals remain in prison in Turkey, alongside tens of thousands of people arrested on spurious grounds since the failed coup. America has threatened to withhold delivery of 100 F-35 fighter jets to Turkey unless Mr Erdogan's government shelves its purchase of the S-400 air-defence sys-

tem from Russia. Meanwhile, Turkey continues to resent America for refusing to extradite the Muslim cleric it accuses of masterminding the attempted coup, and for teaming up in north-eastern Syria with Kurdish insurgents it considers terrorists. On October 12th Mr Erdogan vowed to launch a new offensive against the Kurds east of the Euphrates, where they are accompanied by American special forces. None of this bodes well. But with Mr Brunson's release, "at least a symbolic issue that made it hard for the Trump administration to deal with Turkey has been removed," says Ilter Turan, a professor at Istanbul Bilgi University. That might not sound like much, but it is the best news for Turkey's relationship with America in some time. ■

Poland

The wages of sin

WARSAW

A new film is stirring debate about the Catholic church

POWER, SEX and money run through “Kler” (The Clergy), a new Polish film. In mostly Catholic Poland, the movie has split people. One town even tried to ban it from its only cinema. Yet since it was released on September 28th, it has been watched by over 3m people, putting it speedily among the ten most-watched films in Poland since 1989. As the Catholic church globally grapples with sexual abuse problems, the film has sparked a discussion about the church in Poland, from its political influence to its own cases of abuse. Yet, as with #MeToo in America, change will require more than just talk.

Priests “simply have cassocks; they are not saints,” says the film’s director Wojciech Smarzowski. Inspired by real events, “Kler” follows three Catholic priests as they cavort between drinking bouts, sexual trysts and lucrative business deals. The film is underpinned by dark humour; when one of the priests’ lovers tells him that she is pregnant, he asks her whether she took precautions. “My faith didn’t allow me,” she replies. The film also shows the damage caused by paedophilia. On screen, actors read the testimony of adults who were abused by priests as children, to poignant effect.

Bolstered by its role in the peaceful collapse of communism, the church remains powerful in Poland. Few politicians have ever dared criticise it. Since the socially conservative Law and Justice (pis) party came to power in 2015, its role in public life has increased. Cabinet ministers take part in pilgrimages to Jasna Gora, a shrine to the Virgin Mary. Under pressure from bishops, pis lawmakers have considered tightening the restrictions on abortion, already among the toughest in Europe. The church is one of the foundations of Polishness, says Jaroslaw Kaczynski, pis’s chairman and the country’s de facto leader.

Yet church-going is declining. Over 90% of Poles identify as Catholic, but only half practise religion at least once a week. The number who do not go to church at all is rising, especially among young Poles. Once brushed under the carpet, sexual-abuse scandals are gaining attention. This month a court ruled that the church should pay 1m zloty (\$270,000) in damages, plus an annuity, to a woman who was abducted and repeatedly raped by a priest when she was 13. Three-quarters of Poles think the church should tackle paedophilia among

priests transparently, according to a recent poll. And 51% support an inquiry into historical abuses like a recent one in Germany. An online “map of church paedophilia” was published by a victims’ foundation in Poland last week.

Meanwhile, more Poles want clerics to be better attuned to real life. Young people, especially in the cities, complain about the church’s social conservatism and its meddling in politics. Some believers resent priests speaking to congregations like “morons”, as one man in Warsaw puts it, describing a nearby church. Jan Murawski, secretary of the Club of Catholic Intelligentsia, a lay organisation in Warsaw, worries that the church’s fixation on sexual ethics leaves little space for “really important issues”, from social exclusion to climate change. “The church needs a new language to speak about new topics,” he says. “Change will not happen overnight.” ■

Orthodox churches

In the time of schism

MOSCOW

As Ukraine’s Orthodox Church moves closer to autonomy, Russia rages

VLADIMIR PUTIN often repeats the claim that Russia and Ukraine are “one people”. Yet by annexing Crimea and waging war in eastern Ukraine, he has pushed his neighbours ever farther away. Perhaps nothing symbolises this movement more vividly than Ukraine’s campaign for an independent Orthodox church, which came closer to becoming reality last week after Patriarch Bartholomew of Constantinople, the “first among equals” in the eastern Christian world, signalled his support. The Russian Orthodox Church responded by severing ties with Constantinople, warning of a historic schism.

Although the theological debate may be arcane, the secular stakes are huge. The only Orthodox church with international legitimacy on Ukrainian territory owes its allegiance to the Moscow Patriarchate, which is led by Patriarch Kirill, a close ally of Mr Putin’s. As Russia’s war with Ukraine drags into its fifth year, many Ukrainians see a fully independent national church as an essential means of breaking from Moscow’s orbit. Ukraine’s president, Petro Poroshenko, calls it part of Ukraine’s westward integration. The Kremlin sees it as a challenge to Mr Putin’s concept of a “Russian World”, united by common Orthodox roots, encompassing Ukraine and Belarus.

Ukraine’s campaign for autocephaly has been building steadily for months. On October 11th, Patriarch Bartholomew reha-

bilitated Filaret Denysenko, a bishop who broke with Moscow’s authority just after the Soviet collapse to create a self-styled Kiev Patriarchate, and Makariy Maletich, head of a smaller independent Orthodox body in Ukraine. The Patriarchate of Constantinople also withdrew the 1686 decision that gave Moscow some authority over the metropolitan see of Kiev, signalling that Constantinople does not regard Ukraine as Moscow’s canonical territory.

For Russia’s leadership, both religious and secular, the decision in Constantinople amounted to a grave breach of canon law. Mr Putin huddled with his Security Council to discuss it on October 14th. The next day, the Russian Orthodox Church decided to sever ties with the Ecumenical Patriarchate of Constantinople, though it stopped short of encouraging other Orthodox churches to do so too. Instead it encouraged them to press Bartholomew to reconsider. The Moscow Patriarchate announced that its believers would face punishment for praying in churches belonging to Constantinople, including Mount Athos in Greece, now a popular pilgrimage site for the Russian elite.

Among secular observers, one of the greatest worries is that a change in Ukraine’s religious regime could lead to physical altercations over control of the country’s places of worship, which include some of the most magnificent cathedrals and monasteries in the Christian east, in Kiev in particular. Mr Putin’s spokesman, Dmitry Peskov, said that Russia would “protect the interests of Orthodox Christians” just as it had always protected the interests of Russian-speakers—language echoing that used ahead of the annexation of Crimea. Believers throughout the world ought to offer a prayer for peace. ■



A dwindling Russian World

Charlemagne | In defence of the Volkspartei

Liberals should not cheer the decline of the big-tent European political party



A FEBRILE ATMOSPHERE took hold in the humid Maximilianeum in Munich, Bavaria's palatial state parliament, on October 14th. Activists of the Christian Social Union (CSU), Bavaria's conservative party and the partners of Angela Merkel's Christian Democrats (CDU), clutched their drinks and *Brez'n*, and gasped as the first forecast flashed up on the screens. Their once-dominant party would apparently lose more than 10 points and fall to its lowest result since 1950. In nearby rooms their rivals cheered. The hard-right Alternative for Germany (AfD), the rightist-localist Free Voters and the centre-left Greens had each taken about 200,000 votes from the CSU. One could hear the old Bavarian order creaking and cracking, like ice on an Alpine lake.

And with it Germany's old order. The established, centre-left Social Democrats (SPD) fell below 10%. Their electorate, like that of the CSU, is dying off. Meanwhile Mrs Merkel's CDU/CSU alliance fell to a historic low of 26% in a national German opinion poll last week. A state election in Hesse on October 28th may deal another blow to the old *Volkspartei*, the big-tent, or "people's" party. Some in Berlin wonder whether the SPD will subsequently walk out of Mrs Merkel's "grand coalition" of CDU/CSU and SPD, bringing the whole government down.

The trend extends far beyond Germany. Across western Europe big-tent parties are in trouble. From the 1960s to the 1990s their dominance of the continent's politics was almost unchallenged. Parties like the CDU and the SPD in Germany, the Rally for the Republic and the Socialists in France, the Christian Democrats in Italy and the Social Democrats in Sweden, used to dominate their national politics. But their voters have strayed to rightists like AfD, leftists like Jean-Luc Mélenchon's "Unsubmissive France" and liberal insurgents like Emmanuel Macron's *En Marche*. In next year's European elections the centre-right and centre-left blocs may collectively fall below 50% of seats for the first time.

Germany's *Volksparteien* had it coming. On October 12th the CSU leadership paraded into the party's final election rally in the Löwenbräukeller, a Munich beer hall, to the *Defiliermarsch*, a brass-band classic. Over beer, roast pork and schnitzel at long communal tables, activists muttered about the influx of non-Bavarian migrants from other parts of Germany. Markus Söder affected moder-

ation, decrying "ideologues" (ie, the Greens) on the left and "populists" (ie, the AfD) on the right. Yet after a campaign in which his party had forced public buildings to hang crosses on their walls, railed against Islam and pushed Mrs Merkel's government to the brink of collapse over specious immigration disagreements, the Bavarian premier's centrist rhetoric seemed woefully insincere.

Liberals might argue that one should welcome the decline of Europe's big-tent parties. They failed to adapt to a more educated, individualistic electorate, relying instead on old institutions like churches and trade unions to rally support. Now peppier forces are taking their place. Some, it is true, are like the AfD. But arguably it is not so bad that nativist voters in many European countries now feel like they can vote for parties that represent their views.

Yet the decline of these parties poses risks. For whether on the left or the right, *Volksparteien* have long played a crucial role in processing social conflicts. For decades they have formed part of a system of institutions that has bound different sections of western European societies together. Konrad Adenauer and Helmut Kohl, Charles de Gaulle and Valéry Giscard d'Estaing, Felipe González and Mário Soares all used the electoral breadth of their big-tent parties to smooth out historical and social divides. Broad social-democrat parties built structures for co-operation between capital and labour that still underpin globally competitive economies like the Scandinavian ones. In the 1990s third-way social democrats in countries such as Denmark, Britain and Germany reformed their economies while taking people with them.

What would Franz Josef say?

Big-tent parties have been among Europe's most powerful forces for modernisation. Franz Josef Strauss, the CSU leader from 1961 to 1988, presided over Bavaria's transformation from one of the poorest states in Germany to one of its richest. Peter Siebenmorgen, Strauss's biographer, says he did so by combining tradition with progress: "He had a huge curiosity about new technologies; he saw standing still as going backwards." Large-scale migration to Bavaria did not stop Strauss from winning huge electoral majorities, notes Mr Siebenmorgen, pointing to the mass movement of Germans from Bohemia to Bavaria after the second world war. He also warns that if the likes of the CDU and the SPD die out and are not replaced, their position will be taken by the authoritarian right—pointing out that the German party with the most cross-class voter appeal is the AfD.

It is not enough to celebrate marginal gains by small pro-openness parties, or to find solace in the language of pluralism. Big, broad parties can do things other parties, however liberal, cannot. So where it is realistic, liberals should fight for control of existing big-tent parties. In the CSU, for example, the moderate Ilse Aigner—elbowed out of the way by macho types like Mr Söder—points the way to possible recovery. And new liberal forces also need to learn from the big-tent tradition. Mr Macron, for example, is now in trouble in France partly because he has made too few efforts to bind in the centre-left. Germany's Greens talk about becoming a new centre-left *Volkspartei*, but to achieve that they must reconcile their openness with the views of voters less naturally comfortable about immigration.

It all comes down to a wider truth about liberalism. Just as Karl Popper wrote that tolerance depends on intolerance of intolerance; so pluralism depends on a degree of unity and cohesion. And for that, European societies need big-tent parties, or something like them. Don't wish that tradition away. ■



Britain and the European Union

Out of reach

A deal is closer in Brussels than it is in Westminster

IN THE END the crunch became an anti-climax. Days before this week's EU summit, hopes for a Brexit deal were high. But on October 14th Theresa May sent her Brexit secretary to Brussels to block a "backstop" solution guaranteeing that there would be no hard border in Ireland. When EU leaders met before dinner on October 17th to ask her for fresh proposals, Mrs May could promise only that progress was being made towards reaching a deal in the next few weeks. Plans for a November summit were put on hold, so an agreement may have to wait until December.

What went wrong? Many focus on the Northern Irish Democratic Unionist Party (DUP), which props up Mrs May's government. It is against any backstop implying regulatory controls between the province and the mainland (which the EU sees as preferable to controls on the land border with Ireland). Attacks on Mrs May's deal by hardline Tory MPs have also grown, including on the idea of extending the planned transition period.

Two new interventions tipped the balance. One was a call on the cabinet from David Davis, who quit as Brexit secretary in

July over Mrs May's Chequers compromise, to rebel against her. The second was a revolt by Ruth Davidson, the Scottish Tories' leader, and David Mundell, the Scottish secretary. They said special treatment for Northern Ireland, which under Mrs May's plan would stay aligned with the EU's single market as well as in a customs union, would be seized on by nationalists wanting the same for Scotland. The United Kingdom would be threatened on two fronts.

The Brexit negotiations have been educational for both sides. Mrs May has learnt that laying down red lines is unwise and

that her negotiating position is weak. She has become expert on such arcana as the customs union and the Irish border. She has realised that Brexit is a process that could take years, not a single event next March. And she has accepted that leaving with no deal would be a terrible outcome.

But EU leaders have learnt things, too. Their initial hopes that Brexit would simply not happen have been dashed. And like Mrs May, EU leaders want a deal: no deal would be bad for the continent as well. Above all, they have been educated in British politics, discovering the DUP's existence and understanding the pressure on Mrs May from the press and her own party.

For although the week's drama played mainly in Brussels, the real action now is in London. A deal on a Brexit withdrawal agreement, including an Irish backstop, and a political declaration about future relations is within reach. The obstacle is not the stubbornness of Mrs May, the intransigence of the EU or the obstreperousness of the French. It is doubts about whether Parliament will endorse the deal in the "meaningful vote" it has been promised.

The doubts start with the DUP. Arlene Foster, the party leader, insists she would rather bring down Mrs May's government than accept controls in the Irish Sea. Mrs Foster is seen in Belfast as a poor negotiator, unable to restore the province's power-sharing executive with Sinn Fein that fell apart two years ago amid a spending scandal over a heating subsidy. In reality the DUP wants neither a no-deal Brexit nor an election that could lead to a Labour govern- ▶

→ Also in this section

54 Bullying in Parliament

— Bagehot is away

Read more from this week's Britain section:
Economist.com/Britain

ment led by Jeremy Corbyn, a Sinn Féin sympathiser. But Mrs Foster's very weakness will make it harder for her to cross her "blood-red" line against the Irish backstop.

Next are Tory MPs. The hardline European Research Group noisily opposes Mrs May's planned deal. It claims the allegiance of 80 MPs, though insiders say just 40 would vote against. Another handful of MPs would prefer a softer Brexit or even no Brexit at all to Mrs May's compromise. In facing down potential rebels, the Fixed-term Parliaments Act constrains Mrs May. She can no longer repeat the tactic, used by John Major to ram through the EU's Maastricht treaty in the 1990s, of turning votes into issues of confidence that, if lost, would trigger an election.

Then there are the opposition parties. The smaller ones will all vote against Mrs May's deal. So will the official Labour opposition. The shadow Brexit secretary, Sir Keir Starmer, has set six tests that any plausible agreement will certainly fail. A clutch of pro-Brexit Labour MPs have been voting with the government. But with the DUP and plenty of hardline Tories threatening to vote the other way, they are too few in number to deliver victory for Mrs May.

That is why her advisers have been focusing on pro-European Labour MPs. To be sure of success, the government may need to win over as many as 20. At least that number are disillusioned with Mr Corbyn's leadership and considering walking out of the party next year. Yet the pressure to defeat the government and maybe force an election will be strong. And the precedent of 1972, when Edward Heath needed the support of Jenkinsite Labour MPs to pass the European Communities Act, is not entirely happy. Less than a decade later, Roy Jenkins split from the party, leaving the Tories in power for 18 years.

The big question is: what happens if MPs vote down a deal? Mrs May used to insist it would mean leaving with no deal. She may try to bounce the Commons, by making a motion on the deal hard to amend. And she has rejected calls for a new referendum. But on the prospect of no deal, she said this week that "we would see what position the House would take in the circumstances of the time." And she did not demur when one Tory MP declared that the House would refuse to back a no-deal Brexit and would have to step into the negotiations.

A final, unhelpful point is that politics happens elsewhere, too. The European Parliament threatens to veto any Brexit deal without a legally watertight Irish backstop. EU leaders have other problems, including migration, the euro, Italy and illiberal central Europe. Germany's Angela Merkel and France's Emmanuel Macron are newly weak at home. As Mrs May knows only too well, weakness often makes compromises even harder to agree. ■

Workplace bullying

#MPtoo

Political concerns stop Parliament tackling harassment on its own turf

JOHN BERCOW has long enjoyed a scrap. As a bullied child, he is reported to have mocked bigger, dimmer pupils by reciting their reading mistakes back to them. As a Conservative MP, he criticised all parties, including his own. As speaker of the House of Commons since 2009, he has used the seat's power to help Parliament hold the government to account—much to the executive's annoyance and his enjoyment.

He won a lot of credit for this, as well as for modernising Parliament (running outreach schemes and even turning a Commons bar into a nursery to support working parents). But it is alleged that Mr Bercow treated parliamentary staff with contempt. When accusations of bullying in Parliament—including by Mr Bercow, which he denies—reached the press earlier this year, the leader of the House of Commons ordered an inquiry by Dame Laura Cox, a retired High Court judge. It published its findings on October 15th.

The report is damning. The House of Commons, it says, is characterised by "a culture, cascading from the top down, of deference, subservience, acquiescence and silence". There is a "clear lack of accountability" and a "general unwillingness to challenge things robustly". Some at the top of the hierarchy take advantage, with se-



John Bercow: out of order, order

nior staff humiliating juniors and MPs treating staff "like servants". Women complain of being groped, while groups of male MPs are said to become "increasingly boorish" when together, making "frequent sexual innuendos, lewd comments or sexual gestures". All in all, Parliament is "a stark reminder of how bad things used to be."

The report, admirable in its thoroughness, does not deal with individual accusations. Instead it seeks to change the culture of the House and proposes that an independent system be set up to handle complaints. In doing so, it follows the advice of experts in how to deal with workplace malpractice: the job is not just to throw out bad apples, but to uproot the system that enables their actions. Dame Laura writes that it is "difficult to envisage how the necessary changes can be successfully delivered ...under the current senior House administration." That includes Mr Bercow. He has let it be known that he plans to go next summer, after Brexit, but seems determined to resist leaving before then.

If he manages to cling on for that long, it will be for political reasons. The speaker is in charge of proceedings in the House of Commons and can influence matters by, for instance, choosing whether to allow opposition amendments to government bills. The office is supposed to be politically neutral. But when it comes to Brexit, Mr Bercow is widely believed to favour Remain (a "Bollocks to Brexit" sign spotted in his car provides a clue). Margaret Beckett, a former foreign secretary, explained why many Labour MPs have so far defended Mr Bercow, in spite of the allegations against him: "Yes, if it comes to it, the constitutional future of this country, the most difficult decision we've made for hundreds of years, yes, it trumps bad behaviour."

Whatever the ethics of that position (and the merits of "bad behaviour" as a description of the abuses that Mr Bercow failed to stop), the trade-off may not be quite as Ms Beckett imagines it. In the event of a failure to reach a deal with the European Union, the idea that Mr Bercow would enable amendments to, say, introduce a second referendum is "unrealistically optimistic", says Hannah White of the Institute for Government, a think-tank. Amending the withdrawal bill may be easier if a deal is reached. But if anti-Brexit MPs have the numbers to change the course of Brexit, they also have the power to elect a supportive speaker. And by convention, the next one is due to be a Labour MP.

Turning a blind eye to a culture that allows harassment and abuse at work is a particularly uncomfortable position for Labour, a party founded to protect workers' rights. The consequence of that inaction, as most MPs know and a few have made clear, is that it is unlikely that many lessons will be learnt from Dame Laura's report. ■



Seasonal agricultural labour

Here today, gone tomorrow

KRASNIK

Hostility to migrants is on the rise, but farm hands keep coming

EVERY YEAR for the past seven years, Halyna has taken time off from her waitressing job in Zakarpattia, in south-western Ukraine, to lead a team of Ukrainian fruit-pickers on a farm outside Krasnik, in eastern Poland. She stays for one month or several, depending on her papers. Working from six o'clock in the morning until the evening, she can earn three or four times more a day than she does at home.

Locals once picked Poland's fruit and vegetables. That changed in 2004, when the country joined the European Union, and Poles were permitted to work in Britain, Ireland and Sweden. Over the next seven years the rest of the EU opened its doors. Unemployment in Poland has fallen sharply and wages rose by 30% in real terms in 2004-17, according to the OECD, a rich-country club. Field work seems less appealing to Poles these days.

Migrants from the east have replaced the locals. This year around 500,000 seasonal workers from outside the EU worked on Polish farms—up from fewer than 200,000 in 2014. Some have been busy since early summer, picking strawberries, then raspberries, then apples. They are the largest group of legal migrant farm workers in any rich country. But there are plenty more elsewhere.

In 2013 America's federal government

allowed farmers to fill 99,000 jobs with temporary foreign workers, most of whom came from Mexico. This year it is on track to let in about 240,000. A Republican-sponsored bill would raise the limit to 450,000 a year and allow them to stay for up to three years. Germany—which, like other European countries, has opened its fields to workers from Bulgaria, Romania and other eastern EU member-states—also admits about 60,000 Ukrainians a year. Smaller programmes in Australia, New Zealand and South Korea are growing fast.

Even politicians who rail against immigration tend to make an exception for seasonal farm workers. "We're gonna let them in," said Donald Trump in May. While welcoming foreign farm workers, Poland has fenced out refugees. Britain's government interprets the vote to leave the European Union primarily as a vote against open borders. Even so, in September it announced a special programme to bring in seasonal farm workers from outside the EU.

Perhaps it is because farmers are so good at lobbying politicians. Perhaps it is because, at least in theory, migrant farm

workers go home in winter. Perhaps it is because many workers live in trailers on farms, where they are invisible to the general population. Perhaps it is because many of them are white. Whatever the reason, seasonal agricultural labour has become a big exception to the rule of ever-tightening borders and ever-harsher anti-migrant rhetoric in rich countries. And this global flow of workers has changed farming.

In many rich countries, including America, Britain, France, Ireland, Italy, Spain and New Zealand, agricultural employment had been in long-term decline as a share of total employment. About ten years ago the decline stopped. With more workers available, farmers have been able to grow more of the kind of crops that require careful handling.

In Britain asparagus and soft fruit are now planted more widely than in 2004, when the country opened its doors to Polish and other eastern European workers (see chart on next page). And though cause and effect cannot be disentangled, this might have changed British eating habits. Britons munched more than twice as much soft fruit in 2017 as in 2000. "People eat blueberries for breakfast," says Jack Ward, head of the British Growers Association. "Ten years ago, that didn't really happen."

The depth of farmers' dependence on migrant workers is clearest when the workers fail to turn up. Earlier this year Slawomir Brzusek learned that the Ukrainian women who were supposed to work on his farm near Krasnik would not be coming. Their leader had found an indoor job in Warsaw. "It was a time of uncertainty. The raspberries were ready; I was truly worried," he remembers. Eventually he found other workers from Ukraine, though not ▶

→ Also in this section

56 Coping with worker scarcity

▶ quite enough to pick all the raspberries in his fields. He told the workers to pick the nicest berries and leave the rest.

When the schemes are well run, seasonal migration can transform people's lives. New Zealand's "recognised seasonal employer" programme began in 2007 with 5,000 migrant workers and has grown to 11,000. Almost all the workers who take part in this scheme are men from poor Pacific islands such as Tonga and Vanuatu. They are housed by New Zealand farmers, who also pay half the cost of their return tickets and guarantee them a certain amount of work. If the workers fail to depart at the end of the year, the farmers must pay for their removal.

When John Gibson of the University of Waikato and David McKenzie of the World Bank evaluated the programme in 2014, they found huge effects. The average worker from Tonga or Vanuatu earned NZ\$12,000 (currently \$7,900) in a season, of which he sent NZ\$5,000 home. After two years, households with a migrant member had higher incomes and savings, and nicer homes, than similar households without one. Few development programmes can boast such good results.

To prevent migrant workers from undercutting natives, New Zealand's farmers must show they have tried to hire local people, and must pay migrants more than the prevailing wage. These measures are probably pointless. In most rich countries, locals will not do repetitive farm jobs for the wages on offer. Since 1999, Germany has tried several times to restrict the number of foreign migrant workers, in order to lure unemployed locals into the fields. These efforts have had little effect, partly because unemployment has been low in the areas where labour-intensive crops are grown.

Foreign workers are self-regulating, points out Philip Martin, who studies migrant labour at the University of California, Davis. Because there are usually more willing migrants than farm jobs, and because workers tend to be hired in groups, they have a strong incentive to behave impeccably and ensure that others do, too. In the most recent survey, 90% of New Zealand farmers rated Pacific islanders at least eight out of ten for dependability. Just 22% gave similar scores to local workers. A farmer who comes to depend on foreigners might never go back to locals.

If migrant farm workers impose a cost, it is probably in innovation forgone. Some farmers who employ lots of migrant labourers are keen on labour-saving machinery (see box). But they seem to be unusual.

Correction: In our article on bullying (October 6th), we said that the International School of Beijing has security guards in every changing room. The school tells us this is no longer the case. The policy, which was introduced to deter theft, has been discontinued.

Coping with worker scarcity

More than you can chew

ARDLEIGH

Why strawberries have become as big as plums

BOXFORD FARMS, on the border between Essex and Suffolk, is one of Britain's best fruit growers (with the awards to prove it). Because the 140-hectare farm grows so many different things, from rhubarb to strawberries to blueberries to apples, it can offer migrant labourers six to nine months of work a year. It pays all of its 250-odd fruit pickers at least the national minimum wage; the fastest earn substantially more. And still it struggles to find people.

The Britons who made up a hefty slice of the fruit-picking labour force as late as the 1990s are gone. The Polish workers who were so plentiful a decade ago, when Britain opened its job market to eastern Europeans, have mostly moved on to easier jobs. Almost all the pickers at Boxford Farms are now Bulgarian or Romanian. And even they seem less plentiful than they were. "It's a small population, and it's shrinking," says Robert Rendall, the managing director.

In September Britain's government

promised to allow in some seasonal farm workers from outside the EU. In the meantime, what is a grower to do? In the packing houses where Boxford Farms processes fruit, the answer is mechanisation. Mr Rendall has bought machines that can detect bruises on apples and measure berries into whatever kind of container Britain's picky supermarkets desire. In his polytunnels and greenhouses, strawberry plants grow in trays at waist level, making the plants much easier and faster to pick.

But the big answer lies in the fruit itself. Mr Rendall has turned to varieties of strawberry such as Amesti, created by Driscoll's, a soft-fruit titan. These varieties do not necessarily produce more fruit over a season than other ones. But, crucially, the berries are larger. So a migrant fruit picker can pick a greater mass of strawberry with each muscle movement. If you ever wonder why strawberries are now as large as plums used to be, the tight labour market is the reason.

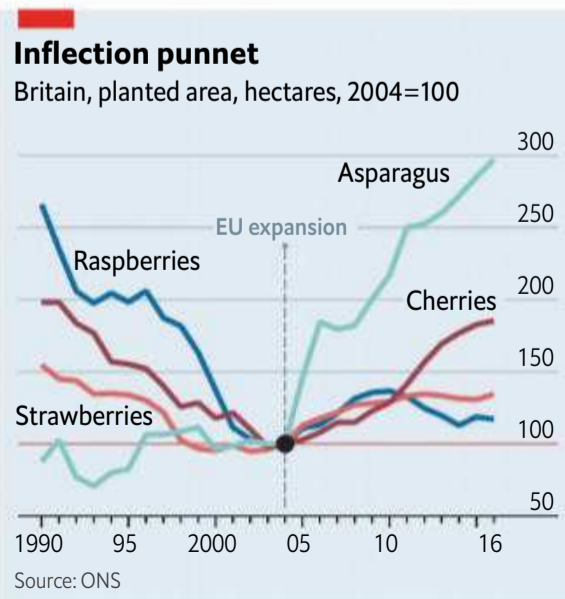
In general, a plentiful supply of willing workers appears to deter growers from investing in technology. That became clear in America when the tap was turned off.

In the early 1960s President John F. Kennedy abolished the *bracero* programme, which had allowed almost half a million Mexicans to work on American farms. The aim was to boost employment and wages for native workers. That did not happen, according to research by Michael Clemens, Ethan Lewis and Hannah Postel. Farm wages rose after the Mexicans were sent packing—but they went up at least as much in areas where there had been no *braceros*. Instead of hiring more Americans, farmers

invested in things like tomato-picking machines and stopped growing crops that could not be mechanised.

Engineers continue to work on machines that could replace workers. Garford Farm Machinery, a British firm, has created a robotic weeder that can be attached to a tractor. Inevitably called "Robocrop", this takes out not only weeds growing between rows of crops (which any old machine can do) but also weeds growing between plants in a row. Prices start at £80,000 (\$105,000); Philip Garford, the managing director, says that it can do the job of 30 men with hoes. Other inventors are working on strawberry-picking robots. But strawberries are tricky—and raspberries, which must be pulled gently off hulls, trickier still. "If someone invents a mechanised way to pick raspberries, they will win a Nobel prize," says Andrzej Tybulczuk, director of Krasnik's employment office.

What worries Poland's farmers is the danger that Ukraine's store of willing workers will be picked clean. Ukraine's young adult population is shrinking because of its post-communist baby bust, and farmers in Germany and Britain can pay higher wages. Polish farmers will probably have to look further afield, perhaps to South Asia or sub-Saharan Africa, whose workers will stand out more in an overwhelmingly white country. But if it works in New Zealand, perhaps it can in Europe. ■





American shale oil

Peering inside the Permian

MIDLAND, TEXAS

The world is becoming more dependent on American shale. Can the industry, at last, deliver both profits and production?

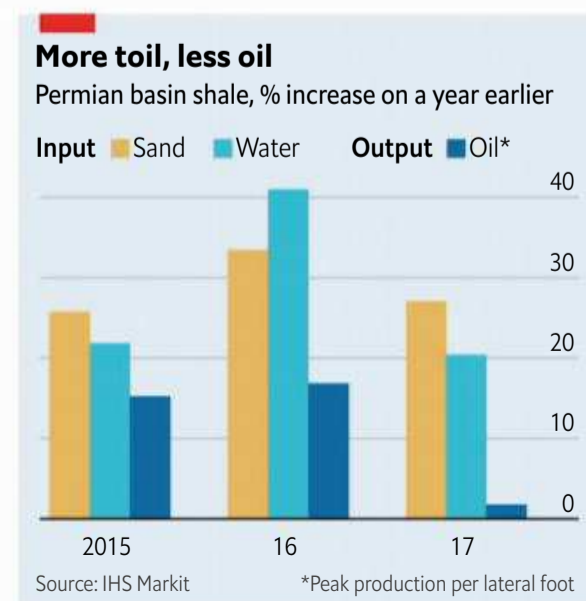
IT IS A blazing morning in the Permian basin, in west Texas, America's most productive oilfield. On the high plains a rig gnaws at rock more than 3,000 feet (0.9km) underground. When the drill bit reaches about a mile and a half in depth, nearly six times the height of the Empire State Building, it will munch its way sideways for another two miles. Then comes the interesting part. After completing one horizontal well, the towering rig will rise virtually intact, shuffle forward for about an hour, then prepare to drill again.

Such walking rigs are one way that Concho Resources, the company which owns the well, seeks to extract more oil, more efficiently. Concho is not alone. The shale industry has made America the world's top producer of crude oil. When America's sanctions on Iranian crude exports take effect on November 4th, shale will help fill the gap. As tensions rise over Saudi Arabia's suspected role in the murder of Jamal Khashoggi, a dissident journalist (see Schumpeter), advisers to President Donald Trump point to America's energy dominance to calm nerves over any drop in Saudi exports. Yet there is fierce debate over how far and fast the industry can actually expand. The Permian is at the centre of this.

Firms continue to invest in shale basins around America—in Oklahoma, for in-

stance, and North Dakota. But as the world becomes more dependent on American oil, American oil is becoming more dependent on the Permian Basin, which spans about 75,000 square miles across west Texas and southeastern New Mexico. On the surface, the natural landscape is all but barren. Clouds drift over a plain adorned by tumbleweed. But underground lies layer upon layer of shale rich with oil and gas, a geological millefeuille. The region accounted for 30% of America's oil production in July, up from 23% two years earlier.

Other big surges in production—in Sau-



→ Also in this section

58 Bartleby: The pay lottery

59 Tears for Sears

60 The cannabis business

60 Paul Allen's legacy

61 Sonos v Google and Amazon

61 Weight Watchers, before and after

62 Tourism and Bollywood

63 Schumpeter: The Khashoggi affair

di Arabia in the 1960s, for instance, or Russia in the early 1970s—followed the discovery of giant oilfields, notes Alessandro Blasi of the International Energy Agency. But the Permian and other American shale basins had already been drilled for decades using conventional wells. Then after the financial crisis of 2007-08 low interest rates helped companies deploy new techniques on well after well: they drilled horizontally, then pummeled shale with sand and water, a process known as hydraulic fracturing, or fracking, until the rock relinquished its oil and gas.

Because about 80% of a shale well's production occurs within two years of fracking, firms kept buying oil rights and drilling. In 2014 the Organisation of Petroleum Exporting Countries (OPEC), fed up with giddy American production, declined to curb its own output. Having soared to \$115 in June 2014, the price of Brent crude oil plunged to \$29 a barrel in January 2016. Since 2015 Texas alone has seen 71 bankruptcies of exploration-and-production firms, says Haynes and Boone, a law firm.

As a result, investors' appetite for growth for growth's sake has waned. Shale companies now claim to have changed how they operate. Take Pioneer Natural Resources. In 2015 David Einhorn, a prominent short-seller, unkindly labelled Pioneer a "mother-fracker" for its profligate ways. Today Timothy Dove, the firm's chief executive, tempers his bullishness about the Permian with more attention to costs. Pioneer is selling assets so it can centre its business entirely in the Permian, where Mr Dove says he can drill most economically. Executives are being paid for returns as well as rising output.

Companies such as Pioneer and Concho ▶▶

are also revising techniques in the field. Fracking recovers only about 8-10% of oil in shale. "If you can actually go from 10% to 12%, that's a 20% increase in the amount of oil you're recovering," says Mr Dove. So firms are drilling several wells on a single site, to reduce drilling time and costs, and then blasting wells with more water and sand, to extract more oil. Concho is continuously testing optimal ways to frack, for instance by targeting one section of a well, then a section of another nearby, then returning to the first well for more fracking.

However, investment discipline re-

mains patchy. According to analysis by Sanford C. Bernstein, a research firm, which examined the most recent quarterly results of American exploration and production companies, nine of the biggest dozen firms, including Concho and Pioneer, had cashflow from operations that exceeded capital spending (and Pioneer, just barely). Among the dozen smallest companies reviewed, only three earned more than they spent.

Even with high oil prices, now at around \$80, the industry faces new pressures. Pipelines from the Permian are jammed

with crude. New ones will open late next year, yet other problems will persist. Oil-service firms slashed their rates after the most recent crash, but those prices are creeping up. Mr Trump's tariffs on imported steel will make equipment more expensive. The cost of hiring and housing workers is soaring. The unemployment rate in Midland, the region's biggest city, is 2.2%; to lure staff Concho's headquarters boast child care and a gym. Cinder-block hotels, packed with oil workers in jumpsuits, routinely charge \$450 a night.

Workers are not the only vital resource ►►

Bartleby The pay lottery

A buoyant stockmarket, more than skill, has enriched chief executives

THE PHRASE "happy as Larry" was coined to describe an Australian boxer who won a bumper prize in the 1890s. But it might have been designed for Larry Culp, the new chief executive of General Electric, who has been awarded a contract that could pay out \$237m.

Mr Culp is a member of a lucrative club. In 2017 a chief executive at one of America's 350 largest firms earned on average \$18.9m, according to a study by the Economic Policy Institute, a left-of-centre think-tank in Washington, DC. That is 312 times as much as the average worker, a ratio that is close to its peak in 2000, of 344. The thread connecting those two dates is the soaring value of share options. The stockmarket was at the end of a long boom in 2000 and surged again last year, prompting many bosses to cash in their shares.

Back in 1980, before the enthusiasm for awarding share options to executives took off, the ratio between chief-executive and worker pay was 32. And it turned out that, just as bosses started to be paid more in the form of equity, the stockmarket took off. At the start of 1985 American shares traded on a cyclically adjusted price-earnings ratio (a figure which averages profits over ten years) of ten; now the ratio is over 31, according to Robert Shiller of Yale University.

In Japan bosses have rarely been given share options, perhaps because the country's stockmarket has never recovered from the bursting of the 1980s bubble. Owing also to an egalitarian mindset, Japanese executive pay is a little more than a tenth of that in America, and about a quarter of the British level.

If the argument goes that executives have to be paid stratospheric salaries to run multinational businesses, this contrast seems odd. Japan has plenty of

globally competitive companies in fields such as cars and robotics.

In other words, it is not obvious that CEOs in America and Britain are raking it in because they are uniquely skilled. Moreover, their stock-option paydays have been driven in part by declines in interest rates, designed to boost the whole economy. Bosses have won the monetary lottery.

In a new book*, Deborah Hargreaves, a former journalist (and ex-colleague of Bartleby), describes the experience in Britain. Pay has outstripped improvements in corporate performance. Between 2000 and 2013, the pay of chief executives at FTSE 350 companies in Britain rose by 350%, while pre-tax profits rose by 195% and revenues by 140%.

The standard explanation is that such divergence is the result of a global "war for talent" in which firms must pay up for stars, just as football clubs compete to hire Lionel Messi and Cristiano Ronaldo. But many promote from the inside. Ms Hargreaves cites a 2013 study of *Fortune* 500 companies, which showed that less than 1% had poached a boss from abroad.

Some reforms have been put in place, particularly the introduction of long-term performance-based incentive plans, designed to discourage chief executives from focusing only on the short term. But these plans have generally been awarded on top of existing pay packages and have done nothing to reduce the huge gap between executive and worker pay.

In Britain shareholders have a "say on pay" in annual meetings and have occasionally staged revolts, such as at WPP, an advertising agency. But last year shareholders at only 18 of the FTSE 100 companies mustered the 20% vote requiring the board to address their concerns under corporate-governance codes. When it comes to companies with billion-dollar valuations, shareholders may not care enough about the impact of high pay in the mere millions.

If investors don't care all that much, why should others? One problem is that the award of equity to executives means that the income-rich and the capital-rich are more than ever the same people, widening inequality. According to "Global Inequality: A New Approach for the Age of Globalisation", a book by Branko Milanovic, the likelihood that a person in the top 1% of labour income is also in the top decile of capital income rose from just under 50% in 1980 to 63% in 2010.

Ms Hargreaves argues that a sense of the system being rigged in favour of wealthy elites has reduced public trust in business and fuelled the rise of populism. The Larrys may be happy. The public is anything but.



* Are Chief Executives Overpaid?, published by Polity Books

under strain; dealing with water is also challenging. To get more oil out of shale, companies are using more than twice as much water and sand as they did in 2014, according to IHS Markit, a research firm and consultancy (see chart on previous page). That makes it harder both to obtain water for fracking and to get rid of it afterwards. Pumping too much back into shale, rather than taking it away, can cause earthquakes. The number of small quakes in the region since January has reached 57, nearly twice that of the same period last year.

Adding to their troubles, firms' productivity gains all but stopped in 2017. As firms drill more wells close together, returns on each can fall, because the oil in neighbouring rock is already depleted. Using more water and sand, after a certain point, does not produce enough oil to pay for the extra materials. In the long term, investors fret that wells will produce an unexpectedly high share of gas, which commands a far lower price than oil. When Pioneer encountered high proportions of gas in some wells last year, its share price sank.

Some observers are loudly sounding the alarm. In a new book, "Saudi America", Bethany McLean, a journalist, questions whether the industry can survive, pointing to measly returns and a need for continuous capital spending. Smaller, indebted companies look particularly vulnerable to rising interest rates or a sudden oil-price crash. Yet it is highly unlikely that the shale industry will collapse. Instead it will change in at least two important ways.

The first is consolidation. Even as many oil majors have cut total capital spending, they have invested in shale and in the Permian in particular. Shale's quick production timetables look a lot safer than multi-decade offshore projects. In July BP announced it would spend \$10.5bn for the shale holdings of BHP Billiton, an Australian miner. ExxonMobil in March said it would quintuple its daily shale production in the Permian by 2025. These giant firms may snap up more companies. And their expansion will probably spur further mergers as regional firms seek to bulk up.

Concho, for example, this year purchased RSP Permian, another shale producer, for \$9.5bn. In August Diamondback Energy announced a deal to buy another shale firm for \$8.4bn. Bigger firms' vast plots let them drill even farther sideways. They are also better equipped to invest in analytics and infrastructure. "It's quickly becoming industrial engineering," says Robert Clarke of Wood Mackenzie, a consultancy. "How good are your logistics? How do you manage your supply chain?"

The second shift will probably be one of slowing output, even if oil prices remain high, as shale firms face climbing costs and restive investors. Those that announced higher capital expenditures in their most

recent quarterly calls saw their share prices dip immediately, notes Sanford C. Bernstein. The oil giants may also be more patient than small firms: ExxonMobil has suggested more gradual shale production.

Shale specialists, to be sure, will not easily give up on promises to provide both growth and stellar returns. To that end, Pioneer is testing automation in its offices and in the field. Concho seeks to guide drill bits ever more precisely through rock. Their experiments will please America's shale bulls, including the ones in the White House. But as the industry grows up, frackers are coming up against limits. ■



American retail

Tears for Sears

CHICAGO

Who is to blame for the collapse of an American retailing giant?

ONCE UPON a time the thud of the Sears catalogue on American doormats brought the possibility of a shopping bonanza. The arrival of its Christmas "Wish Book" heralded the dog-eating of pages with thousands of dollars of imagined gifts. At one point it was the world's largest retailer. But on October 15th its parent firm, Sears Holding Corporation (SHLD), filed for Chapter 11 bankruptcy, bringing a storied name in shopping to its knees.

It was the Amazon of its day. From the end of the 19th century Sears, Roebuck and Company sold through its catalogues everything from ready-to-build houses and dog treadmills to men's girdles and opium. It transformed shopping, shipping its goods to every part of America. Black Americans living in the South could shop

without being mistreated at local stores, either on price or service, says Louis Hyman, a historian at Cornell University.

Its collapse in recent years has been startlingly rapid, even as many big retailers struggle to survive Amazon's innovations. The firm's stockmarket value has crashed, from \$30bn in 2007 to \$69m on October 17th; it is carrying almost \$5bn in debt. Revenues were \$16.7bn last year, down from \$50.7bn in 2007, and the company has not been profitable since 2010. Of the 3,418 American stores it had in 2007, only 866 remained by August this year.

Much of the blame has been directed at Eddie Lampert, a hedge-fund manager who oversaw the firm's ill-advised merger with Kmart, another struggling department store, in 2005. ESL Investments, his fund, is SHLD's main shareholder. Mr Lampert, who became chief executive in 2013 (and stood down on October 15th), had no experience in retail. He flogged valuable brands such as Craftsman, a line of tools. He refused to invest in bricks-and-mortar stores. He did spend on Sears's website, but it is still considered clunky. He split the business into scores of divisions, hoping competition between them would increase profits. Instead staff revolted, even promoting other firms' brands rather than Sears's own to avoid paying royalties to rival units.

Mr Lampert does have defenders. He took over a dying firm, argues James Schrage of the University of Chicago's Booth School of Business. Once innovative, it had been stagnating for decades. Its stores had become shabby and it had diversified too far, into areas such as insurance and property. In 1993, the year before Jeff Bezos started selling books online, it had abandoned its mail-order business, which had once given it a competitive advantage.

Other big retailers, such as Target, Walmart and J.C. Penney, will benefit from Sears's collapse as they too strive to fend off Amazon. But the long-term prospects for department stores are dim. Between 2000 and 2017 their share of American customer spending declined by 4.4 percentage points, more than any other kind of retailer. Sears was not alone in occupying the uncomfortable ground between discounters whose prices it could not match and high-end retailers whose stores and products outshone its own. The Kmart on W Addison Street in Chicago, Sears' hometown (whose last Sears closed in July), has the look of a hard discounter, with deals advertised on neon-yellow cardboard signs and cashback promises, but not the low prices. Meanwhile, non-store retailers are ever more popular with consumers.

Mr Lampert insists that Sears will become leaner and profitable again. Few believe him. Soon all that may remain of Sears are copies of its old catalogues, on sale on Amazon for \$1.88. ■

Cannabis

Pot stocks

NEW YORK

The value of grass is growing

THERE HAS NOT been anything like it since the waning days of prohibition in America in the early 1930s, when Canadian distillers, already enriched by the banning of legal alcohol sales south of the border, readied themselves for the end of restrictions and a guaranteed boom. On October 17th retail cannabis sales became legal in Canada, offering its cannabis firms a certain chance to expand at home and the potential to capitalise abroad.

Financial markets are giddy at the prospect. Ten cannabis-related firms are listed on American exchanges, with one more in the process of applying; several dozen have listed on Canadian exchanges and scores more trade over the counter. Two American ETFs (exchange-traded funds) cover the sector: the Horizons Marijuana Life Sciences Index and the ETFMG Alternative Harvest (whose ticker, MJ, is one of many to capture cannabis-industry slang). Both are up by around two-thirds since mid-August. Deciding if all this reflects market intoxication or the start of something bigger is a matter of decidedly unmellow debate.

The industry is not particularly lucrative yet. Some of the 100 cannabis-related firms tracked by Bloomberg, a data provider, make money, but together they lost \$1.2bn last year. Profits are often thin during an industry's growth stage. But the same group of companies has revenues of only \$2.5bn, and their combined market value is \$76bn. Consumer-goods firms typically trade at only two to three times turnover. America's primary market regulator, the Securities and Exchange Commission, in September issued a rare overt warning about the risks of "investment fraud and market manipulation" around listed cannabis firms.

Implicit in the high valuations is anticipation of extremely rapid growth as sales shift from existing illegal channels to legal ones. Canada is the latest and biggest example. But other countries are opening up, too. Marijuana Business Daily, a trade website, estimates the total demand for recreational cannabis in America, if fully legalised, at \$55bn, or about half the size of the country's beer market. Already, 31 American states have made cannabis legal for medical uses and recreational use is permitted in eight. There is no shortage of bills in Congress for expanded use and if the Democrats do well in the mid-terms, the prospects of passage appear bright.

Paul Allen

Original Microsoftie

The co-founder of the world's largest software-maker dies, aged 65

"MICROSOFT WOULD never have happened without Paul." You would expect Bill Gates, co-founder of Microsoft and one of the world's leading philanthropists, to say something like this after the death of Paul Allen, his former business partner, who died on October 15th following complications from non-Hodgkin lymphoma, a form of cancer. But without Mr Allen Microsoft might indeed never have become the world's biggest software-maker. Nor would Seattle, near which the firm is based, be the city it is today.

It was Mr Allen who in late 1974 insisted that Mr Gates rush over to the newsstand to see the latest issue of *Popular Electronics*, a magazine, whose cover featured the Altair 8800, a new computer with a powerful chip—an event which inspired Mr Gates to leave Harvard University to start a company. It was Mr Allen who came up with the name Microsoft, a combination of the words "micro-

computers", as PCs were then called, and "software". And it was Mr Allen who in 1981 negotiated the deal that became the basis for the firm's success: for less than \$50,000 it bought the software written by a Seattle programmer, which would become the operating system, first called MS-DOS and then Windows, that ruled the computing world in the 1990s and early 2000s.

Mr Allen's impact on Seattle was no less impressive. He left Microsoft in 1983, after learning that he had lymphoma and because of ongoing tensions with Mr Gates and Steve Ballmer, the firm's number two. Endowed with copious wealth (recent estimates put his fortune at \$26bn), he went on to invest in other tech firms (mostly through Vulcan, his company) and many good causes, ranging from brain research to the homeless. Nowhere is his mark more visible than on the city in America's north-west: he helped restore an old movie theatre and hired Frank Gehry to design the iconic Museum of Pop Culture (Mr Allen was an accomplished guitarist and a keen Jimi Hendrix fan). Vulcan—named not after a planet in "Star Trek", a sci-fi television series, as many believe, but the Roman god of fire—developed the neighbourhood in Seattle which is now the home of Amazon, the city's other tech giant.

Mr Allen's legacy extends further, to two lessons in particular. Despite the lionisation of charismatic business leaders, most firms are built by a team, not a single individual; witness also Apple's other Steve (Wozniak). Another is that what entrepreneurs do after their creation has succeeded can matter as much as the venture itself. Mr Allen, and Mr Gates himself, are proof of that. It will be interesting to see how today's titans of tech match up.



An adult in the room

Large companies see value in the market. In October 2017 Constellation Brands, brewer of Corona Beer, bought an initial 9.9% stake in a major Canadian firm, Canopy Growth (ticker: WEED), effectively valuing it at C\$2.5bn (\$1.9bn). In August it upped its holding to 35% in a deal that valued Canopy at C\$19bn. Despite an enormous spike in its public share price, Canopy's market valuation is under C\$16bn, suggesting that investors may be too pessimistic (or that Constellation overpaid). Diageo, Coca-Cola and Altria, a tobacco giant formerly known as Philip Morris, are

all rumoured to be discussing deals with some of the more highly valued firms.

They have much to do, including standardising products and developing distribution. Then firms can turn to dreaming up new products for uses such as pain management and treating conditions like sleep deprivation. That would further transform the main cannabis-user group from the young (a large existing market) to the old (a big new market). The prospects for cannabis firms may well be alluring. But the stocks, unlike the products, will do nothing to help stress. ■

Sound and software

Sonic Switzerland

How Sonos, a maker of speakers, intends to fight the tech giants

HARDWARE IS HARD. The electronics-industry adage applies not only to making ever more complex devices but also to selling them at a good price. Even inventive firms fail to ward off commoditisation. Will Sonos, a maker of wireless speakers that went public in August at a value of just under \$1.5bn, escape this fate? It is a test case of whether smaller firms can still compete with the giants.

Founded 16 years ago in Santa Barbara, five hours' drive south of Silicon Valley, the firm's elegant devices have attracted a loyal following of over 7m households. Many of them still use the speakers they bought years ago and buy new ones on top (nearly two-fifths of buyers already own a Sonos). Yet their most appealing feature is neither design nor longevity, but software. Sonos was the first to make wireless speakers that are easy to set up, even across multiple rooms. And it often upgrades its products with new features over the internet.

For years Sonos had the market largely to itself, until the rise of smart speakers—wireless audio devices complete with a digital assistant that obeys voice commands. Nearly 100m of these have been sold, mostly by Amazon and Google. They are often no match for Sonos on sound quality but they do compete on service and price, says Ben Wood of CCS Insight, a market-research firm. Amazon's Echo Dot or Google's Home Mini start at \$39.99 and \$49 respectively, compared with \$150 for Sonos's cheapest speaker. And the tech giants' products are getting better. Amazon now offers a wireless amplifier that powers conventional high-end speakers. As for Apple, its HomePod already competes directly with Sonos.

Sonos could react by selling cheaper speakers. But Amazon and Google can easily beat it at this game. They could offer their devices at or even below cost, since these are principally vehicles to spread digital assistants, which will eventually help the two firms earn more from their main e-commerce and advertising businesses. Sonos has instead opted to build on its existing strengths, says Patrick Spence, its boss.

One of these is high-end hardware. The firm has already developed devices in new forms, such as a sound bar and a television sound system. It is working with IKEA, a big furniture chain, on ways to integrate speakers into its products.

But Sonos's bigger goal is to turn its software into a platform—a “Switzerland for

audio services”, in the words of Mr Spence. Its products are equipped with a direct link to 60 music-streaming services, including Deezer and Spotify. It aims to repeat the trick by incorporating digital assistants: Amazon's Alexa is already listening; Google's Assistant is soon to come; others could follow. The firm may even introduce its own virtual butler, which would specialise in music-related commands. Outside developers can now write programs for Sonos's platform—connecting it to a wireless doorbell or other smart-home devices, for example.

Investors are not yet persuaded. Sonos's shares have fallen by 13% since its listing. The competition is fierce: Amazon is particularly aggressive on price. According to Mr Wood, Sonos will need to show that it can deal with the programming complexity that comes with being a platform without being able to tap a talent pool like Silicon Valley's. One test of success will be if it can grow at least as fast as music-streaming, which Sanford C. Bernstein, a research firm, predicts will expand by more than a third over the next three years.

Sonos does have one big advantage. As a pioneer of wireless speakers, it has amassed a lot of patents. Its website lists nearly 700, including ones for how music can be streamed to speakers and how these can be tuned to the acoustics of the room they are in. *IEEE Spectrum*, a magazine, has ranked the portfolio the second strongest in the electronics industry, behind Apple's. Sonos has already won an infringement case against Denon Electronics, another maker of wireless speakers. It has reportedly allowed Google to use its intellectual property in return for making Assistant available on its devices. Such behaviour recalls some of the tech giants' own tactics, using one asset to gain an edge for others. With such huge rivals closing in, Sonos is wise to copy a few of their tricks. ■



Weight Watchers

Before and after

NEW YORK

The granny of weight management gets a slimmer name

UP A STEEP flight of stairs just off Fifth Avenue, in New York City, a dozen people trickle into an early evening gathering. The furniture is soft and Scandinavian, the group mostly female. Acoustic background music is occasionally drowned out by a car honking. The only giveaway to why people are here—to attend one of 31,000 weekly Weight Watchers meetings that are held globally—is hidden behind a curtain in another room: the scales.

Scales used to be central to Weight Watchers meetings, or “ww” as the weight-management company has just renamed itself. People would come in and be weighed; there would be clapping (or tears), notes taken and “points” calculated. “It used to be very prescriptive, with flip charts telling people what to do and eat,” remembers Aransas Savas, a former member who now leads “wellness workshops”. Attending her session feels more like group therapy than a weight-loss club.

That's because diets and calorie-counting are out, and wellness and health are in. After decades of deprivation and cabbage soup, the very word “diet” has become taboo. Millennials in particular aspire to being strong and lean more than skinny, says Julie Cottineau, from BrandTwist, a brand consultancy. The “body-positivity movement”, which encourages people to accept their body whatever its size, is pushing brands to accept this, too.

ww is trying to catch up with the shift. After a near-death experience in 2014-15, largely because it ignored the rise of (free) calorie-counting apps and wearable fitness trackers, the company has staged a comeback. At the heart of this renaissance are Oprah Winfrey, a shareholder and board member, and Mindy Grossman, chief executive since July 2017.

ww's shares have rocketed from \$6 to \$68 since Ms Winfrey joined in 2015; a tweet about losing weight while eating bread caused a 20% spike in a day. Under Ms Grossman, who previously resuscitated the Home Shopping Network, the number of subscribers has increased from 3.5m to 4.5m and retention is at an all-time high.

A few months into her job Ms Grossman sparked a public-relations crisis after a plan for a free trial for teenagers led to the hashtag #wakeupweightwatchers and the accusation that it encouraged eating disorders. But Ms Grossman is optimistic about ww's ability to reinvent itself. By increas- ▶▶

ing the number of members and retaining them longer she has vowed to reach \$2bn in revenue by 2020 (up from \$1.3bn in 2017).

To get there the company has done three things. First, it has rebranded and adopted the tagline “Wellness that works”. It has stopped promoting before and after pictures, announced a partnership with Headspace, a meditation app, and encourages “beyond the scale” goals. Much of this is to show that the programme is not just meant for your mum.

Second, the firm is becoming less rigid about its system of points. Previously, members were given a strict daily allowance for anything they put in their mouths. In the early days avocados, yogurt and peanut butter were “illegal” and the banana-allowance was one a week. The new “Free-style programme” is more flexible. “FitPoints” can be earned for exercise.

Third, the firm is at last investing properly in technology. This month it opens a new office in Silicon Valley. It is also rolling out partnerships with the tech behemoths, from a trial with Amazon’s Alexa to programmes with the major fitness trackers. As many as 1.3m members already use these to sync with its app, which keeps track of people’s health and progress, gives access to a member forum, recipes and coaching, and includes a (much-used) barcode scanner.

It all seems to be paying off. The majority of growth in 2018 has come from digital-only subscriptions, which are twice as profitable (with an 80% margin) as full memberships. Because the digital infrastructure exists, incremental margins will expand as membership swells, says Nick Hotchkin, the chief financial officer. It should also help international expansion, particularly to Latin America and Asia.

But experts disagree over whether the cake is big enough for everyone. “Wellness” may be ballooning but so are the number of firms in the market. Boundaries are blurring too; gyms offer nutrition advice, tech companies (such as Apple) put coaching apps on smart watches. And the sector is cyclical, seasonal and volatile, as ww’s own shares show. After more than doubling in the first half of 2018 the price has since fallen by a third, following news that subscriptions dropped from 4.6m to 4.5m in the second quarter. Both the up and down were probably an overreaction, say analysts.

The big question is whether ww can compete head-on with the tech giants. “Within five years Amazon will probably have a health platform,” says R.J. Hottovy of Morningstar, a data-tracking firm. Ms Grossman is confident about ww’s big asset: community. “Even in a tech-driven world people crave community,” she says. That may be so, but for a firm that nearly got obliterated by ignoring fitbits and apps, a pinch of paranoia might be healthy. ■

Tourism and films

Follow the stars

PANGONG

Indian domestic tourism is booming, and Bollywood plays a part

PANGONG LAKE in Ladakh, an expanse of water at an altitude of some 4,350 metres in India’s far Himalayan north-west, is a sublime sight. Surrounded by snow-capped peaks, its icy water is so blue and clear that you can see far down into its depths. Yet these days, the lake’s edge (pictured) has a new attraction. Along the shore sit a dozen or so scooters, spaced about ten metres apart, as well as a few plastic chairs in three colours, shaped in the form of men’s bottoms. For 30 rupees (\$0.41) each, tourists can take pictures of themselves mounted on these props. “This is the signature shot,” enthuses Vivek, an engineer from Delhi, as he clambers on a yellow scooter.

Until a few years ago, few tourists made it to Pangong lake; those who did were mostly intrepid Western backpackers. The road to get there, which crosses the world’s second-highest drivable mountain pass, is a hair-raising icy strip built to ferry soldiers to guard the border with China. But that has changed, in large part because of Bollywood. In 2009, “3 Idiots”, a comedy film with Aamir Khan, among India’s favourite actors, featured a scene at the lake and another with the chairs. In 2012 that was followed by “As Long As I Have Life”, a romance involving Pangong. Now the men in khaki share the road with minibuses full of camera-wielding tourists. Your correspondent was press-ganged into selfies with a crowd of Mumbai office workers.

According to the government, the number of domestic-tourism trips taken annually by Indians grew almost eight-

fold between 2000 and 2017, to 1.65bn. An unmeasurable but significant chunk of that is due to Bollywood. A 14th-century stepwell in Delhi, as featured in “PK”, another of Mr Khan’s films, is thronged with selfie-takers, as is another centuries-old stepwell in Rajasthan. Old forts in Rajasthan and in Goa have far more visitors because of their role in films. Even locations outside India are benefiting, says Jay Kantawala, who runs Wiyo Travel, an upmarket-travel agency in Mumbai. Budapest is a particular favourite, thanks to “I Have Given My Heart Away, Darling” and “When Harry Met Sejal”, two romances. One of the more unlikely destinations is a 45-year-old plane wreck in Iceland, which was featured in “Dilwale”, a romantic-action movie that came out in 2015.

Promoting tourism is hardly what filmmakers set out to do. But Indian state tourist boards have cottoned onto the benefits of their landscapes and buildings appearing on screen. In return for filming in new spots, directors increasingly expect things like permits and security to be sorted out smoothly. Airlines—another of India’s fastest-growing industries—promote new routes by reference to films shot nearby.

There are downsides. Near Pangong, tourists’ litter is beginning to pollute the source of the Indus river. The flow of traffic, and cars which travel up to the lake’s edge, may be damaging a delicate and near-pristine habitat. Perhaps the next film set there might contain a little encouragement not to wreck the area.



Idyllic idiocy

Schumpeter | The Saudi sand trap

More reasons for business to steer clear of the desert kingdom



IT IS EASY to forget how new Saudi Arabia is to the modern world. The man who founded the kingdom in 1932, Ibn Saud, is said in his early days to have carried his land's entire treasury in the saddle bag of a camel. When Americans struck oil in 1938, Ali al-Naimi, who almost 60 years later would become the world's most influential oil minister, was a shoeless urchin tending lambs in the desert.

Companies hoping to do business with Saudi Arabia have often tripped up on these shallow roots. Seduced by its vast oil wealth, and impressed with American-educated ministers speaking perfect English, they find to their dismay that the palace and its robed courtiers still call almost all the shots. But they still never expected to face such medieval horror as the presumed killing of Jamal Khashoggi, a Saudi journalist, regime critic and *Washington Post* columnist, in the Saudi consulate in Istanbul on October 2nd.

The kingdom's crown prince and de facto ruler, Prince Muhammad bin Salman, and his champion, President Donald Trump, are attempting to play down Mr Khashoggi's disappearance. But for businessmen and bankers who have flocked to pay homage to the 33-year-old Prince Muhammad ever since, in 2016, he set out his "Vision 2030" to modernise the economy, the optics are dreadful. His desire to sell a stake in Saudi Aramco, the world's largest oil company, valuing it at \$2trn, in order to raise a whopping investment fund to diversify the economy away from oil, seduced some of the planet's biggest dealmakers. Now they have no choice but to consider the reputational risk of associating with a regime that not only may have blood on its hands in Istanbul, but is also waging a war in Yemen that has caused a humanitarian crisis.

Vision or mirage?

In fact, they can signal their revulsion over the fate of Mr Khashoggi at relatively little cost. Saudi Arabia, for all of its oil wealth and with the exception of the arms industry, is not as important to Western companies as it thinks it is. The kingdom may have convinced Mr Trump, who made his first overseas visit there as president, that it is a bulwark against Iranian expansion in the Middle East and a force for moderate Islam. But in business terms, besides being the ringleader of OPEC, the oil bloc, Saudi Arabia remains insignificant. Foreign direct investment averaged \$5.7bn a year in

the past three years; that is about the same as went into Kazakhstan. Since 2015, the Saudis have paid investment banks just one-seventh of what the latter have earned in the Middle East overall, according to Dealogic, a data provider.

As a result, it did not take long, in response to the Khashoggi affair, for the heads of some of Saudi Arabia's biggest foreign business partners to pull out of an investment conference, nicknamed Davos in the desert, to be held next week in Riyadh. They include Jamie Dimon, boss of JPMorgan Chase, which has been the kingdom's banker for more than 80 years; John Flint, head of HSBC; and Stephen Schwarzman, boss of Blackstone, a private-equity firm which has been promised up to \$20bn in Saudi cash for a big investment fund. Dara Khosrowshahi, boss of Uber, a ride-hailing firm that received \$3.5bn in Saudi investment in 2016, also pulled out. (So did the editor of this newspaper.)

The first Davos in the desert, a year ago, was Prince Muhammad's coming-out party. It attracted 3,500 business, financial and political bigwigs, and then left a bad taste in the mouth when less than two weeks later he locked up a coterie of Saudi princes and businessmen in the same Ritz Carlton hotel where the foreigners had stayed. This year, the promised Aramco initial public offering has gone awry, chiefly because of mismanagement by the palace. Instead, the oil company may need to borrow as much as \$50bn on global markets to fund its acquisition of a stake in Sabic, the state petrochemicals company. The sale of this stake is the new route for funding Prince Muhammad's investment ambitions.

He is known not to forget a slight; just ask Chrystia Freeland, Canada's foreign minister, who incurred his wrath after a relatively routine tweet about human-rights abuses in the kingdom. But Aramco's need to borrow money means that he may now need the world's bankers more than they need him. And they have safety in numbers. The more people who pull out of next week's conference, the less risk that any of them can be blackballed individually.

For sure, some businesses have more to lose if Prince Muhammad's reputation deteriorates further. The \$100bn Vision Fund of Masayoshi Son, founder of SoftBank, a Japanese telecoms and internet firm, took \$45bn of the kingdom's cash in 2016, ploughing it into young tech businesses, including Uber. Mr Son has said nothing about the Khashoggi affair. Nor have defence firms such as America's Lockheed Martin and Boeing and Britain's BAE Systems, which are presumably counting on orders from Saudi Arabia, the world's second-largest weapons importer. Two giants, ExxonMobil and Dow, have chemical investments with Aramco, which they can plausibly argue is a firm operated by world-class technocrats at arm's length from the palace. American social media, led by sites such as YouTube and Facebook, have flourished in the kingdom. But though Prince Muhammad cherishes photo ops with tech royalty such as Facebook's Mark Zuckerberg and Google's Sergey Brin, the region generates only skimpy revenues for Big Tech. Retailers are also drawn to Saudi Arabia's youthful population.

Perhaps the biggest risk companies face in doing business with Saudi Arabia is from America's Congress. Repulsed by the latest incident, on top of the war in Yemen, even senior Republicans are threatening to impose sanctions on the kingdom and curbs on future arms sales, if Saudi Arabia's responsibility for the suspected killing of Mr Khashoggi is proven. But business has rather little to lose from signalling its disgust over the Khashoggi affair. As long as the palace thinks it can interfere with impunity in every aspect of life in the kingdom and among its subjects, it is not a safe place to be. That is why few foreign firms dug in deep in the first place. ■



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→ Also in this section

- 66 Entroponomics
- 67 Italy's doom loop
- 67 Banking competition in Britain
- 68 Buttonwood: Reelin' in the yields
- 69 The trouble with stablecoins
- 69 Swiss banking secrecy
- 70 Free exchange: Central banks

Public wealth

How to spend it

If public assets were managed better, government coffers would enjoy a much-needed boost

PROponents of sovereign-wealth funds like to say that returns from publicly owned assets could in theory displace taxes. In countries that have not struck oil, however, the chance of politicians building up savings rather than running up debt seems remote. Yet states may not need to save in order to enable at least some tax-free spending. Most already have plenty of assets. The problem is that they do not sweat them hard enough.

Most public wealth falls into one of four categories: land and natural resources; property and infrastructure, such as ports and roads; public firms, such as utilities and state-owned airlines; and financial assets like those held by public pension funds. In estimates covering 31 economies released on October 10th, the IMF put the total stash at \$101trn, or 219% of GDP.

The Fund's estimates of governments' assets and liabilities cast their fiscal health in a new light (see chart). Several rich countries' governments have negative net worth, partly because of massive pension obligations to retired public employees. The picture would look still worse if the estimates included state pensions and other promises to ageing populations, such as to provide health care.

Although it is rarely quantified, inves-

tors are not oblivious to such risk. The IMF finds some evidence that government-bond yields respond to the health of public-sector balance-sheets, as well as to debt and deficits.

But a bigger point is that, with so many

assets on the books, it would take only a small increase in yields to raise a lot of money. Dag Detter, a consultant who has co-written a book on the subject, says that increasing the return on public assets by a mere 2% would enable governments worldwide to double the amount they spend on basic infrastructure.

What would it take to make that happen? The yields for society from some assets, such as national parks, are non-monetary. Turning schools and hospitals into cash-cows seems implausible. Yet there are plenty of examples of inefficient government use, in particular of land. Mr Detter and his co-author point to Boston's Logan International Airport, which sits on prime waterfront and could be moved inland. Even schools can be put in better or worse places. One of Rio de Janeiro's sits on the Copacabana beach-front, wedged between pricey hotels. Putting it somewhere else and charging a market rent for the site could create new revenue for the education budget. A recent review found that 166 of the roughly 230 trusts making up England's National Health Service report owning land they do not need.

Some countries seem to get much more from their balance-sheets than others. Take financial assets. The IMF calculates that a country moving from the 25th to the 75th percentile for risk-adjusted returns would raise 2% of GDP in new revenue (it spares policymakers' blushes by keeping the leaders and laggards anonymous). Boosting returns might involve pooling investment portfolios in order to reduce fees; charging more for being an insurer of last resort, for example for bank deposits or flooding; and using offices and other types



▶ of property better.

Improving the profitability of public firms—think of post offices and the like—could raise another 1% of GDP, the IMF says. Middling government-run firms produce average returns of 1.9%, but better ones manage 4.3%—which is still only half the level of companies in the private sector. Some state-owned firms do much better. SNCF, France’s public-sector railway, earned a return on capital of 7.9% in 2017.

For many physical assets, the first step is working out the value of what is on the books. That is not always easy, because governments are bad at keeping track of their balance-sheets. Assets, such as the land on which Boston’s airport is built, often linger at historical cost rather than market value. But some countries are making progress. Since 2011 Britain has produced “whole-of-government accounts” that follow international accounting standards. They show assets of £1.9trn (\$2.5trn or 96% of GDP). The government is combing through its balance-sheet to find ways to boost returns; it will report the results in its budget on October 29th.

Often, improving yields will mean selling things off. But without at least some effort to improve those yields first, it is hard to tell whether the price is right. Anyone sceptical of privatisation can point to some disastrous deals, like Chicago’s leasing in 2008 of its parking meters to a consortium at a price that, according to a later report by the city’s inspector-general, was almost \$1bn too low. In 2014 a British parliamentary committee found that Royal Mail, the state-owned postal service, had been sold off too cheaply the year before. Its shares rose by 38% on the first day of trading.

Finance ministers may be more concerned with making up shortfalls in cash-flow than getting a good deal. If governments keep an eye on net worth, shown on a balance-sheet, as well as on the debt-to-GDP ratio, then politicians would be less likely to sell assets too cheaply. And they would be more likely to keep a keen eye on their liabilities other than government debt.

The IMF argues that such an approach to fiscal policy is overdue. It has been wholeheartedly adopted only by New Zealand, which updates its balance-sheet monthly, and where the figures are “fully and deeply” embedded into fiscal decision-making, according to Ian Ball of Victoria University, who helped to create the system.

There are limits to the IMF’s exercise. A government’s biggest assets are its ability to raise taxes in the future and to change policy, for example by cutting state pensions. Yet these are assets nobody wants to see used to their full potential. The more that cash-strapped governments can raise from the stuff they own, the less they will have to cut and squeeze elsewhere. ■



The art of maintenance

Patch-up job

Repair and renovation are as important as innovation

IN 1533 A noblewoman in Calais presented a visiting grandee with a peculiar gift: her personal toothpick, which, she was eager to point out, she had used for seven years. Whether it pleased her guest is not known, according to Hazel Forsyth, a curator at the Museum of London. But the story amused Ms Forsyth’s audience at last month’s “Festival of Maintenance”, a conference dedicated to keeping things in good nick.

Events about making new things are ten a penny. Less common are events about keeping things as good as new. Maintenance lacks the glamour of innovation. It is mostly noticed in its absence—the tear in a shirt, the mould on a ceiling, the spluttering of an engine. Not long ago David Edgerton of Imperial College London, who also spoke at the festival, drove across the bridge in Genoa that collapsed in August, killing 43 people (pictured). “We’re encouraged to pride ourselves on all being innovators and entrepreneurs,” he said. Maintenance is often dismissed as mere drudgery. But in fact, as he pointed out, repairing things is often trickier than making them.

It is also more difficult for economists to measure. The discipline’s most prominent statistic, GDP, is gross (as opposed to net) because it leaves out the cost of wear and tear. To calculate these costs, statisticians must estimate the lifespan of a country’s assets and make assumptions about the way they deteriorate. Some are like light bulbs, which work well until they stop

altogether. Economists call this the “one-hoss shay” case, an allusion to a poem by Oliver Wendell Holmes. It imagines a horse-drawn cart built so well that it never broke down until it eventually fell apart, victim of “a general flavour of mild decay”.

Other assets are less poetic. Many are assumed to wear out in a “straight line”, deteriorating by the same amount each year. Others lose a steady percentage of their diminishing worth. Japan assumes that houses lose 4% of their remaining value each year. That may be one reason why the costs of wear and tear (or “consumption of fixed capital”) are reckoned to be so much higher in Japan (22% of GDP) than in many other countries, where houses are assumed to age more gracefully.

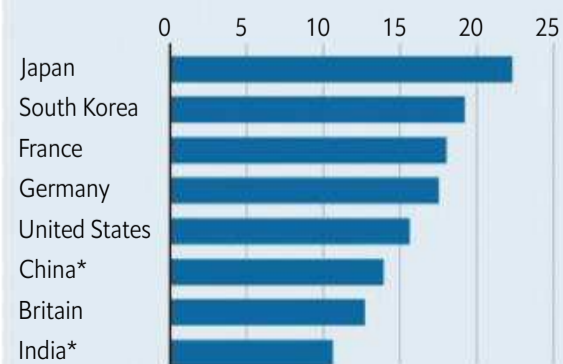
And how much do economies spend fighting decay? No one knows, partly because most maintenance is performed in-house, not purchased on the market. The best numbers are collected by Canada, where firms spent 3.3% of GDP on repairs in 2016, more than twice as much as the country spends on research and development.

At the festival, Mr Edgerton cited the old idea of “hydraulic despotism”: the argument that the tyrannies of the ancient East arose to force people to maintain fragile irrigation systems. In those societies, to repair was to repress. But some today have the opposite concern. They see maintenance and repair as a right they are in danger of losing to companies that hoard spare parts and information too jealously.

In March California became the 18th state in America to introduce a bill supporting the “right to repair”, by obliging manufacturers to make manuals more widely available to customers and independent repair shops. The European Commission has proposed something similar for dishwashers, washing machines and the like. Some think they have the right to repair public property, too. One speaker at the festival, who called himself the “guerilla groundsman” and masked his identity with a helmet, described his surreptitious efforts to clean bridges and repaint signs in Cambridge without authorisation. In a disposable society, to repair is to rebel. ■

Make do and mend

Consumption of fixed capital, 2016, % of GDP



Sources: OECD; The Asian Productivity Organisation

*2015

Italy's doom loop

Double act

MILAN

Banks are more exposed to public debt, but also better shielded from losses

IN ITALY'S BUDGET drama, the action is shifting away from Rome. Last month its populist government said it would run a fiscal deficit of 2.4% of GDP in 2019—wider than euro-zone rules permit, and than markets had expected. Cue a sharp rise in borrowing costs, to more than three percentage points above those in Germany (see chart). On October 15th it submitted its plans to the European Commission. With Brussels likely to raise objections to the budget, this spread could rise further still.

Fears about the sustainability of Italy's huge public-debt burden have also infected its financial sector. Lenders' share prices have fallen by 14% since the government unveiled its plans. Compared with Germany or Spain, a relatively low share of public debt—a third—is held by flighty foreigners. But that leaves the financial sector more exposed. So far banks' improved liquidity and capital positions have cushioned the impact of sovereign-debt woes. But not all lenders are well-placed to cope with a further rise in bond yields.

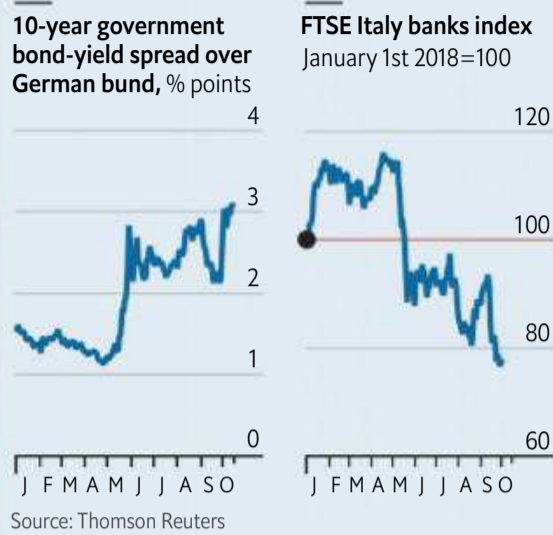
Doom loops, where weak governments and banks drag each other down, featured in debt crises in Greece, Ireland, Spain and Portugal. Euro-zone rules have since restricted governments' ability to bail out banks. Even so, channels connect the two. Banks have big holdings of sovereign debt. And lenders and sovereigns are linked through the economy. If banks deal with losses on sovereign exposures by lending less to companies or individuals, that weakens public finances, closing the loop.

Italy's banks have loaded up on public debt since 2011, in part because such debt is treated relatively favourably by regulators. Their holdings amount to around €390bn (\$450bn), or a tenth of their assets, well above the euro-area average of 4%. (Other financial firms, such as pension funds and insurers, hold even more government debt; thanks to quantitative easing, the central bank owns a chunk, too.) Rising sovereign yields directly affect banks' financial health by making funding more expensive, and losses harder to withstand.

Tapping funding markets has already become more costly. Francesco Castelli of Banor Capital, an asset-management firm, notes that large banks were issuing four-year bonds at interest rates below 1% in May; rates have since crept up to nearly 2.5%. Smaller banks, he thinks, could face forbiddingly high rates. Fortunately, banks

Show stopper

Italy, 2018



are "awash with liquidity", says Guido Tabellini of Bocconi University. Their holdings of liquid assets, as a share of their short-term obligations, are above regulatory floors. And they have been heavy users of the European Central Bank's targeted longer-term refinancing operations (TLTROs), which offer cheap funding.

But the pain of higher funding costs may merely have been deferred. Banks must begin repaying the €250bn they have borrowed through the ECB's scheme from mid-2020. They may need to start refinancing earlier, says Mr Castelli: TLTRO funds will stop counting towards some regulatory measures of liquidity once their maturity falls below a year. If funding costs are still high when banks need to raise money, their profitability will be squeezed, unless they can pass the increase on to customers.

Sustained rises in sovereign-debt yields (and thus falling bond prices) also mean that banks have to reprice their holdings of government debt. That will erode capital buffers—their ability to withstand future losses. Bank analysts reckon that increases in spreads seen so far have had small, manageable effects on banks' capital ratios.

Further large rises in sovereign spreads, though, could spell trouble. Analysts from Credit Suisse, an investment bank, reckon that some banks would need fresh capital once spreads pass four percentage points. Mid-sized banks such as Monte dei Paschi di Siena, which has had a string of troubles, and UBI Banca and Banco BPM, look vulnerable. They are more exposed to public debt, and have lower capital ratios.

The larger lenders, Intesa Sanpaolo and UniCredit, have done more to shore up profitability by cutting costs and selling non-performing loans. But much higher government borrowing costs would bring down the curtain on economic growth. Non-performing loans would start to rise again, threatening profits. No one is predicting a recession in Italy just yet. But the theatrics are not over. ■

British retail banking

Lightweight to middleweight

A challenger bulks up

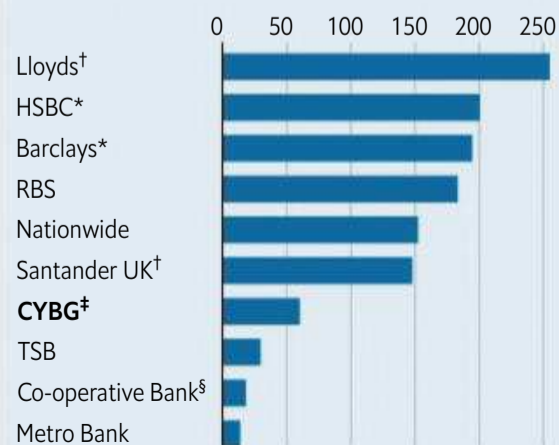
A HANDFUL OF lenders dominate British banking. Just four hold 70% of Britons' main current (checking) accounts. Undaunted—and encouraged by financial supervisors and competition watchdogs—a platoon of challengers is nonetheless taking on the giants, on the high street and online. On October 15th one of them, CYBG, established itself as the leader of that pack, by completing its takeover of another, Virgin Money, for £1.7bn (\$2.2bn).

With £84bn in assets and £59bn in deposits, CYBG is still dwarfed by the heavyweights of British banking (see chart). But the deal spreads its reach southward, adding Virgin's 70-odd branches to those of Clydesdale, a 180-year-old Scottish bank, and Yorkshire Bank, founded in 1859. (Eventually all will bear the supposedly trendier Virgin name.) CYBG also expects to save £120m in annual operating costs by 2021. And it is taking pains to avoid the computing pitfalls that befell a rival, TSB, earlier this year. TSB's switchover to a new platform left customers fuming and its chief executive abruptly out of a job.

The takeover, says Christopher Cant of Autonomous, a research firm, is well timed. Not only is TSB back on its heels, but CYBG is buying extra scale just when growth is getting harder to come by, especially for the challengers. Financing is getting dearer. The Bank of England's Term Funding Scheme, which supplied funds at an interest rate close to the central bank's benchmark, has ended. Competition for deposits heated up with the arrival last month of Marcus, an online bank owned by Goldman Sachs: its interest rate of 1.5% for ▶▶

Could be contenders

British banks' customer deposits, Q2 2018, £bn



Source: Company reports

*Ring-fenced UK bank †Retail deposits ‡Includes Virgin Money §2017

▶ instant-access savings tops best-buy tables. At the end of August, according to the Bank of England, the average rate on instant-access accounts was just 0.43%.

At the same time, lending rates have not kept pace. As new loans replace old ones—eg, as homeowners roll over two-year fixed-rate mortgages—margins are shrinking. The spread between the average two-year rate for a loan worth 75% of a house's value and two-year swap rates has declined from 130 basis points to 62 in the past two years. Mr Cant notes that for riskier buy-to-let loans, in which some smaller

challengers specialise, the margin squeeze has been even more acute.

Besides CYBG, TSB and Metro Bank, a newcomer which has been rolling out branches across southern England, Britain has a host of online-only retail banks that are clocking up impressive numbers. Revolut, which first made a splash with keenly priced foreign exchange, has just over 3m customers, about 1.3m of them in Britain. Monzo recently passed 1m accounts and Starling Bank 250,000. N26, a German online bank, set up shop on October 4th.

Whether the challengers, great or small,

are bloodying the big banks is hard to say. According to CASS, a service for switching accounts between banks, 631,000 retail and small-business accounts were moved in the first eight months of the year. That is about 1% more than in the same period in 2017 but 9-20% less than in 2014-16. Craig Donaldson, Metro's chief executive, thinks these figures mask the rise of "multi-banking": because digital technology has made opening accounts and moving money so easy, banks are focusing on becoming customers' "primary card". Still, loosening the big banks' grip will be a long job. ■

Buttonwood Reelin' in the yields

Why rising bond yields are playing on stockholders' nerves

THE FIRST full-length film made by Steven Spielberg features an unusual lead. So indeed does much of his more celebrated work. But the star of "Duel", his 1971 debut, is nothing as exotic as a man-eating shark or cloned velociraptor. It is a tailgating lorry. In a nerve-shredding journey across the California desert, it torments a middle-aged salesman driving a rickety Plymouth Valiant. That its driver is faceless adds to the air of malice.

For investors in equities, bond yields are the juggernaut that looms menacingly in the wing mirror. Twice this year—first in February and again earlier this month—a jump in Treasury yields was followed by a sell-off in stockmarkets. There is reason for the jitters. A long bull market, driven in part by low interest rates, has left shares in America richly priced. And with interest rates still on the rise, nerves are rattled about the level of stock prices.

That is as it should be. By a crude yardstick, the reward to investors for holding risky stocks rather than risk-free bonds has fallen in recent years. The returns that stockholders can expect in future declined as stock prices rose. Meanwhile real interest rates have risen. The bond juggernaut is now tailgating; the stockmarket is losing momentum. The narrowing gap between bonds and stocks is grounds for anxiety, but not yet cause for alarm. It might call for a judicious tilt towards bonds in a balanced portfolio, but not much more.

Most of the time, the contrast between stocks and bonds is a blessing for investors. Each asset pays off when the other loses money. In recessions, when stock prices fall as profits are crushed, the expectation that interest rates will be reduced causes bond yields to fall. So bond prices rally (prices and yields move

in opposite directions). In booms, by contrast, it is stocks that typically thrive and bonds that suffer. In this sense, stocks and bonds are complements.

But they are also rivals. If bond prices fall because of an expectation that real interest rates will be permanently higher, stock prices are likely to fall, too. That is because bond yields are the yardstick by which equity returns are discounted.

A good way to decipher the stocks-bonds link is to think about expected returns. Stocks are riskier than bonds. So owning them ought to come with a higher reward. A rough-and-ready gauge of expected stock returns is the earnings yield, the inverse of the price-to-earnings ratio. It is a measure of real returns—a burst of inflation that raised prices at a uniform rate would leave it unchanged.

The earnings yield on the S&P 500 index is currently 4.3%. That compares with a yield on inflation-protected Treasury bonds—a measure of expected real interest rates—of around 1%. The gap between the two, the equity-risk premium, is currently 3.3%.

Is that enough? History suggests not.

A shrinking margin of safety

United States, equity risk premium*, %



Sources: Federal Reserve; Standard & Poor's

*Gap between S&P 500 earnings yield and real five-year Treasury yields

According to a trio of academics, Elroy Dimson, Paul Marsh and Mike Staunton, over the very long haul, between 1900 and 2017, the excess real return of stocks over bonds in America has been 4.5% a year. In the recent past the risk premium has been quite a bit higher. As the euro-zone crisis came to a head in 2011-12, the proxy for the risk premium was above 8% (see chart). But you would expect a higher risk premium when the risks are greater. Now that the global economy is on a stronger footing, with America in particular booming, it is natural for the risk premium to fall.

And although it is lower, it is not dangerously low. In the 1990s, during the dotcom boom, the premium for owning stocks was negative. At that time real interest rates were a handsome 4%. Intelligent investors would obviously prefer a bigger margin for error than 3.3%. But they might also note that the gap between the earnings yield and real interest rates has been in a range of 3-4% for quite a lot of the past 20 years. If they want a better reason for owning equities, they must go beyond America's shores. In the euro zone, for instance, bond yields on the safest government bonds are still negative. Meanwhile, the earning yield on the Euro Stoxx 50 index is an alluring 6.5%.

Bonds and stocks are still at a reasonably safe distance. But if bond yields rise further, or stock prices rise much faster than company earnings, the gap will narrow. In "Duel", the road-race ends in a crash in which both lorry and car are destroyed. The salesman survives, a little shaken. In an imagined sequel, he buys a new car. He takes to the road, cautiously at first, but then with more confidence. Everything is fine. Until one day, in his rear-view mirror, he spots a lorry.

Stablecoins

Token trust

Can a new form of cryptocurrency defy financial gravity?

TO GET AN idea of just how volatile cryptocurrencies are, compare them with the stockmarket. Bitcoin, the biggest one, moves as much against the dollar in a single day as the S&P 500 does in 23. For speculators, this is a feature. For anyone who wants to use these digital monies for payments, savings or lending, it is a bug. In other words, volatility is a big obstacle to cryptocurrencies becoming much more widely used.

Stablecoins are an attempt to overcome this hurdle: they are cryptocurrencies designed to hold a steady price. Their number has multiplied recently. At least 20 are now traded on crypto-exchanges and many more are in development. Despite their growing number, they still account for just 1.5% of the value of cryptocurrencies in circulation. But they are involved in a large share of all trading.

Investors use them to park assets when they do not want to hold volatile cryptocurrencies but also do not want to move back into “fiat” (government-issued money). Big venture-capital firms, such as Google Ventures and Andreessen Horowitz, have given their approval, investing more than \$350m in stablecoin projects.

Most stablecoins are backed by real-world assets such as fiat or gold. Some are collateralised by a basket of other cryptocurrencies. Others have no collateral at all, but are controlled by an algorithm that increases or decreases supply to keep their prices stable.

Whatever their inner workings, the big question is whether stablecoins can live up to their name. It has become more pressing in recent days. On October 15th Tether, which is backed by dollars and is the biggest of the lot, with a typical daily trading volume of around \$2.5bn, suffered the latest in a series of speculative scares. That pushed its value down to an 18-month low. It has since recovered most of its losses, but the incident was a reminder of worries about Tether’s solidity. The firm that backs it has not yet presented incontestable proof of the funds it claims to hold to secure the coin’s dollar peg.

Rivals are seizing on Tether’s wobbles as an opportunity to set themselves apart. Many new issuers now adhere voluntarily to anti-money-laundering and know-your-customer checks by national regulators. TrueUSD, another dollar-backed stablecoin, submits to regular audits and

holds collateral funds in an external trust. Eidoo, a company offering a gold-backed stablecoin, invites customers to keep an eye on its reserves of the precious metal through a video link to the vault where they are stored.

Still, experts outside the crypto-sphere are not convinced that stablecoins are here to stay. That is not solely because their pegs may break, as can happen with real-world currencies and assets. For Barry Eichengreen of the University of California, Berkeley, for instance, some stablecoins have characteristics that are “attractive to money-launderers and tax-evaders”. Among other things, they could be used to evade the taxes that become due in many jurisdictions when cryptocurrencies are exchanged for fiat. Regulators had better keep their eyes wide open. ■

Swiss banking secrecy

Elmer thud

A court ruling knocks another hole in Switzerland’s banking-secrecy laws

DURING HIS decade-long legal battle with the Swiss authorities, Rudolf Elmer, a bank whistleblower, has endured 48 prosecutorial interrogations, spent six months in solitary confinement and faced 70 court rulings. None, though, has been more important than the decision by Switzerland’s supreme court on October 10th, which set strict limits on the country’s famous bank-secrecy laws.

Mr Elmer had leaked data from Julius Bär after being sacked by the Cayman Islands affiliate of the Zurich-based bank. The court, dismissing an appeal by prose-

cutors, ruled that because he was employed by the Cayman outfit, not its parent, he was not bound by Swiss secrecy law when he handed data to WikiLeaks in 2008. The 3-2 ruling followed a rare public debate among the judges, held in only 0.3% of supreme-court cases, underlining the national importance of the issue.

The ruling matters because Swiss banks are among the world’s most international. They employ thousands of private bankers offshore, and many more in outsourcing operations in countries like India and Poland. Many foreign employees are involved in creating structures comprising overseas companies and trusts linked to a Swiss bank account. Thanks to the ruling, as long as their employment contract is local they can now leak information on suspected tax evasion or other shenanigans without fear of falling under Switzerland’s draconian secrecy law, which imposes jail terms of up to five years on whistleblowers.

The victory is bitter-sweet for Mr Elmer. He was found guilty of forging a letter and making a threat, and has been ordered to pay SFr320,000 (\$325,000) towards costs, a princely sum for someone who has been campaigning unpaid for years. He believes the courts had no choice but to reject the extraterritorial reach of secrecy, and ordered costs as “revenge” for him causing trouble. He is mulling an appeal to the European Court of Human Rights.

The ruling is the latest in a series of assaults on Swiss financial secrecy. They have intensified since 2007, when America’s Congress was alerted to brazen tax-dodging through UBS, Switzerland’s largest bank. Dozens of banks have since been fined for aiding tax evaders. UBS, which paid America \$780m, is on trial in Paris, with six current and former executives, charged with tax fraud and money-laundering related to French clients. Prosecutors are seeking damages of €1.6bn (\$1.9bn).

Under international pressure, Switzerland agreed to systematically swap information on account-holders with other countries, as part of an OECD-led initiative against tax evasion, the Common Reporting Standard (CRS). It began doing so last month. For now, however, exchange is limited to the European Union and a handful of other countries. The Swiss refuse to swap data with several countries which are major sources of corrupt and tax-shy capital—including Russia, China and Pakistan—on data-safety grounds, even though the OECD considers those countries safe to exchange information with.

Moreover Switzerland, unlike the EU, has declined to adopt (non-binding) international rules to aid disclosure of schemes, cooked up by banks and other intermediaries, to circumvent the CRS. No wonder financial ne’er-do-wells are, as one tax adviser puts it, “still yodelling”. ■



Too many yodels, not enough whistles

Free exchange | Upsetting the punchbowl

A debate about central-bank independence is overdue



THE FEDERAL RESERVE has heard worse. But when the president complains that it has gone “crazy” by tightening monetary policy, as Donald Trump did on October 10th, Americans fret that another norm is about to be overturned. An independent central bank is considered a pillar of a modern economy; presidents are supposed to mutter any criticisms they might have in private. But is that really for the best? Although Mr Trump’s complaints were not intended to start a high-minded debate, one is overdue.

Operational independence for central banks is relatively new. The principle grew out of work in the late 1970s and early 1980s by prominent economists working in the “rational expectations” school of economic thought, among them Finn Kydland and Edward Prescott, who were eventually awarded the Nobel prize. They considered the implications of people’s ability to look into the future and to anticipate the behaviour of self-interested politicians.

Such politicians have much to gain from an unexpected monetary boost. It can temporarily stimulate economic activity. And a burst of inflation reduces the real value of public debt. But a rational citizenry will understand governments’ incentives, anticipate such behaviour and expect higher inflation to follow. Governments will have to pump even more money into the economy to deliver the same boost. Thus, if politicians have discretion over monetary policy, inflation tends to rise inexorably. They might want to leave the printing presses alone, but cannot credibly make a promise to voters to do so.

So, to keep a lid on inflation, it helps to delegate monetary policy to an independent institution. In practice, that has meant packing central-bank boards with hawkish types and letting them do as they will. Soaring prices in the 1970s were tamed when central banks raised interest rates, ignoring the subsequent job losses. Should politicians threaten central-bank autonomy, that hard-won credibility will be lost and inflation will come roaring back.

Or so the story goes. But there are problems with it. One is that central banks’ independence is often overstated. Mr Trump has already appointed a majority of the sitting governors of the Federal Reserve Board. Had he kept his mouth shut but appointed more doveish types, he might have achieved the same end without the outcry. And as Sarah Binder of George Washington University and

Mark Spindel, an investment banker, write in their recent book, “The Myth of Independence”, Congress and the Fed are inextricably intertwined. Laws often affect the central bank’s powers (as after the financial crisis, when Congress limited the Fed’s ability to save failing banks). And central banks often weigh in on political questions beyond their narrow remit. Alan Greenspan made perfectly obvious his desire for Bill Clinton to tackle the budget deficit, and spoke in favour of tax cuts during the administration of George W. Bush. The European Central Bank became deeply involved in politics during the euro-zone crisis, in effect making emergency support for struggling governments contingent on the adoption of its preferred policies.

Nor is the relationship between central-bank independence and economic performance as clear-cut as conventional wisdom has it. In Britain in the 1970s, inflation was squeezed out of the economy primarily by the actions of Margaret Thatcher’s government. Some studies turn up a strong link between the two: a notable paper in 1993 by Alberto Alesina and Larry Summers, for instance, found a tight inverse correlation between an index of central-bank independence and average inflation. Yet they also acknowledged, as most of those working on this subject do, that any link between central-bank independence and low inflation could reflect other factors which influence both. Shifting attitudes towards inflation (as a population ages, for example) might nudge governments to pursue anti-inflationary policies, including central-bank independence. Both independence and low inflation would then be a reflection of that underlying shift.

Yet the main reason to revisit independence is the state of the world economy. Inflation has fallen steadily since the early 1980s. Since the early 2000s advanced economies have struggled at least as much with weak growth in prices and wages as with stubborn inflation. Even central banks like the Fed, with a mandate to reduce unemployment as well as inflation, focus on keeping inflation low and stable as the best way to achieve both. Nor is it certain that central banks alone can stabilise economies struggling with chronically low interest rates and inflation. In the aftermath of the financial crisis, interest rates fell to zero yet inflation sagged below central-bank targets for years at a time.

Some economists reckon monetary policy can retain its potency even when rates drop to zero, since if central banks were to promise to allow high inflation in future that would have the effect of reducing the real interest rate (ie, adjusted for inflation) in the present. But central banks cannot credibly make such promises, since forward-looking firms and households will inevitably question whether institutions designed to stifle inflation would embrace it when the time came.

Hard money

Alternative ways to stimulate the economy with rates at zero would require monetary and fiscal authorities to get cosier. Quantitative easing, or printing money to buy assets, exposes the central bank to potential financial losses, and to inevitable political scrutiny. New monetary tools, such as the ability to deliver newly printed money directly to households, would require enabling legislation. Greater reliance on fiscal policy would require central banks and governments to co-ordinate more closely.

Handing control of the printing presses to the president would be unwise. But reforming economic policy to fit a low-rate world requires discussion about the practice of monetary policy. That discussion will necessarily be political. It is not crazy to say so. ■



Future-proofing the internet

Prime factors

Quantum computers will break the encryption that protects the internet. Fixing things will be tricky

AS EVERY SCHOOLCHILD KNOWS, some sorts of mathematics are harder than others. In the classroom, that is annoying. Outside, it can be useful. For instance, given two prime numbers, however large, multiplying them together to find their product is easy. But the reverse—factorising that product back into its constituent primes without knowing in advance what those primes are—is hard, and becomes rapidly harder as the number to be factorised gets bigger.

Factorising numbers into their constituent primes may sound esoteric, but the one-way nature of the problem—and of some other, closely related mathematical tasks—is the foundation on which much modern encryption rests. Such encryption has plenty of uses. It defends state secrets, and the corporate sort. It protects financial flows and medical records. And it makes the \$2trn e-commerce industry possible. Without it, credit-card details, bank transfers, emails and the like would zip around the internet unprotected, for anyone so minded to see or steal.

Nobody, however, is certain that the foundation of all this is sound. Though

mathematicians have found no quick way to solve the prime-factors problem, neither have they proved that there isn't one. In theory, any of the world's millions of professional or amateur mathematicians could have a stroke of inspiration tomorrow and publish a formula that unravels internet cryptography—and most internet commerce with it.

Send in the qubits

In fact, something like this has already happened. In 1994 Peter Shor, a mathematician then working at Bell Laboratories, in America, came up with a quick and efficient way to find a number's prime factors. The only catch was that for large numbers his method—dubbed Shor's algorithm—needs a quantum computer to work.

Quantum computers rely on the famous weirdness of quantum mechanics to perform certain sorts of calculation far faster than any conceivable classical machine. Their fundamental unit is the “qubit”, a quantum analogue of the ones and zeros that classical machines manipulate. By exploiting the quantum-mechanical phenomena of superposition and entanglement, quantum computers can perform some forms of mathematics—though only some—far faster than any conceivable classical machine, no matter how beefy.

When Dr Shor made his discovery such computers were the stuff of science fiction. But in 2001 researchers at IBM announced that they had built one, programmed it with Shor's algorithm, and used it to work out that the prime factors of 15 are three and five. This machine was about the most primitive quantum computer imaginable. But there has been steady progress since. Alibaba, Alphabet (Google's parent), IBM, Microsoft and the like are vying to build commercial versions, and the governments of America and China, in particular, are sponsoring research into the matter.

Big quantum computers will have applications in fields such as artificial intelligence and chemistry. But it is the threat posed by Shor's algorithm that draws most public attention. Large organisations may be able to get around the problem using so-called quantum cryptography. This detects eavesdroppers in a way that cannot be countered. But it is expensive, experimental and unsuitable for the internet because it must run on a special, dedicated net- ▶

→ Also in this section

72 A space rocket misfires

73 Stopping the spread of disease

73 Storing computer data in DNA

74 How the mongoose got to Spain

work. For most people, therefore, the best hope of circumventing Shor's algorithm is to find a bit of one-way maths that does not give quantum computers an advantage.

There are candidates for this. Cryptographers are debating the relative merits of such mathematical curiosities as supersingular isogenies, structured and unstructured lattices, and multivariate polynomials as foundations for quantum-proof cryptography. But translating a piece of maths into usable computer code and then delivering it to the zillions of machines that will need updating will not be easy.

One question is, when is the deadline? When will an internet-breaking computer actually be available? Today's best machines can manipulate a few dozen qubits. Brian LaMacchia, who runs the security and cryptography team at Microsoft Research, thinks a "cryptographically interesting" quantum computer might be able to handle somewhere between about 1,000 and 10,000 of them. Predicting progress is hard. But Dr LaMacchia reckons such a machine might be ready some time between 2030 and 2040.

That sounds reassuringly far away. But several researchers argue that things have already been left too late. Though many communications are ephemeral, some people encrypt messages that they hope will remain secret for a long time. Spies and policemen around the world already store reams of online data in the hope that, even if they cannot decrypt them now, they may be able to do so in future. As Peter Schwabe, a cryptographer at Radboud University in the Netherlands, observes: "If someone ten or 20 years from now can decrypt my present-day communications with my bank, well, I probably don't care too much about that. But if I'm a dissident in some repressive country, talking to other dissidents? That might be a different story."

The second problem is how long a fix will take. The National Institute of Standards and Technology (NIST), an American standards organisation whose decisions are often followed around the world, is running a competition to kick the tyres on various quantum-resistant proposals. But its conclusions are not due until 2024. And as Nick Sullivan, who is in charge of cryptography at Cloudflare, an internet-infrastructure firm, observes, history suggests that, even once a new standard is agreed, the upgrade will be slow and messy. Despite—or perhaps because of—the information-technology industry's obsession with novelty, the internet resembles ancient cities like Rome and Istanbul, with modern structures built atop forgotten layers of old, unmaintained code.

For example, in 1996 researchers reported the first weaknesses in MD5, a type of widely used cryptographic algorithm called a hash function. A drop-in replace-

ment was readily available in the form of another algorithm called SHA-1. After more than two decades of exhortations to upgrade, though—not to mention high-profile cyber-attacks exploiting MD5's weaknesses—the older algorithm is often still used. Similarly, a vulnerability called FREAK, discovered in 2015, relied on the fact that many modern applications, including the default browser in Google's Android operating system and the White House's website, could be persuaded to revert to old, easily breakable cryptography installed in order to comply with long-abandoned American export regulations.

Testing, testing

Those with the most power to chivvy things along are the big companies that control much of the internet's pipework. Even while NIST deliberates, they are beginning to run tests of their own. At Microsoft, Dr LaMacchia plans to test quantum-resistant encryption on the links that connect the firm's data centres. Google has already tried integrating different kinds of quantum-resistant cryptography into experimental versions of Chrome, its web browser, and has worked with Cloudflare to test the impacts in the real world.

The results have been mostly encouraging, but not wholly so. Changing the encryption changes the way browsers negotiate connections with websites. In Google's tests of the 2,500 most popular websites,

some 21 of them—including LinkedIn, a social network, and Godaddy.com, a domain registrar—could not cope with the extra data involved, and refused to connect. And all of the proposed quantum-resistant schemes imposed noticeable delays compared with conventional cryptography.

Big firms will have power in other ways, too. Vadim Lyubashevsky, a quantum-computing researcher at IBM, points out that quantum computers need lots of coddling. Most must be cooled to a temperature close to absolute zero. This means that, for the foreseeable future, access to them will be sold as a cloud-computing service in which users rent time from the machines' owners. That gives companies the power to review code before it is run, says Dr Lyubashevsky, which could help limit nefarious uses. (Governments, though, will be able to shell out for their own machines.)

There are other wrinkles. The new cryptographic schemes generally require more computational grunt than the old sort, says Dr Sullivan. For desktop machines and smartphones, that is unlikely to be a problem. But smaller chips, embedded in gizmos from industrial-control systems to sensors, may struggle. Another worry is that the new algorithms may come with unforeseen weaknesses of their own. Mathematicians have had decades to attack the prime-factor problem, says Graham Steel, the boss of Cryptosense, a cryptography-focused security firm. The maths ▶▶



The men who fell to Earth

On October 11th two travellers to the International Space Station became the first astronauts to be rescued in mid-flight by a spacecraft's escape system. Their Soyuz launch rocket got into trouble when jettisoning its first stage. Shortly afterwards, the escape system's rocket pulled the capsule containing Alexey Ovchinin and Nick Hague free, and the pair landed safely in Kazakhstan, about 400km from the launch pad in Baikonur. Crewed Soyuz missions are now suspended. Since Soyuz was the only way to reach the space station, its current crew may have to return to Earth in the lone capsule now attached to it, leaving it abandoned.

▶ that underlie post-quantum schemes have not been similarly battle-tested. For that reason, the first implementations may hedge their bets by using both old and new sorts of cryptography at once.

The big companies are unlikely to commit themselves fully to an upgrade until the NIST has decided on the new standards. And even when that happens, the sheer size of the task is daunting. Mr Steel says one of his clients has thousands of apps that need updating. As chips migrate into everything from cars and children's toys to lighting systems and smart electricity meters, the amount of work will only grow.

All this means that quantum-proofing the internet is shaping up to be an expensive, protracted and probably incomplete job. Dr Steel compares it to dealing with the millennium bug, when a quirk in how a lot of programs handled dates meant they had to be retrofitted, at great expense, to cope with the transition from the year 1999 to the year 2000. In the event, thanks to the efforts of thousands of programmers, the millennium bug was mostly dodged. These days, the stakes are higher. The world is now considerably more computerised than it was then. Either way, it means plenty of steady work for cryptographers. ■

Public health

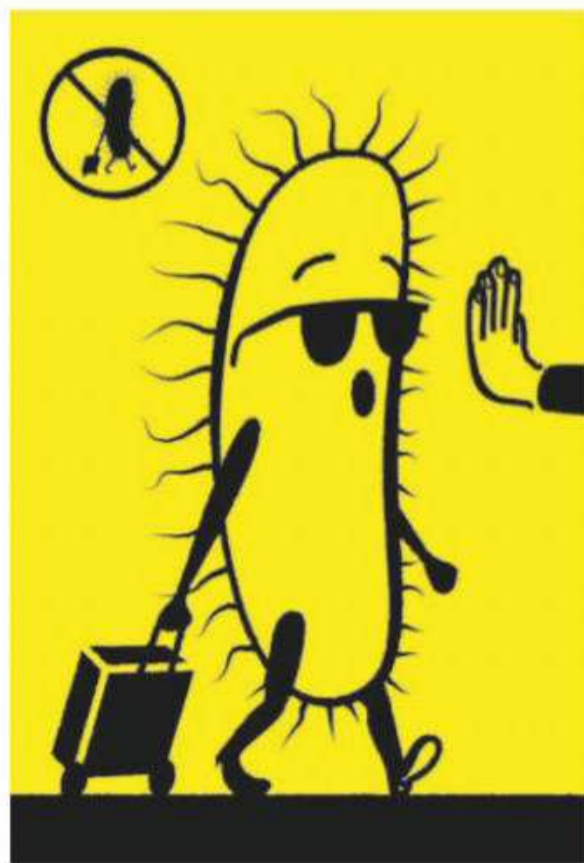
Grounding bugs

A new way to identify air travellers carrying infectious diseases

THE GROWTH of air travel means a potentially pandemic pathogen could spread around the world in days. Even in the absence of that risk, few countries' authorities are keen on admitting travellers who might transmit disease to those already there. Yet the precautions typically employed at airports to screen incomers' health are rudimentary.

It is easy to lie on a questionnaire. A dose of aspirin or other medication can lower body temperatures to the point where they look normal to the infrared cameras which some airports use to monitor passengers' faces for fever. In any case, many of those infected might not show symptoms, and may even be unaware that they are ill. A cheap, uncheatable and instant diagnostic tool would thus be a boon at airports. And Dirk Kuhlmeier and his colleagues at the Fraunhofer Institute for Cell Therapy and Immunology in Leipzig, Germany, think they have one.

Dr Kuhlmeier's invention, being developed as part of a wider project called HyFly that is intended to stop airports being gate-



ways for infection, is based on technology already familiar to travellers, albeit that most will not recognise its name. Ion mobility spectrometry (IMS) is used to sniff swabs taken from baggage, clothing and personal items in searches for those carrying drugs or explosives. It can identify minute traces of volatile compounds, which drugs and explosives often emit. It works by measuring the ease with which ions (electrically charged molecules) can be drawn through an inert gas by an electric field. An ion's mobility depends on its size and shape. Individual compounds can thus be identified, and telltales of illegal activity flagged up.

IMS is used medically, as well, to screen patients' breath for compounds that indicate lung cancer. Dr Kuhlmeier reckoned he could extend this to detecting signs of respiratory bacterial infection—and laboratory tests that he and his team conducted suggested this was indeed possible. They discovered that they could even distinguish strains that have become resistant to antibiotics from those that have not. This shows that, in theory, IMS could quickly determine from a sample of breath if someone had an illness such as tuberculosis or diphtheria.

Turning theory into practice, however, brings complications. Chief among them is that even healthy people exhale lots of organic compounds. They do so especially if they have been eating spicy food, which contains a confusing array of such molecules. To deal with this, the team have developed an initial sorting stage, using a second technique called gas chromatography, to separate compounds so they are more easily analysed.

Bacteria, though, are only one source of illness. Viruses are equally dangerous. But

viruses are not exactly living things and so do not have a metabolism which produces the sorts of compounds that bacteria generate. They do, however, change the metabolisms of the cells they infect. So Dr Kuhlmeier and his colleagues are now looking to see whether IMS can pick up these changes as well. If they succeed it would extend the scope of the technology to illnesses such as influenza and SARS.

The team plan to test their machine—essentially a large breathalyser that has one-use disposable mouthpieces—at clinics later this year, with the help of volunteers who have already been diagnosed with either bacterial or viral infections. These volunteers will also provide details of what they have been eating, so that the influence of various foods can be examined. If all goes well, trials at an airport should follow.

As to cost, the group expects that an IMS machine modified to their requirements would be little more expensive than the \$20,000 price tag for one designed to detect drugs and explosives. And if airport trials prove the technology to be reliable, they hope to close the loop by offering it back to hospitals and clinics for the rapid analysis of infectious diseases. ■

Storing computer data in DNA

Virtuous spirals

Nature's data-preservation medium may soon have a new use

DNA IS THE oldest information-storage system known. It predates every other, from pencil and paper to computer hard drives, by billions of years. But attempts to employ it to store data generated by people, as opposed to data needed to bring those people (and every other living thing) into being in the first place, have failed.

The reason is not so much technological difficulty as cost. Encoding a single gigabyte in DNA would run up a bill of several million dollars. Doing so on a hard drive costs less than a cent. Catalog, a biotechnology firm in Boston, hopes to bring the cost of DNA data-storage below \$10 per gigabyte. That is still on the pricey side. But for really large storage requirements a second ratio also comes into play: gigabytes stored per cubic metre.

Hard drives take up space. Their storage ratio is about 30m gigabytes per cubic metre. Catalog's method can store 600bn gigabytes in the same volume. For organisations such as film studios and particle-physics laboratories, which need to archive humongous amounts of infor- ▶

► mation indefinitely, the ratio of the two ratios, as it were, may soon favour DNA.

The obvious temptation when designing a DNA-based storage system is to see the ones and zeros of binary data and the chemical base pairs (AT and GC) of deoxyribose nucleic acid as equivalent, and simply to translate the one into the other, with each file to be stored corresponding to a single, large DNA molecule. Unfortunately, this yields molecules that are hard for sequencing machines to read when the time comes to look at what data the DNA is encoding. In particular, there are places in computer data that consist of long strings of either ones or zeros. DNA sequencers have difficulty when faced with similarly monotonous strings of base pairs.

Catalog has taken a different tack. The firm's system is based on 100 different DNA molecules, each ten base pairs long. The order of these bases does not, however, encode the binary data directly. Instead, the company pastes these short DNA molecules together into longer ones. Crucially, the enzyme system it uses to do this is able to assemble short molecules into long ones in whatever order is desired. The order of the short molecular units within a longer molecule encodes, according to a rule book devised by the company, the data to be stored. Starting with 100 types of short molecule means trillions of combinations are possible within a longer one. That enables the long molecules to contain huge amounts of information.

The cost savings of Catalog's method come from the limited number of molecules it starts with. Making new DNA molecules one base pair at a time is expensive, but making copies of existing ones is cheap, as is joining such molecules together. The Catalog approach also means it is harder for data to be misread. Even if a sequencing machine gets a base or two wrong, it is usually possible to guess the identity of the ten-base-pair unit in question, thus preserving the data.

Catalog's combinatorial approach does mean that more DNA is needed per byte stored than other DNA-based methods require. This increases both the time and the cost of reading it to recover the stored data in electronic form for processing. Overall, though, the method promises to have significant advantages over its predecessors.

The next task is to translate that promise into reality. To this end, Catalog is working with Cambridge Consultants, a British technology-development firm, to make a prototype capable of writing about 125 gigabytes of data to DNA every day. If this machine works as hoped (it is supposed to be ready next year), the company intends to produce a more powerful device, able to write 1,000 times faster, within three years. The second age of DNA information storage may then, at last, begin. ■

How the mongoose got to Spain

Rikkus Tikkus Tavius

Not all introduced species are unwelcome

CONSERVATIONISTS OFTEN WORRY about the introduction of wild animals and plants to parts of the world where they did not evolve. These aliens can indeed do significant harm. But some settle down and fit comfortably into their new homes. Such is the case of the Egyptian mongoose, which is native to north Africa, but is also found in Spain and Portugal. It has, though, no pre-human fossil record in Iberia, and would be incapable of swimming across the Strait of Gibraltar. So the evidence points to it having been carried there by human agency. The question is, by whom?

Like cats, mongooses were venerated in ancient Egypt for their habit of hunting troublesome rodents—with the bonus that, unlike cats, they would also take on snakes. They are frequently depicted in art as avatars of Ra, the sun god, in his battles with the serpent deity Apep. This role as pest controllers resulted in mongooses being tamed (though, again like cats, never truly domesticated) as companions in the home.

Until recently, the oldest known mongoose remains in Iberia dated from the Middle Ages, so the smart money was on the animals having been brought there sometime after 711AD, during the Islamic conquest of the peninsula, when the armies of the Umayyads crossed the strait from what is now Morocco. But this is now known to be wrong. A study just published in *Science of Nature* by Cleia Detry of the University of Lisbon describes two sets of mongoose remains which long predate the Umayyads.

One was dug up in western Spain and the other in Portugal. Carbon dating suggests both animals were alive during

the first century AD, when Iberia was under Roman control (making them more or less contemporary with the mosaic below, buried in Pompeii in 79AD by an eruption of Vesuvius). That coincidence of age apart, though, the specimens could not be more different.

The Spanish animal was an adult when it died, and was interred in a pit alongside 40 dogs and three human beings. The bones of the canines suggest they were lapdogs. That a mongoose was included with these pets indicates it was also viewed as a pet of some sort. As for the pit, a funerary seal makes it clear that it was built for ceremonial burials.

The Portuguese specimen, in contrast, is a juvenile that appears to have died in a burrow. This suggests it was a wild animal. Whether it had escaped, or was part of a population that had been living in the wild for years is unclear.

It looks likely, therefore, that it was the Romans who brought the mongoose to Europe. But there is another possibility. Before Rome annexed them in 201BC, parts of Iberia were controlled by the Carthaginians, a north African people. This is, admittedly, more than two centuries before the animals Dr Detry has been studying were alive. But, given the scarcity of mongoose remains in Iberia, that is not such a great gap. It may thus have been the Carthaginians—presumably familiar with tame mongooses—who were responsible. Hannibal Barca, the Carthaginian commander in the second Punic war against Rome, which resulted in Iberia's loss, is famous for bringing war elephants to Europe. Perhaps he brought mongooses as well, for pest control while making camp.





Historical fact and fiction

All the king's men

A scrupulous biography offers an alternative version of Hilary Mantel's hero

WALTER CROMWELL, father of Henry VIII's right-hand man Thomas, lurches drunkenly through the early scenes of Hilary Mantel's "Wolf Hall", dealing out kicks, punches and curses to his put-upon son. He bursts a boot on Thomas's head and then chastises him for vomiting. Walter is a Putney brewer who waters down his beer; he is also a farrier and a blacksmith (although, because of his "sour breath, or his loud voice, or his general way of going on," the horses are afraid of him). In Ms Mantel's telling, young Thomas is energised by the pressing need to escape his domineering dad. Played with brutal panache by Christopher Fairbank in the recent television adaptation, Walter is firmly established in the minds of the millions who have encountered him on the page or the screen as one of history's villains.

In fact, as Diarmaid MacCulloch's definitive biography of Thomas Cromwell demonstrates, this ferocious image is largely bunkum. Walter was certainly a brewer in Putney, but the rest is either the stuff of Ms Mantel's imagination, or of what Mr MacCulloch terms the "wildly untrustworthy research" of John Phillips, a sensationalist Victorian historian. In his lucid, forensic style, Mr MacCulloch shows that the 48 charges apparently filed against Walter

Thomas Cromwell: A Life. By Diarmaid MacCulloch. Viking; 752 pages; \$40. Allen Lane; £30

Cromwell-Smith in the court rolls of the Manor of Wimbledon are not testimony to his infamy, nor to his beer-watering, but rather to the way licences to sell ale were issued. The "Smith" in his surname in the paperwork is, incidentally, the only evidence for his career as a blacksmith.

Walter's character is a detail in the sweep of his son's life, but it illustrates the challenge that Mr MacCulloch's book faces and the calm, quietly impressive manner in which he deals with it. The problem, of course, is Ms Mantel, and the wildfire success of both "Wolf Hall" and "Bring Up the Bodies"; the third novel in her trilogy is due to be published next year. As with the demonic Richard III of Shakespeare's play, these books have fixed in the contemporary consciousness an image of Thomas Cromwell and his milieu that, like a dominant plant, has displaced all others. It has come to be seen not just as the real story of Cromwell's life, but the only story.

Mr MacCulloch writes of the "mounting weariness" with which Ms Mantel, a friend of his, responds to those seeking in her

→ Also in this section

76 The history of America

77 Hilma af Klint's pioneering art

77 A prize-winning novel

78 Johnson: Arabic's low profile

portrayal of Cromwell a representation of historical fact rather than an act of imagination. He says his book is different, in that it "invites you, the reader, to find the true Thomas Cromwell of history, by guiding you through the maze of his surviving papers." Considering the two exemplary authors alongside one another extends a further invitation to readers: to assess the strengths and limitations of their crafts, and compare the kinds of insights at which the novelist and the historian aim.

Cromwell (played on television by Mark Rylance, pictured above) is the right man for this job. His has always been a shifting, multi-faceted reputation. In the centuries since his rise and grisly fall, he has been regarded as a pragmatic arch-bureaucrat; a Machiavellian eminence whose machinations enabled Henry's break with the church of Rome and the king's despotism; a jumped-up thug bent on self-advancement; or the principled architect of the parliamentary system. Quite possibly he was all of these things and more, a complex political man keen to nurture the legend of himself as an enigma. He lived in an era when record-keeping was expanding exponentially, partly because of his own mania for documentation. Yet as Mr MacCulloch points out, any effort to reconstruct his life must contend with a "vast absence."

When Cromwell was arrested in 1540, his papers were seized. Owing either to the alacrity of his staff or an oversight by his enemies, only the correspondence he received was taken; the copies he kept of his own letters may have been burnt. Unlike Thomas More, his canonised rival who preceded him to the scaffold, little in Cromwell's own hand survives. ▶

▶ This accounts for some of the lacunae in Mr MacCulloch's book, and the sometimes dazzling feats of historical sleuthery he employs to fill them. At one point he goes in search of the "one letter" that will reveal "the obscure end of a little Augustinian priory in north Wales" during the violent dissolution of the monasteries, which Cromwell oversaw. The gap may partly explain the manner in which Ms Mantel ventriloquises her protagonist. She fashions an eerie third-person voice for him, neither antiquated nor gratingly modern, rather than using the first person, so that her Cromwell is above all an observer.

The absence also opens up the question of moral judgment, and of sympathy. Naturally, novels are often expansive in their sympathies, and call upon the reader's imagination as well as the author's. At the same time, partiality is inherent in traditional storytelling, which pins down one account of events to the exclusion of others. As Ms Mantel said in a lecture in 2017, readers of historical fiction are "actively requesting a subjective interpretation" of the evidence. It was her job to settle on a single narrative strand and follow it to its conclusion. Conversely, as the tangents and entertaining footnotes that Mr MacCulloch provides for almost every detail and anecdote attest, non-fiction allows for multiple versions of the past. Where the novelist's first loyalty is to the story, and then to her perception of human nature, historians must privilege the truth.

All seasons and none

Both authors share a common source in the work of G.R. Elton, who recognised in "The Tudor Revolution in Government" that Cromwell was the key player of his political age (Mr MacCulloch disagrees with Elton on the extent to which Cromwell modernised the bureaucracy of government). It is easy to forget that the admiring portrait of Cromwell offered by both Mr MacCulloch and Ms Mantel is itself a revisionist view. The Encyclopaedia Britannica of 1911 claimed Cromwell's "power has been overrated"; pro-More partisans long contrasted their saintly hero with the base, avaricious Cromwell, most memorably in Robert Bolt's play "A Man for All Seasons". "Thomas Cromwell: a Life" conducts an extended dialogue both with Ms Mantel's novels and Elton's scholarship.

An enthusiastic cover blurb by Ms Mantel declares that this is "the biography we have been awaiting for 400 years." She herself takes most of the credit for the Cromwell vogue. Still, it says something about both the inscrutability of the man and the ultimate opacity of history that even with Mr MacCulloch's exhaustive research—to add to more than a thousand pages that Ms Mantel has penned so far—Cromwell, ever-slippery, feels just out of reach. ■

The history of America

Dawn's early light

These Truths: A History of the United States. By Jill Lepore. *W.W. Norton & Company*; 960 pages; \$39.95 and £30

"WHAT, TO THE American slave, is your 4th of July?" So asked Frederick Douglass (pictured), orator and escaped slave, in 1852, a day after the nation's 76th birthday. The celebrations, he told his largely white audience, were "a sham...your national greatness, swelling vanity."

Harsh words, and well-deserved. The American myth rests on contradictions. The colonies broke free of their oppressors, only to continue enslaving blacks for decades after Britain renounced the practice. The Founding Fathers knew slavery to be barbaric—Thomas Jefferson's original draft of the Declaration of Independence included a line about violating "the most sacred rights of life & liberty in the persons of a distant people"—yet they persisted in it.

Slavery, and the indignities faced by native Americans, women and all groups besides white men, take centre stage in "These Truths", Jill Lepore's clear-eyed history of the country. The feat of compression is rarely attempted, still less in one volume, and Ms Lepore brings a refreshingly modern eye to a daunting task. What, after all, is the point of America's lofty ideals—equality, natural rights, democratic participation—if most of the population could not enjoy them?

Her main interest is America's political evolution and the technological and social changes that accompanied it; her time-frame is Christopher Columbus to President Donald Trump. She examines the ways in which America's founders wrestled with, or dodged, profound questions



such as the definition of a citizen (curiously not spelled out in the original constitution). Again and again, she shows the centrality of slavery to the genesis of American institutions. For example, the electoral college was "a concession to slave-owners" because each slave officially counted as three-fifths of a person, thus giving Southern states more power.

A surprisingly gripping sub-plot is the history of political-campaign tactics. Beginning in the 1930s, a Californian husband-and-wife team, Clem Whitaker and Leone Baxter, "turned politics into a business", with slashing, soundbite-driven ploys that remain in use. They successfully backed Dwight Eisenhower for president and helped kill Harry Truman's bid for universal health care. Ms Lepore traces the trajectory of fake news, from the terrifying broadcast of 1938 in which Orson Welles described an unfolding Martian invasion, to the era of Alex Jones and Infowars. She charts the development of modern conservatism, assisted by the abortion wars and the failed Equal Rights Amendment.

Readers will inevitably query some choices. Ms Lepore's reverence for journalism—she writes for the *New Yorker*—can feel overdone. Walter Lippmann and Dorothy Thompson, two 20th-century commentators, command more space than many presidents. (One page, oddly, is devoted to fact-checking at *Time*.) The Salem witch trials merit the briefest mention; Ulysses S. Grant, the victorious civil-war general and president, is almost ignored. The fall of the Soviet Union gets short shrift, as does foreign policy overall. With so much ground to cover, transitions can seem glib or head-spinning. In a few pages, Ms Lepore zooms from President William Henry Harrison's premature death to the telegraph to the naturalist meditations of Henry David Thoreau.

But even readers steeped in America's history will learn something. In an era of raucous division, it is somehow reassuring to know that America has come through previous cycles of folly. Andrew Jackson ignored a Supreme Court ruling on the Cherokees ("the constitution now lies a heap of ruins at his feet," one senator lamented); the nation survived, though the tribe was devastated. America also withstood the mudslinging of 18th-century partisans, the nativism of the 19th-century Know-Nothings, and the (eerily familiar) tariffs and anti-immigration sentiments of the 1920s.

Both progress and backsliding, Ms Lepore shows, are part of the American experiment. "She is still in the impressible stage of her existence," Douglass said of his country in 1852; such youthfulness afforded "hope that high lessons of wisdom, of justice and of truth, will yet give direction to her destiny." The wisdom can still seem lacking, but the hope endures. ■



Art and posterity

Into the unknown

NEW YORK

A visionary abstract artist finally gets the recognition she deserves

HILMA AF KLINT did not trust her peers to understand her work. She sensed her paintings were too weird and too radical for her fellow Swedes. As a star pupil of Stockholm's Royal Academy, she made a living selling impressionistic landscapes. But she worked privately and passionately on a staggering array of canvases that strove to represent the spiritual world in visual terms. Before she died in 1944, aged 81, she ordered that her 1,200 experimental paintings and 26,000 pages of notes be kept under wraps for at least two decades. She put her faith in the future.

Her reticence was understandable. When af Klint began making abstract paintings in 1906, her departure from realism was unprecedented. It would take almost a decade for Sweden to exhibit the work of Vasily Kandinsky, a Russian long credited with pioneering abstraction, though his experiments in the form began after af Klint's. Even then, his technique was dismissed as pretentious and inscrutable. By the time some of af Klint's daring and perplexing paintings were shown publicly for the first time, in Los Angeles in 1986, she had been written out of art history. "Af Klint's paintings are essentially coloured diagrams," huffed Hilton Kramer, a critic. "To accord them a place of honour alongside the work of Kandinsky, Mondrian, Malevich and Kupka...is absurd."

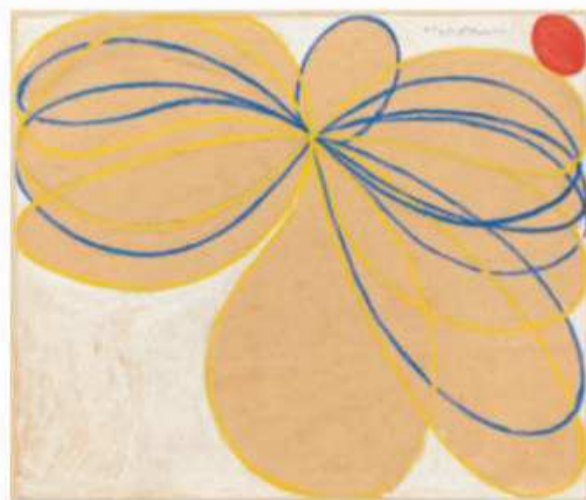
A new survey at the Guggenheim Museum in New York aims to correct this oversight. With "Hilma af Klint: Paintings for the Future", the first big solo show of her work in America, af Klint seems poised to finally enter the canon (she was also featured by the Serpentine Gallery in London

in 2016). The Guggenheim's exhibit concentrates on a particularly fertile period between 1906 and 1920, during which she produced hundreds of bold paintings and works on paper.

Her embrace of abstraction derived from her devotion to spiritualism, which involved holding regular séances with other women to gain insights into the nature of existence. In 1904 one of her ghostly interlocutors reportedly called on af Klint to convey the spiritual world in painting; this experience spurred an artistic frenzy that resulted in a grand series, "The Paintings for the Temple". Created in collaboration with her mystical muses, these works try to express a transcendent understanding of the universe.

Heavy stuff—but the art is fresh and vital. The show opens with "The Ten Largest", which illustrates the wonders of the life cycle in ten monumental paintings. Produced in a burst of feverish activity at the end of 1907, these carnivals of colour dance with botanical and biomorphic shapes and invented language. Their hypnotic squiggles and vibrancy recall Miró and Matisse but predate both. Af Klint appears to have painted the three-metre works on the ground (archivists have spotted what appear to be tiny footprints), which implies a drastic break from traditional technique. These paintings are a revelation, and like nothing that came before them.

Some art historians still downplay af Klint's accomplishments, dismissing her as a reclusive, witch-like folk artist. As well as ignoring the quality and innovations of her work, the condescension is ahistorical (and tainted by sexism). In her era the notion that spirits could convey wisdom about the world was both fashionable and intellectually respectable; at the time, scientific discoveries such as electromagnetic waves and x-rays were venturing beyond visible reality. Spiritualism also gave women a way to break free of patriarchal institutions, such as the art world, by granting them direct access to a higher authority (it is not a coincidence that most mediums have been women). According to af Klint's notes, one spirit told her: "The world keeps you in fetters; cast them aside." ■



A prize-winning novel

Times of trouble

Milkman. By Anna Burns. Faber & Faber; 360 pages; £8.99. To be published in America by Graywolf Press in December

NOBODY GETS called by the name they are born with in "Milkman". Anna Burns's protagonist, "middle sister", is 18. She lives in a town that is likewise never named—but is probably Belfast—where, "rain or shine, gunplay or bombs, stand-off or riots", she walks through the streets reading 19th-century novels. She does not like 20th-century books because she does not like the 20th century. She goes to bars and clubs with "maybe-boyfriend", runs by the reservoir and is on call to help her ma with her younger sisters, a "sort of background buffer to help prevent their precocity...spinning way out of control".

One day "milkman", a paramilitary, interrupts her stroll with Walter Scott's "Ivanhoe". He takes a liking to her, and begins to stalk her. Unseen cameras click from behind bushes. She can no longer go running alone. "Intense nosiness about everybody had always existed", and the community decides that she is "beyond-the-pale", having a love affair with this 41-year-old terrorist who, despite his sobriquet, "didn't take milk orders". Her neighbours ignore the possibility that she is the victim of predation. Here gossip "washed in, washed out", but can also kill. The words flow and flow and flow on the page, sentences threaten to float away, but they never do.

At a ceremony in London on October 16th, Ms Burns (pictured) became the first writer from Northern Ireland to win the Man Booker prize, Britain's most prestigious literary award, worth £50,000 (\$65,600) and a jump in sales. (American ►►

► authors claimed it in the previous two years, after a controversial rule-change that allowed them to be entered with British, Irish and Commonwealth writers.) Her story is set in an environment resembling the Troubles of the 1970s, when sectarian violence flared between Catholic republicans, who wanted Northern Ireland to become part of a united Ireland, and Protestant loyalists and British security forces.

But the novel touches on something universal: what violence, unpredictable, persistent and brutal, does to a person's mind. From the opening line—in which a

death is announced and a gun put to middle sister's breast—Ms Burns plunges the reader into her heroine's thoughts. A cat's head is packed neatly into a handkerchief. There are poisonings and car-bombs. Women must defer to men and “things were not gentle, not ever.”

This is a place where life has to be “lived and died in extremes”. Middle sister is detached, even numb; at one point she says that her “inner world, it seemed, had gone away”. But she can also be funny and wise:

I was too buzzy to read, thinking of teacher, of her manner of saying there were sunsets

everyday, that we weren't meant to be confined and buried whilst all the time still living, that nothing of the dark was so enormous that never could we surmount it, that always there were new chapters, that we must let go of the old, open ourselves to symbolism, to the most unexpected of interpretations, that we must too, uncover what we've kept hidden, what we think we might have lost.

For all the horror and uncertainty, there is tenderness and humour in “Milkman”, too. It is a hauntingly original tale of everyday life amid terror. ■

Johnson Out of one, many



Why Arabic, one of the world's great languages, punches below its weight

AMONG THEIR many reverberations, the terrorist attacks of September 11th 2001 had a linguistic side-effect. Between 2002 and 2009 the number of university students in America learning Arabic shot up by 231%, making it a more popular subject than Latin and Russian. This was a “Sputnik moment”: like the Soviet satellite, it shocked Americans into studying their adversaries.

But national attention soon waned. Arabic-learning declined by 10% between 2009 and 2016—years in which America continued to fight in Iraq and later against Islamic State. In both America and Britain, Arabic is just the eighth-most-studied language, behind less important but somehow sexier ones such as (in British A-level exams) Italian.

Arabic is the fifth-most-spoken language in the world, with more than 313m speakers. It is an official language in 25 countries—more than any other except English and French—and one of six official languages at the United Nations. As the vehicle of one of the great faiths, Islam, it is widely studied for religious reasons. So why does it seem to punch below its weight in the secular world?

Part of the answer is that “Arabic”, today, is not really a single language at all. Scholars call it a “macrolanguage” instead. “Modern Standard Arabic” (MSA) is the medium of serious writing and formal public speech across the Arab world. But Western students who sign up for a class in it soon discover that nobody speaks this “standard” as a native tongue; many Arabs hardly speak it at all. MSA is based on the classical Arabic of the Koran—written in the 7th century—with additional vocabulary for modern life.

But oral languages do not sit still for 14 centuries, and spoken “Arabic” is really a group of dialects different enough to be



considered separate languages. They are often put in five approximate categories: north African, Egyptian, Mesopotamian, Levantine and Peninsular Arabic. Speakers from distant regions can struggle to understand each other's dialects.

The standard version relates to them roughly as Latin does to today's Romance languages. Consider Syrian Arabic. Some words are identical to their classical progenitors. But some sounds disappear, and others change wholesale: for example, the *th* sound becomes a *d*, *s*, *t* or *z*. Some dialectal words are borrowed from European languages, like *talifoon* (telephone), which is used alongside MSA's *haatif*. Others draw on local influences, such as Turkish. In many cases, words change meaning. *Haka* means “to tell a story” in MSA, but it just means “to speak” in Syrian dialect. And the grammars are utterly different: the dialects are simpler than MSA, but they must still be learned mostly anew.

The foreigner who wants to both read and speak Arabic, in other words, needs to acquire, if not quite two languages, one and a half. Worse, none of the dialects is

big enough to play the role that Mandarin does in the Chinese family. Egyptian has generally been the best-known, thanks to the country's heft in population and culture. But its native speakers are mostly limited to Egypt, with its stagnant economy and politics. No wonder attrition among learners is high; for every five who take up Arabic, roughly one makes it to advanced classes.

For Arabs, the dialects pose less of an everyday problem than all this might suggest. By improvising, Arabs from different regions do manage to talk to each other. They use features shared across the bigger dialects, as well as bits of MSA, while avoiding the peculiarities of their own dialects as much as possible.

A bigger problem is the nature of MSA. To read or write, Arabs essentially use a foreign language, one often taught with stultifying conservatism in schools. Some do so happily, proud of its long history, its complex and subtle grammar or its intimate links with Islam. But many ordinary people prefer reading or writing in languages such as French or English. French, supposedly in decline, has a quarter as many native speakers, but quite a lot more clout. To give one approximate measure, there are three times as many articles in French on Wikipedia as in Arabic, with five times as many edits. The Arabic book market is about a quarter the size of Belgium's.

All this is a shame. Many Westerners might associate the language with today's repressive Middle Eastern regimes, but there is far more to Arabic than that. It is the medium of Moses Maimonides's medieval Jewish philosophy, the novels of Naguib Mahfouz and the songs of Feyrouz. No region, and no people or language, should ever be judged on its politics alone.



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	Gross domestic product				Consumer prices			Unemployment rate		Current-account balance	Interest rates		Currency units	
	% change on year ago				% change on year ago			%		% of GDP, 2018†	10-yr gov't bonds		per \$	
	latest	quarter*	2018†		latest	2018†					latest,%	change on year ago, bp	Oct 17th	% change on year ago
United States	2.9	Q2	4.2	2.9	2.3	Sep	2.5	3.7	Sep	-2.6	3.2	87.0	-	
China	6.7	Q2	7.4	6.6	2.5	Sep	2.1	3.8	Q2 [§]	0.5	3.4 ^{§§}	-35.0	6.93	-4.5
Japan	1.3	Q2	3.0	1.1	1.3	Aug	0.9	2.4	Aug	3.8	0.2	9.0	112	0.2
Britain	1.2	Q2	1.6	1.3	2.4	Sep	2.4	4.0	Jul ^{††}	-3.4	1.6	20.0	0.76	nil
Canada	1.9	Q2	2.9	2.3	2.8	Aug	2.3	5.9	Sep	-2.6	2.5	50.0	1.30	-3.1
Euro area	2.2	Q2	1.8	2.1	2.1	Sep	1.7	8.1	Aug	3.4	0.5	9.0	0.87	-2.3
Austria	2.3	Q2	-4.0	2.9	2.0	Sep	2.1	4.8	Aug	2.2	0.6	-5.0	0.87	-2.3
Belgium	1.4	Q2	1.6	1.5	2.3	Sep	2.2	6.5	Aug	-0.3	0.9	23.0	0.87	-2.3
France	1.7	Q2	0.6	1.7	2.2	Sep	2.1	9.3	Aug	-0.9	0.9	5.0	0.87	-2.3
Germany	1.9	Q2	1.8	1.9	2.3	Sep	1.8	3.4	Aug [‡]	7.9	0.5	9.0	0.87	-2.3
Greece	1.8	Q2	0.9	2.0	1.1	Sep	0.9	19.0	Jul	-1.2	4.3	-112	0.87	-2.3
Italy	1.2	Q2	0.8	1.1	1.4	Sep	1.4	9.7	Aug	2.4	3.6	158	0.87	-2.3
Netherlands	3.1	Q2	3.3	2.8	1.9	Sep	1.7	4.7	Sep	10.1	0.6	13.0	0.87	-2.3
Spain	2.7	Q2	2.3	2.7	2.3	Sep	1.8	15.2	Aug	1.1	1.6	-1.0	0.87	-2.3
Czech Republic	2.7	Q2	2.9	3.0	2.3	Sep	2.3	2.7	Aug [‡]	0.8	2.2	75.0	22.4	-2.2
Denmark	1.5	Q2	1.0	1.3	0.6	Sep	1.1	3.9	Aug	7.2	0.4	-6.0	6.47	-2.2
Norway	3.3	Q2	1.5	1.6	3.4	Sep	2.3	4.0	Jul ^{††}	7.4	2.0	40.0	8.21	-3.2
Poland	5.1	Q2	4.1	4.6	1.9	Sep	1.8	5.8	Sep [§]	-0.6	3.2	-10.0	3.72	-3.2
Russia	1.9	Q2	na	1.6	3.4	Sep	2.9	4.5	Sep [§]	5.1	8.7	107	65.5	-12.3
Sweden	2.4	Q2	3.1	2.7	2.3	Sep	2.0	6.1	Aug [§]	3.8	0.7	-15.0	8.95	-8.8
Switzerland	3.4	Q2	2.9	2.7	1.0	Sep	1.0	2.5	Sep	9.9	0.1	18.0	0.99	-1.0
Turkey	5.2	Q2	na	3.8	24.5	Sep	15.3	10.8	Jul [§]	-5.7	18.1	671	5.62	-34.7
Australia	3.4	Q2	3.5	3.2	2.1	Q2	2.1	5.0	Sep	-2.6	2.7	-6.0	1.40	-8.6
Hong Kong	3.5	Q2	-0.9	3.4	2.3	Aug	2.2	2.8	Aug ^{††}	3.7	2.5	75.0	7.84	-0.4
India	8.2	Q2	7.8	7.4	3.8	Sep	4.6	6.4	Aug	-2.4	7.9	114	73.6	-11.8
Indonesia	5.3	Q2	na	5.2	2.9	Sep	3.4	5.1	Q1 [§]	-2.6	8.6	209	15,155	-10.9
Malaysia	4.5	Q2	na	5.0	0.2	Aug	0.9	3.4	Aug [§]	2.6	4.1	22.0	4.15	1.7
Pakistan	5.4	2018**	na	5.4	5.1	Sep	5.4	5.9	2015	-5.8	12.0 ^{†††}	380	134	-21.1
Philippines	6.0	Q2	5.3	6.2	6.7	Sep	5.2	5.4	Q3 [§]	-1.5	8.0	318	53.9	-4.7
Singapore	2.6	Q3	4.7	3.5	0.7	Aug	0.6	2.1	Q2	19.7	2.6	50.0	1.38	-1.5
South Korea	2.8	Q2	2.4	2.8	1.9	Sep	1.6	3.6	Sep [§]	4.5	2.3	-6.0	1,127	0.5
Taiwan	3.3	Q2	1.6	2.6	1.7	Sep	1.7	3.7	Aug	12.9	0.9	-9.0	30.8	-2.1
Thailand	4.6	Q2	4.1	4.1	1.3	Sep	1.2	1.0	Aug [§]	9.6	2.6	36.0	32.5	1.8
Argentina	-4.2	Q2	-15.2	-2.3	40.3	Sep	33.6	9.6	Q2 [§]	-4.3	11.3	562	36.5	-52.3
Brazil	1.0	Q2	0.7	1.5	4.5	Sep	3.8	12.1	Aug [§]	-1.0	8.4	-39.0	3.70	-14.1
Chile	5.3	Q2	2.8	3.9	3.1	Sep	2.4	7.3	Aug ^{§††}	-2.0	4.6	5.0	670	-7.0
Colombia	2.5	Q2	2.3	2.7	3.2	Sep	3.3	9.2	Aug [§]	-2.7	7.1	63.0	3,059	-3.7
Mexico	2.6	Q2	-0.6	2.1	5.0	Sep	4.8	3.3	Aug	-1.8	8.1	91.0	18.8	1.4
Peru	5.4	Q2	12.5	4.1	1.3	Sep	1.4	6.3	Aug [§]	-1.8	na	nil	3.34	-2.7
Egypt	5.4	Q2	na	5.4	16.0	Sep	17.0	9.9	Q2 [§]	-2.4	na	nil	17.9	-1.5
Israel	3.9	Q2	1.8	3.6	1.2	Sep	1.1	4.0	Aug	1.9	2.4	62.0	3.65	-3.8
Saudi Arabia	-0.9	2017	na	1.5	2.3	Aug	2.6	6.1	Q1	7.3	na	nil	3.75	nil
South Africa	0.4	Q2	-0.7	0.7	4.9	Aug	4.8	27.2	Q2 [§]	-3.5	9.1	37.0	14.2	-5.3

Source: Haver Analytics. *% change on previous quarter, annual rate. †The Economist poll or Economist Intelligence Unit estimate/forecast. §Not seasonally adjusted. ‡New series. **Year ending June. ††Latest 3 months. †††3-month moving average. §§5-year yield. ††††Dollar-denominated bonds.

Markets

	Index	% change on:		Index	% change on:		
		Oct 17th	one week		Oct 17th	one week	
United States DJIA	25,706.7	0.4	4.0	Pakistan KSE	37,647.3	-3.0	-7.0
United States NAScomp	7,642.7	3.0	10.7	Singapore STI	3,071.1	-1.9	-9.8
China Shanghai Comp	2,561.6	-6.0	-22.5	South Korea KOSPI	2,167.5	-2.7	-12.2
China Shenzhen Comp	1,266.6	-8.4	-33.3	Taiwan TWI	9,979.1	-4.7	-6.2
Japan Nikkei 225	22,841.1	-2.8	0.3	Thailand SET	1,695.0	-1.6	-3.3
Japan Topix	1,713.9	-2.8	-5.7	Argentina MERV	28,721.4	0.6	-4.5
Britain FTSE 100	7,054.6	-1.3	-8.2	Brazil BVSP	85,763.9	2.5	12.3
Canada S&P TSX	15,529.9	0.1	-4.2	Mexico IPC	47,888.0	-0.5	-3.0
Euro area EURO STOXX 50	3,243.1	-0.7	-7.4	Egypt EGX 30	13,815.6	1.4	-8.0
France CAC 40	5,145.0	-1.2	-3.2	Israel TA-125	1,455.4	0.3	6.7
Germany DAX*	11,715.0	nil	-9.3	Saudi Arabia Tadawul	7,657.9	-2.3	6.0
Italy FTSE/MIB	19,455.0	-1.3	-11.0	South Africa JSE AS	52,391.0	-0.8	-12.0
Netherlands AEX	527.6	-0.1	-3.1	World, dev'd MSCI	2,089.5	nil	-0.7
Spain IBEX 35	8,997.2	-1.8	-10.4	Emerging markets MSCI	983.7	-0.2	-15.1
Poland WIG	56,879.3	0.1	-10.8				
Russia RTS, \$ terms	1,162.8	1.7	0.7				
Switzerland SMI	8,750.4	-1.6	-6.7				
Turkey BIST	98,991.0	4.8	-14.2				
Australia All Ord.	6,047.1	-1.9	-1.9				
Hong Kong Hang Seng	25,462.3	-2.8	-14.9				
India BSE	34,779.6	0.1	2.1				
Indonesia IDX	5,868.6	0.8	-7.7				
Malaysia KLSE	1,740.6	0.3	-3.1				

US corporate bonds, spread over Treasuries

	latest	Dec 29th 2017
Basis points		
Investment grade	149	137
High-yield	391	404

Sources: Thomson Reuters; Standard & Poor's Global Fixed Income Research. *Total return index.

Commodities

The Economist commodity-price index

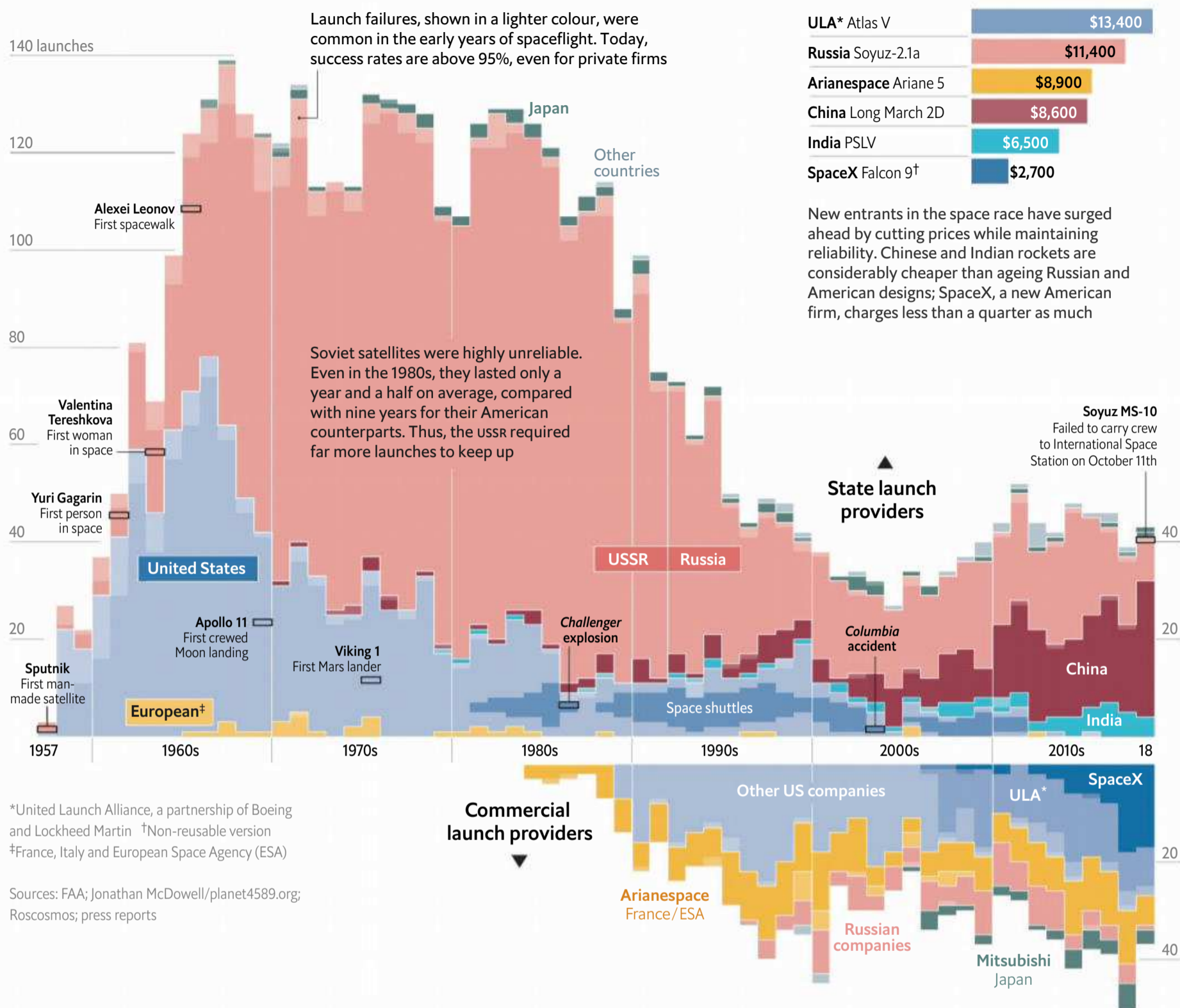
	% change on			
	2005=100	Oct 9th	Oct 16th*	month
All items	139.8	141.3	4.0	-4.5
Food	144.4	147.0	5.5	-2.3
Industrials				
All	135.0	135.3	2.4	-6.8
Non-food agriculturals	125.4	125.5	-2.5	-2.8
Metals	139.0	139.5	4.4	-8.3
Sterling Index				
All items	194.2	194.5	3.6	-4.8
Euro Index				
All items	151.5	151.7	5.1	-3.1
Gold				
\$ per oz	1,188.2	1,228.0	2.4	-4.3
West Texas Intermediate				
\$ per barrel	75.0	71.9	3.0	38.6

Sources: CME Group; Cotlook; Darmann & Curl; FT; ICCO; ICO; ISO; Live Rice Index; LME; NZ Wool Services; Thompson Lloyd & Ewart; Thomson Reuters; Urner Barry; WSJ. *Provisional.

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Space launches

To Earth orbit or higher, at October 17th 2018



Cost to reach low-Earth orbit in 2018

\$ per kg of cargo, principal launch vehicle

ULA* Atlas V	\$13,400
Russia Soyuz-2.1a	\$11,400
Arianespace Ariane 5	\$8,900
China Long March 2D	\$8,600
India PSLV	\$6,500
SpaceX Falcon 9 [†]	\$2,700

New entrants in the space race have surged ahead by cutting prices while maintaining reliability. Chinese and Indian rockets are considerably cheaper than ageing Russian and American designs; SpaceX, a new American firm, charges less than a quarter as much

*United Launch Alliance, a partnership of Boeing and Lockheed Martin †Non-reusable version ‡France, Italy and European Space Agency (ESA)

Sources: FAA; Jonathan McDowell/planet4589.org; Roscosmos; press reports

A modern space race

The next generation

Private businesses and rising powers are replacing the cold-war duopoly

SOME 4,500 satellites circle Earth, providing communications services and navigational tools, monitoring weather, observing the universe, spying and doing more besides. Getting them there was once the business of the superpowers' armed forces and space agencies. Now it is mostly done by companies and the governments of developing countries.

During the early years of the space race

reaching orbit was hard. Between 1957 and 1962, 32% of American launches and 30% of Soviet ones failed. Accidents still happen: on October 11th a Russian rocket aborted its ascent shortly after launch (both crew members landed unharmed). Only states could assume such risks—and even if American firms had wanted to bear them, its government would not let them on national-security grounds. Companies eager to send objects into space, including telecoms firms, had to hitch a ride with NASA.

This changed when European countries started building launchers through a mostly state-owned company called Arianespace, which touted for custom among satellite-makers around the world. When the space shuttle *Challenger* exploded in 1986, NASA got out of the satellite-launching business. It and, later, the Pentagon be-

came new customers for private launch firms, alongside the satellite operators.

In the past decade the West's space-launch market has become more competitive thanks to an innovative new entrant, SpaceX. But state-run programmes still lead the way in emerging markets. In 2003 China became the third country to put a person into orbit; India plans to follow suit in 2022. Both sell launch services to private clients. China did legalise private space flight in 2014, but no companies based there have yet reached orbit on their own.

Like their cold-war predecessors, these Asian titans have strategic goals as well as a thirst for publicity. They need independent access to space for communication, intelligence and navigation. However commercialised space gets, the competition will never be solely economic. ■



Apartheid's apologist

Roelof Frederik "Pik" Botha, South Africa's longest-serving foreign minister, died on October 12th, aged 86

THERE WERE few things Pik Botha liked more than telling a story, except, perhaps, being at the centre of one. Eyes flashing and with a stage performer's perfect timing, he would cast his spells. He did it best if he had a cigarette in one hand and a drink in the other (better yet, one or two already in him, as they helped bring out his mischievous streak). And there was plenty of mischief to be made. At a government *bosberaad*, or country retreat, he decided to liven up an evening by throwing ammunition into the campfire, sending his cabinet colleagues diving for cover as the bullets exploded. At a boring diplomatic dinner in Geneva he selected a long-stemmed rose, sniffed it and then ate it before working his way through several more. Even his nickname, Pik—short for *pikkewyn*, Afrikaans for penguin—hinted at an impish character. He picked it up as a baby, but it stuck and he kept it because it rolled off the tongue so much more easily than the sober Roelof Frederik with which he was christened.

There was more here than showmanship. When, in the late 1980s, peace talks aimed at getting South Africa and Cuba to pull their troops out of Angola's civil war broke down, he walked over to the hotel bar and offered a whisky to his Cuban counterpart. By the end of the evening neither man could walk without help, but they had the outlines of a deal.

In the half-century in which he represented South Africa, first as a diplomat and then for almost 20 years as its longest-serving foreign minister, he deflected or delayed sanctions aimed at ending apartheid, or white rule. He was by far the most eloquent defender of a system that denied millions of black people the vote, that uprooted hundreds of thousands from their homes and that was maintained by the barrel of a gun and tip of a *sjambok*.

Henry Kissinger was a role model and told a biographer that he was "fiery, intelligent and discreet". Margaret Thatcher embraced his arguments against sanctions: that they would be ineffective while making black people poorer. Instead of isolating South Africa, he argued, Western leaders should allow *verligte* (enlightened) whites to reform apartheid gradually. To do so he had to paint himself as a liberal held hostage to conservatives within his party.

It helped that most of his cabinet colleagues and the apartheid-era presidents he served did little to conceal their racism. P.W. Botha (no relation), who led the country from 1978 to 1989, would wag a finger—both temper and voice rising—when challenged over the immorality of apartheid. Pik Botha, instead, would lean forward, hunching his rugby-player's frame, and earnestly explain that he abhorred racism and did not want to lord it over blacks.

He may have even believed it himself. In 1977 he stunned his party by rejecting routine segregation, saying he was not prepared to die "for an apartheid sign in a lift". A decade later he infuriated it by saying he was prepared to serve under a black president.

The son of a rural schoolmaster, his closest childhood friend was Frans, a local black boy. Starting school without Frans was unthinkable. So his father Roelof found a spot for Frans near the door of the Paul Kruger School near Rustenburg. Friendship was one thing, but the blood of his ancestors ran thicker still. Like that of his grandfather, Johannes, who fought against the British in the Anglo-Boer war. Johannes had joined a guerrilla band after the conventional war was lost, fighting on for almost two more years among a group known as the *bittereinders* until their final, unconditional surrender.

Having been conquered once, he would say, Afrikaners would never again negotiate their own destruction. More than any of his colleagues, he could see that the battle over apartheid would not be won or lost in the townships, but in the court of international public opinion. As a lawyer he had faced that court when he went to The Hague to defend a challenge to its rule over South West Africa (renamed Namibia after its independence in 1990). South Africa's legal team won the case in 1966, but having seen how unpopular apartheid was abroad, Mr Botha came home a reluctant reformist. In a submission decades later to the Truth and Reconciliation Commission he said that he had realised "you gain nothing by winning the legal battle if you lose the moral battle." He went into politics, winning his first seat in 1970. In his maiden speech in parliament he urged South Africa to sign the UN Declaration of Human Rights. This was too radical a thought for many, as was his call a year later to give "coloureds" (people of mixed race) the same political rights as whites. He found little willingness in his party to embrace the view that, in order to survive, apartheid had to reform. But his promises of change were eagerly received overseas.

Over time, he said different things to different people, casting himself as a good man in a rotten system, a liberal who had campaigned from within. In 2000 he told a black newspaper that he planned to join the ANC because he identified with its fundamental values. Later, at a meeting of mostly Afrikaners he denied ever having joined the party. It was too much of a stretch. For so long, he had argued for a power-sharing agreement that preserved the essence of white rule while ending international isolation. Such a deal could never be reached with the ANC. As much as Mr Botha knew that apartheid could not survive, there was still something of the *bittereinder* in him. Just as they had fought on for a doomed cause, even as their farms and homes were burned to the ground, his defence of the system served only to prolong its horror. ■

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