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Politics

Shinzo Abe's gamble in calling an early general election in **Japan** paid off, as his ruling Liberal Democratic Party won 281 of the 465 contested seats in the lower house of parliament. Along with seats won by the LDP's coalition partner, Mr Abe has control of two-thirds of the house, meaning he can pass legislation without approval from the upper house. The prime minister will press to change Japan's pacifist constitution, a huge step that will allow it to take part more easily in peacekeeping operations, but will also rattle China and South Korea.

China's ruling Communist Party revised its constitution to include the thinking of Xi Jinping. Mr Xi is the first ruler to be named in the document since Deng Xiaoping, and the first since Mao Zedong to be so honoured while alive. The prime minister, Li Keqiang, keeps his job, but the party announced a sweeping reshuffle of the rest of its leadership. There is no one who is clearly being groomed as a successor to Mr Xi, fuelling speculation that he may try to stay on as party chief for longer than the normal ten-year period.

An elaborate five-day ceremony got under way in **Thailand** to cremate the remains of King Bhumibol Adulyadej, who died a year ago. In a country that reveres the monarchy, and imposes strict lèse-majesté laws against those who do not, 13m Thais paid their respects to the late king as he lay in state, many prostrating themselves before his body.

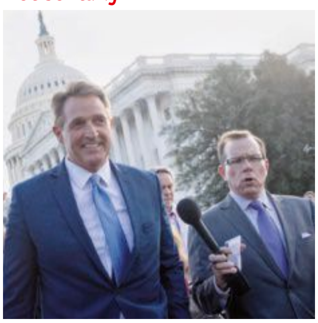
Re-running scared

Kenya reran its disputed presidential election, despite the opposition calling for a boycott. An appeal before the Supreme Court to postpone the ballot was not heard because five of the seven judges were absent amid claims of intimidation. Last month the court threw out the result of August's poll because the count had been mishandled.

A British electrician was allowed to leave **Dubai** after the emirate's ruler, Sheikh Mohammed bin Rashid al-Maktoum, stepped in to overturn his three-month jail sentence for brushing against a man's hip in a crowded bar. The case highlighted the friction between Dubai's desire to attract tourists and the arbitrary enforcement of its strict laws against sexual impropriety.

The World Health Organisation swiftly withdrew its appointment of **Robert Mugabe** as a goodwill ambassador, which had elicited howls of derision. Zimbabwe's autocratic president has destroyed the economy and wrecked the health service. His spokesman said Mr Mugabe wouldn't have taken the job anyway.

Not so flaky



Jeff Flake, a senator from Arizona and one of the more cerebral Republicans, denounced Donald Trump's presidency and the general state of his party from the Senate floor. Without naming Mr Trump, Mr Flake criticised the "coarseness of our leadership" and its "reckless, outrageous and undignified behaviour". He challenged his colleagues to speak up. Mr Flake has decided not to run for re-election next year.

A 120-day ban on **refugees** from entering the United States expired. The ban came into effect in June following a profusion of legal wrangling. Applications can now resume, though citizens from 11 countries will face extra scrutiny.

The Senate passed a $36.5bn package of emergency assistance for places hit by recent hurricanes, including **Puerto Rico**. More than a month after Hurricane Maria hit the island, only a fifth of its power system has been restored.

A disunited opposition

Four of the five opposition candidates who won elections for governor in **Venezuela** took their oaths before the constituent assembly, a sham parliament controlled by President Nicolás Maduro's United Socialist Party. They were criticised by the rest of the opposition.

Brazil's congress voted not to send Michel Temer, the country's president, to trial for charges related to a corruption scandal. Mr Temer survived a similar move to remove him in August and he cannot be investigated again until his term ends in late 2018. He has the worst approval ratings of any Brazilian president.

Nicaragua announced that it would join the **Paris accord on climate change**, leaving Syria and the United States as the only two countries that have either not joined or plan to abandon the deal.

The **Mexican** government sacked the country's top electoral-crimes prosecutor for divulging bits of an investigation into corrupt financing. Critics of the ruling Institutional Revolutionary Party say the firing was intended to close a probe into claims that a Brazilian construction firm may have donated to President Enrique Peña Nieto's campaign in 2012.

The centre-right party of **Argentina's** president, Mauricio Macri, exceeded expectations in mid-term elections. Cristina Fernández de Kirchner, a former president, won a Senate seat, but her party performed poorly overall.

Yes, and no

Andrej Babis, a billionaire and former finance minister, won a general election in the **Czech Republic**. Mr Babis's ANO ("Yes") party took 30% of the vote. His victory was viewed as the latest triumph of a charismatic populist in central Europe, but with a splintered parliament, Mr Babis will have trouble forming a coalition.

Spain's prime minister, Mariano Rajoy, asked the Senate to give him the power to disband Catalonia's regional government and implement direct rule. The region's president, Carles Puigdemont, compared Mr Rajoy's action to that of Francisco Franco, Spain's former fascist dictator.

EU ministers voted to approve curbs on "posted workers", EU citizens who work in EU countries where they do not reside, that were proposed by Emmanuel Macron, the **French** president. Four east European countries voted against the measure, saying it undercuts their workers' ability to compete for jobs in the EU.

Solving a stinking problem

To the relief of expatriates in the country, China lifted a ban on imports of mould-ripened **cheese**, which had been imposed because the bacteria used in making them had not been approved. Soft cheeses such as Brie, Gorgonzola and Stilton are much sought after by Westerners in China. Chinese officials allowed the cheeses back in after receiving assurances from European counterparts that they are safe. ▶▶

Business

Wall Street scored a big victory when the Senate scotched a proposed law that would have allowed customers of **banks and credit-card companies** to sue for malpractice through class-action lawsuits. The measure was put forward by the Consumer Financial Protection Bureau, an agency created under the Dodd-Frank reforms which has a rocky relationship with the banking industry. Its rule would have rewritten the requirement in retail-finance contracts that customers seek redress for grievances through arbitration, rather than the courts. But the Treasury had criticised the proposal, for curtailing the "freedom of contract".

A helping hand

The **Indian** government announced a $32bn plan to recapitalise state-controlled banks. The banks, which hold two-thirds of India's banking assets, have been blamed for dragging down economic growth after a decade of unrestrained lending to industry, which has put a dent in their balance-sheets and constrained consumer lending.

David Rubinstein and William Conway stepped back from their roles as co-chief executives at **Carlyle Group**, a global investment firm that they helped to found in 1987. It is the second departure of the original management at a big private-equity firm this year following KKR's reshuffling of its senior ranks during the summer.

A former senior banker at **HSBC** was found guilty by a jury in New York of defrauding a client in a $3.5bn currency trade. Mark Johnson is the first banker to be convicted in the American Department of Justice's lengthy transatlantic investigations into the forex market.

Following revelations that Russian provocateurs had placed divisive ads on American social media during last year's election, **Twitter** announced changes to make such ads more transparent, and to allow users to see which ones are targeting them. A bill in Congress, the Honest Ads Act, would tighten the regulations for online political ads, subjecting them to the same rules as those for TV.

General Electric's share price sank to a near five-year low amid speculation that it might cut its dividend, after reporting poor quarterly earnings and reducing its outlook for the year. The blue-chip conglomerate's share price is the worst performer this year on the Dow Jones Industrial Average. It hopes to turn that around when it unveils a plan in mid-November to reduce its costs.

The rand fell sharply against the dollar after **South Africa's** new finance minister delivered a budget that forecast weaker economic growth of 0.7% for the year and a higher deficit of 4.3% of GDP.

All eyes on the bank

The welcome news of better-than-expected growth figures in **Britain** was tempered by the increased likelihood of a rise in interest rates. GDP expanded by 0.4% in the third quarter compared with the previous three months. With inflation at 3%, the Bank of England has hinted that it will raise rates for the first time since 2007, possibly at its meeting on November 2nd. That would leave many households struggling; mortgage debt and consumer credit is running close to 140% of income.

General Motors reported a $3bn loss for the third quarter, mostly because of a $5.4bn charge it booked related to the sale of its Opel and Vauxhall brands in Europe. It also recorded lower revenues in North America after it cut production to reduce its stock of cars, which reached a ten-year high over the summer.

Jim Hackett shook up the senior ranks at **Ford**, five months after taking over as chief executive. Among those leaving is John Casesa, who oversaw the adoption of new technologies. Ford has lagged its rivals in the electric-vehicle revolution, something which Mr Hackett vows to change.

The decision by Oleg Deripaska to float his aluminium and renewable energy business, EN+, in a listing in London was taken as a sign of renewed investor interest in Russia. It will be the first **Russian IPO** on the London Stock Exchange since Russia's annexation of Crimea in 2014, which prompted a wave of financial sanctions against the country.

Withered on the vine

The world's **production of wine** will fall this year to its lowest level since 1961, according to the International Organisation of Vine and Wine, because of bad weather that has damaged the grape crop in Italy, France and Spain. Global output will drop by 8% compared with 2016, which leaves some 3bn fewer bottles of wine to sip. The recent wildfires in northern California will probably not have had too much of an effect on American production (most of the state's wine grape is grown in the Central Valley).

Other economic data and news can be found on pages 80-81

A tsar is born

As the world marks the centenary of the October revolution, Russia is once again under the rule of a tsar

SEVENTEEN years after Vladimir Putin first became president, his grip on Russia is stronger than ever. The West, which still sees Russia in post-Soviet terms, sometimes ranks him as his country's most powerful leader since Stalin. Russians are increasingly looking to an earlier period of history. Both liberal reformers and conservative traditionalists in Moscow are talking about Mr Putin as a 21st-century tsar.

Mr Putin has earned that title by lifting his country out of what many Russians see as the chaos in the 1990s and by making it count again in the world. Yet as the centenary of the October revolution draws near, the uncomfortable thought has surfaced that Mr Putin shares the tsars' weaknesses, too.

Although Mr Putin worries about the "colour" revolutions that swept through the former Soviet Union, the greater threat is not of a mass uprising, still less of a Bolshevik revival. It is that, from spring 2018 when Mr Putin starts what is constitutionally his last six-year term in office after an election that he will surely win, speculation will begin about what comes next. And the fear will grow that, as with other Russian rulers, Tsar Vladimir will leave turbulence and upheaval in his wake.

Firm rule

Mr Putin is hardly the world's only autocrat. Personalised authoritarian rule has spread across the world over the past 15 years—often, as with Mr Putin, built on the fragile base of a manipulated, winner-takes-all democracy. It is a rebuke to the liberal triumphalism which followed the collapse of the Soviet Union. Leaders such as Recep Tayyip Erdogan of Turkey (see page 38), the late Hugo Chávez of Venezuela and even Narendra Modi, India's prime minister, have behaved as if they enjoy a special authority derived directly from the popular will. In China Xi Jinping this week formalised his absolute command of the Communist Party (see page 27).

Mr Putin's brand of authoritarianism blazed the trail. It evokes Russia's imperial history (see page 19), offering a vivid picture of how power works and how it might go wrong.

Like a tsar, Mr Putin surmounts a pyramid of patronage. Since he moved against the oligarchs in 2001, taking control first of the media and then of the oil and gas giants, all access to power and money has been through him. These days the boyars serve at his pleasure, just as those beneath them serve at their pleasure and so on all the way down. He wraps his power in legal procedure, but everyone knows that the prosecutors and courts answer to him. He enjoys an approval rating of over 80% partly because he has persuaded Russians that, as an aide says, "If there is no Putin, there is no Russia."

Like a tsar, too, he has faced the question that has plagued Russia's rulers since Peter the Great—and which acutely confronted Alexander III and Nicholas II in the run-up to the revolution. Should Russia modernise by following the Western path towards civil rights and representative government, or should it try to lock in stability by holding fast against them? Mr Putin's answer has been to entrust the economy to liberal-minded technocrats and politics to former KGB officers. Inevitably, politics has dominated economics and Russia is paying the price. However well administered during sanctions and a rouble devaluation, the economy still depends too heavily on natural resources. It can manage annual GDP growth of only around 2%, a far cry from 2000-08, which achieved an oil-fired 5-10%. In the long run, this will cramp Russia's ambitions.

And like a tsar, Mr Putin has buttressed his power through repression and military conflict. At home, in the name of stability, tradition and the Orthodox religion, he has suppressed political opposition and social liberals, including feminists, NGOs and gays. Abroad, his annexation of Crimea and the campaigns in Syria and Ukraine have been burnished for the evening news by a captive, triumphalist media. However justified, the West's outrage at his actions underlined to Russians how Mr Putin was once again asserting their country's strength after the humiliations of the 1990s.

What does this post-modern tsar mean for the world? One lesson is about the Russian threat. Since the interference in Ukraine, the West has worried about Russian revanchism elsewhere, especially in the Baltic states. But Mr Putin cannot afford large numbers of casualties without also losing legitimacy, as happened to Nicholas II in the Russo-Japanese war of 1904-05 and in the first world war. Because today's tsar knows history, he is likely to be opportunistic abroad, shadowboxing rather than risking a genuine confrontation. The situation at home is different. In his time in power Mr Putin has shown little appetite for harsh repression. But Russia's record of terrible suffering suggests that, whereas dithering undermines the ruler's legitimacy, mass repression can strengthen it—at least for a time. The Russian people still have something to fear.

Mother Russia's offspring

The other lesson is about succession. The October revolution is just the most extreme recent case of power in Russia passing from ruler to ruler through a time of troubles. Mr Putin cannot arrange his succession using his bloodline or the Communist Party apparatus. Perhaps he will anoint a successor. But he would need someone weak enough for him to control and strong enough to see off rivals—an unlikely combination. Perhaps he will try to cling to power, as Deng Xiaoping did behind the scenes as head of the China Bridge Association, and Mr Xi may intend to overtly, having conspicuously avoided naming a successor after this week's party congress. Yet, even if Mr Putin became the *éminence grise* of the Russian Judo Federation, it would only delay the fatal moment. Without the mechanism of a real democracy to legitimise someone new, the next ruler is likely to emerge from a power struggle that could start to tear Russia apart. In a state with nuclear weapons, that is alarming.

The stronger Mr Putin is today, the harder he will find it to manage his succession. As the world tries to live with that paradox, it should remember that nothing is set in stone. A century ago the Bolshevik revolution was seen as an endorsement of Marx's determinism. In the event, it proved that nothing is certain and that history has its own tragic irony. ■

Kenya's flawed elections

Democracy deferred

A bad election is even worse than a delayed one

DEMOCRATS across Africa cheered on September 1st when Kenya's Supreme Court annulled the presidential election that had taken place a few weeks earlier. The court held that the electoral commission had botched the count and that the poll should be held again. No rigging had been proved after the incumbent, Uhuru Kenyatta, won by a handy margin over the main opposition leader, Raila Odinga. But the court argued rightly that elections are not just about numbers. "You only get points for the answers if you show your working," said Philomena Mwilu, the deputy chief justice. It was a landmark in a region where judges are often cowed.

Rather than using the judgment to strengthen democracy in a country that descended into ethnic bloodshed after a disputed election in 2007, the government and electoral commission pressed ahead with a vote due on October 26th (after we went to press) that will be even less credible than that of August 8th. The main opposition leader has withdrawn, the electoral commission has said it cannot guarantee a proper ballot and judges were too intimidated to hear a plea to postpone the election. Whatever the outcome of this week's vote (and the hope is that it does not turn violent), it is clear who the losers will be: Kenya, and democracy in Africa.

Kenya's unfulfilled promise

As the most dynamic economy in east Africa, Kenya should be a model for the continent. International monitoring groups worked hard to ensure a credible election. The blame for the reversal of Kenya's democracy falls on many sides (see page 43).

Start with the bad loser. Mr Odinga withdrew from the race on October 10th. He has been careful not to call for violence, but nor has he dispelled the view that the only way to prevent it would be to offer him unreasonable concessions. He has rejected seeking further redress in the courts, arguing that the crisis is a political one and requires a political solution.

Mr Kenyatta has been more irresponsible still. Parliament has passed laws to restrict the powers of the Independent Electoral and Boundaries Commission (IEBC) and the courts. Before the election on August 8th, it deported foreign experts hired by the opposition to monitor the electronic-vote count. The government argues that it is constitutionally bound to press ahead with the vote; postponing it would be illegal and reward the menacing actions of Mr Odinga's supporters.

But in pushing for the re-run, Mr Kenyatta's supporters appear to be doing some menacing of their own. Barely a week before the vote, Roselyn Akombe, an IEBC commissioner, fled to America saying her life was in danger. Her boss, Wafula Chebukati, said that the commission had degenerated into warring factions and that candidates were intimidating his staff. "Under such conditions, it is difficult to guarantee free, fair and credible elections," he said.

Given the chaos, the courts would surely order a postponement. But when the petition to do just that was put before the Supreme Court, only two of the seven judges turned up. One had an excuse: the night before the hearing Ms Mwilu's bodyguard was shot. Another justice said she had missed her flight to Nairobi. Denied a quorum, the court could not hear the case.

The worst part is that the crisis is self-defeating. Mr Kenyatta would probably win a proper election. Instead this week's pyrrhic victory will come at the price of his legitimacy. For the sake of his country, and to assuage his seething opponents, he should promise to run a credible election, perhaps early next year. If he wins fairly, Mr Kenyatta could yet become the proud president of an improving democracy. Right now, he is fast leading the country back to autocracy. ■

Japan's constitution

Abe's next act

A big election victory gives Shinzo Abe a chance to change Japan's pacifist constitution. He should take it

RARELY has such an unpopular leader won a free and fair election so lopsidedly. Only about one-third of Japanese people approve of Shinzo Abe, their prime minister; a whopping 51% disapprove. Yet on October 22nd his Liberal Democratic Party and its coalition partner kept its two-thirds majority in the lower house (see page 23). Mr Abe's decision to call a snap election, unlike that of Theresa May, his British counterpart, paid off handsomely.

One reason is that the opposition imploded. A much-hyped new force, the Party of Hope, led by Tokyo's charismatic governor, botched its campaign and ended up with barely enough seats to fill a ramen restaurant. A left-wing splinter group, the Constitutional Democratic Party, emerged as the main opposition force with only 55 out of 465 seats. Mr Abe is lucky in his choice of challengers.

Playing it safe

But the other reason for his triumph is that nervous voters sought reassurance. As Mr Abe pointed out before the election, Japan faces two crises: an ageing population and a hostile neighbour, North Korea, that is lobbing missiles in Japan's direction and rushing to fit nuclear warheads to them. Both cri- ▸▸

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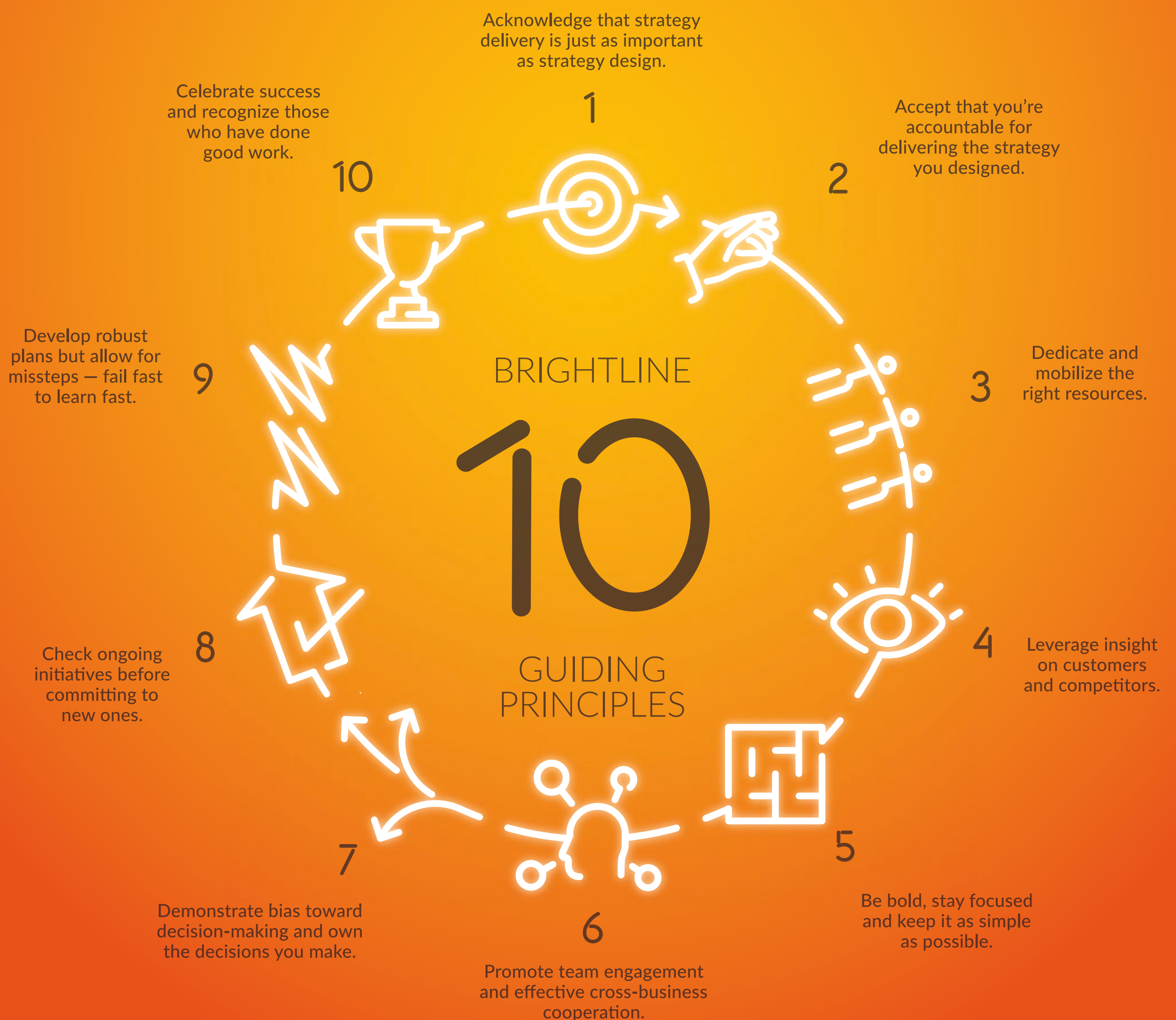


ses are grave and pressing, but the first is chronic—slowing or reversing Japan's demographic decline will take decades—and the second acute. Many voters decided that, even if they did not warm to him personally, Mr Abe was more likely than any of the alternatives to keep them safe. President Donald Trump probably helped him, too, by giving Japanese voters the impression (strongly denied) that America cannot always be relied upon to defend Japan.

Mr Abe has taken his win as a mandate to press ahead with his long-standing plan to revise Japan's pacifist constitution. This is a sensible goal. As it stands, the document is impossible to take literally. Imposed on Japan by the victorious Americans after the second world war, it says, in Article 9, that "the Japanese people forever renounce...the threat or use of force as a means of settling international disputes." For this reason, "land, sea and air forces, as well as other war potential, will never be maintained."

For more than seven decades Japan has flagrantly violated its own constitution by maintaining land, sea and air forces. Its military budget is the eighth-largest in the world. Its 300,000 troops are superbly equipped. Successive governments have clung to the fiction that this is somehow constitutional by using the label of "self-defence forces". As legal camouflage goes, this is like trying to hide a tank by sticking a Post-it note on it.

Mr Abe is right to want to make clear in the constitution that Japan may, in fact, maintain armed forces. The rule of law matters, and is undermined when the government nakedly disobeys its principles. What is more, decades of double-talk over Article 9 have muddled the debate that Japan ought to be having over what role it should play in maintaining regional and global security.

Every time a Japanese government tries to do more to help its allies, or to contribute more to UN peacekeeping operations, pacifists cry "unconstitutional". Most of the time they are right, and even if they are overruled, they usually delay things. Until last year Japan's military forces were barred from helping allies who came under attack in its backyard. Japan's UN peacekeeping forays are a joke. Its troops in Iraq had to be protected by Australian forces, because they were not allowed to shoot back at militants who attacked their base. This year Japanese UN peacekeepers pulled out of South Sudan after it was revealed that the war-ravaged African country was, yes, a bit dangerous. In July Mr Abe's defence minister had to resign for allegedly covering up this well-known fact.

Changing Article 9 will not be easy. First, Mr Abe must come up with wording that can gain a two-thirds majority in both houses of the Diet, which means winning over several of his more doveish colleagues. The revision must then win a simple majority in a referendum, which may be a struggle.

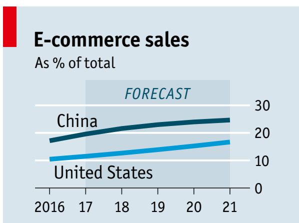
China and North and South Korea will protest loudly if Japan revises Article 9, claiming that this is a step back towards the Japanese militarism that devastated East Asia in the 1930s and 1940s. This is bunk. Like any state, Japan has a right to defend itself. As a rich, mature democracy, it should also be doing its bit to keep the world safer. With its elderly, shrinking population and ingrained pacifism, Japan is no threat to anyone.

Alas, Mr Abe himself often creates the opposite impression. If he wants constitutional change and to reduce opposition abroad, he should stop visiting the Yasukuni shrine, where war criminals are worshipped; denounce the atrocities of the past; and distance himself from his grandfather, a post-war prime minister and colonial administrator who forced thousands of Chinese to work as slaves. For Japan truly to become a normal power, it needs to come to terms with its history. ■

E-commerce

There be giants

Amazon and Alibaba represent a new type of conglomerate. How should rivals and governments adapt?



SHOPPERS will spend record sums online in the next few weeks—in China for Singles Day on November 11th, in America on Black Friday and around the world in the run-up to Christmas. E-commerce has been growing by 20% a year for a decade, shaking up industries from logistics to consumer goods. Nowhere does debate rage more fiercely about what this means than in America, where thousands of stores have shut this year and where retailing accounts for one in nine jobs.

Astonishingly, online shopping has only just got started. Last year it amounted to a mere 8.5% of the world's retail spending. In America the share was about 10%. Its effects on business and society will be huge. Not just because retailing is a big employer that touches many industries, but also because its two greatest exponents, Jack Ma and Jeff Bezos, the founders of Alibaba and Amazon, have used it to amass a new sort of conglomerate (see our special report). The question is whether its creation will foster competition or demand restraint.

In the past two decades Alibaba and Amazon have added ever more services, from cloud computing to video. The firms' businesses will reinforce each other as consumers and companies become more likely to use their platforms, and diverse sources of revenue and data power further growth. As a result, the two giants sit at the centre of all sorts of activity. In America Amazon is showing, week by week, the havoc that an innovative e-commerce firm can wreak in a giant, mature market. In China Alibaba is showing how dramatically one company can reshape business in a fast-growing economy. They will not conquer every industry they touch but, as they expand, few firms will change as many sectors in as many places.

Through one lens, this is a boon for competition. The e-commerce sites of Amazon and Alibaba lower barriers to entry by providing a simpler, cheaper way for small manufacturers to distribute goods and find potential buyers. Local manufacturers are challenging multinational giants. Consumers benefit, as they can choose from more and better products than ever.

Yet as the giant e-commerce platforms grow, so does unease about their might. With access to cheap, patient capital, Amazon can make big investments, including in warehouses, artificial intelligence and other firms such as Whole Foods, a grocer it bought for $13.7bn this year. Those investments, combined ▸▸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with the vast amounts of data on the consumers and businesses on its platform, mean that competitors struggle to keep up.

Amazon's challengers should learn from China, where Alibaba's rivals are teaming up. Tencent began as a gaming and messaging company. It now has a thriving digital-payments business and is the biggest shareholder in JD.com, Alibaba's closest e-commerce competitor. JD is working with other retailers and tech firms, too. In August it announced that shoppers could buy through Baidu, China's leading search engine.

Amazon's would-be competitors might follow a similar path, by forging partnerships. Walmart (another investor in JD), for example, seems to be adopting JD's tactics, making its products available through Google's voice assistant to counter Amazon's Alexa. Facebook wants to make it easier for customers to buy goods featured in its ads. And Google, to the horror of some privacy advocates, is tracking consumers to help bricks-and-mortar shops see which online ads work. American firms may yet catch up with their Chinese counterparts.

Will that be enough to guarantee competition? Regulators must be vigilant. More mergers are now likely among both makers of consumer goods and retailers, as they seek the heft to battle Amazon. Deals between retailers and tech firms will complicate matters further.

Watch the giants

In antitrust cases America's courts have tended to assume that new entrepreneurs would challenge profitable incumbents. But in America venture-capital funding for e-commerce firms is dropping, in part because investors think Amazon will be dominant. This newspaper has argued that regulators should weigh the effect of mergers on the control of data as well as market share—especially for Amazon, given its existing power and range. Antitrust rules, as with so much else in the Amazon era, look as if they will need updating. ■

The Bank of England

Grant me tighter policy...but not yet

Britain's central bank has already waited a decade before raising rates. It should wait a few months longer

Britain

Market-implied probability of an interest-rate rise in November, %

THESE are extraordinary times for the Bank of England. Never before in the Old Lady's 323-year history has monetary policy been so loose for so long. During the financial crisis in 2008-09 Britain's base rate of interest was cut to 0.5%. After the Brexit referendum of 2016 the bank cut by a further 0.25 percentage points, in anticipation of the slowdown that most economists believed was to follow. The bank has bought more than £400bn ($525bn) of government bonds under its programme of quantitative easing. At various points in recent years members of the bank's monetary-policy committee (MPC) have hinted that rate rises were on the cards. But never have they followed through.

Until now. Inflation recently hit 3%, above the bank's 2% target. In the third quarter of 2017 GDP grew by 0.4%. That suggests to some that the bank's post-referendum cut was unnecessary. So on November 2nd, a majority of the MPC's nine members are expected to vote to reverse it. A rise to 0.5% would mark the beginning of Britain's first tightening cycle since 2003. There are good arguments in favour of acting. But if *The Economist* had a seat at the table, it would vote to hold off.

What's the rush?

One reason is that the Brexit threat is not yet over. Theresa May, the prime minister, wants a transitional arrangement which seeks to preserve the status quo while a formal deal is thrashed out. But getting one may be harder than she thinks (see page 48). Crunch time is the European Union's December summit. It would be needlessly risky for the bank to shake up monetary policy beforehand. Better to wait until January, when it will be clearer whether Mrs May's hopes are well-founded.

Another reason is that the British economy is not exactly overheating. True, consumer-price inflation has exceeded the bank's target for months. Yet higher inflation is largely a consequence of sterling's depreciation following last year's referendum. Even if the bank did nothing, inflation would be down again before long, as exchange-rate effects faded.

Inflation hawks point out that the rate of GDP growth is above the economy's potential and that, at 4.3%, unemployment is low by historical standards even as the employment rate is near a historical high. However, though wage growth is edging up, it remains about 2% a year, suggesting that either a surprising amount of slack remains in the labour market or low unemployment does not produce as much inflationary pressure as it used to.

Some hawks also argue that higher interest rates will benefit households by dissuading them from borrowing imprudently. Although households' balance-sheets look fairly healthy on aggregate, a large number of Britons, especially poorer ones, do indeed have high levels of debt. However, the bank can deal with that more effectively using macroprudential tools, rules to reduce financial instability by ensuring that lending is judicious.

And the British economy is highly sensitive to increases in interest rates (see page 47). Roughly 40% of mortgages have a variable interest rate, so they are heavily influenced by the base rate. Even fixed-rate mortgages typically need frequent refinancing. Compare that with America, where over eight in ten mortgages are fixed-rate, generally for a lot longer.

Many households' finances may be able to afford higher rates. But there is uncertainty about how they would react to the first interest-rate rise in a decade. Even if the MPC tried to reassure Britons that monetary policy would remain loose, many might behave as if rates were likely to rise further. If they cut spending sharply, the economy would suffer.

The problem facing the MPC is that, having talked up the possibility of rate rises, its members have boxed themselves in. If the bank does keep rates on hold on November 2nd, it is sure to face criticism for having given out mixed messages. So be it. Waiting a bit too long before tightening will do little damage; tightening too early could do a lot. ■

DIGITAL DYNAMISM

HOW MALAYSIA IS DRIVING THE GLOBAL ELECTRONICS SECTOR

In the 21st century, mobile devices, computers and electronics play an increasingly crucial role in the daily lives of individuals and the operations of businesses worldwide. And Malaysia, with its rich electronics manufacturing ecosystem, is a key player in their production.

Major tech manufacturers from the United States to Korea and Japan are investing billions into the South-East Asian country, which has built one of the world's top environments for making cutting-edge products. Last year, the electronic components sector saw investments of $873.4m.

The semiconductor sector has benefited greatly from global demand for mobile devices, cloud computing and data centres, as well as photonics, fibre optics and LEDs. Local players such as Silterra, Globetronics, Unisem and Inari have contributed to the steady growth of these industries in Malaysia.

American chipmaker Intel is one tech powerhouse that has established an extensive base in the country, with more than $5 billion invested over the past four decades. Operating in Malaysia since 1972, the company's first overseas site is now Intel's largest assembly and test manufacturing facility. Its all-Malaysian manufacturing workforce produces Intel's latest products using smart manufacturing techniques. The plant is also home to Malaysia's largest design and development centre and one of two shared services hubs that support Intel operations globally.

"Malaysia's robust intellectual property protection and transparent investment policies have created a conducive environment for businesses to flourish," says Robin Martin, the managing director of Intel Malaysia.

"Malaysia's robust intellectual property protection and transparent investment policies have created a conducive environment for businesses to flourish," says Robin Martin, the managing director of Intel Malaysia. "The availability of a large, skills-based talent pool and well-established utilities, infrastructure and public services is essential to the continuous growth of companies in the computing industry, like Intel."

"Providing talent with a highly technological mindset is one of the most important elements that Malaysia has invested in, through local universities and talent providers like the Penang Skills Development Centre," says K.C. Lau, Inari Amertron's group CEO.

Alongside such global innovators, local manufacturers are also making their mark on the world's electronics industries. Among them is Inari Amertron, an integrated circuit packager and provider of electronics manufacturing services. Operating not only in Malaysia but also in the Philippines and China, its facilities cover more than a million square feet and employ more than 6,000 people across the region. "Inari has achieved higher confidence from multinational corporations by providing higher-quality products, with flexibility and agility, at very competitive prices. This would not have been possible without the conducive technological environment supported by Malaysian government agencies," says K.C. Lau, the company's group CEO. "Providing talent with a highly technological mindset is one of the most important elements that Malaysia has invested in, through local universities and talent providers like the Penang Skills Development Centre."

The world's new and emerging leaders in the electronics industry are already making Malaysia their hub from which to embrace the abundant business opportunities in Asia today. To find out more about how you can join them, contact MIDA, the Malaysian Investment Development Authority: www.mida.gov.my

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MALAYSIAN INVESTMENT DEVELOPMENT AUTHORITY

Estimating offshore wealth

"Buried treasure" (October 7th) reports on the latest work by Gabriel Zucman and colleagues on wealth held in offshore financial centres. But Mr Zucman's figure for the amount of wealth held offshore, while lower than some of the more exaggerated estimates, does not hold water. In my opinion, looking at both his latest work and his 2015 book, "The Hidden Wealth of Nations", Mr Zucman's analysis is misleading and flawed. For example, he claims that the difference between IMF data on total global assets held across borders and data on cross-border liabilities accounts for the amount held in secretive tax havens. In fact, any such discrepancy is the result of a systematic underreporting of foreign assets because of a lack of information from big, asset-rich countries, such as China and many in the Middle East. These places do not report in detail to the international statistics-collecting agencies.

Furthermore, the bold assumption in his book that 80% of all wealth offshore is undeclared to the relevant tax authorities is based on one piece of evidence: the declarations of EU residents with Swiss bank accounts seeking amnesty for historical deposits made while Switzerland upheld its secrecy laws. This is hardly a sound basis for calculating offshore wealth and is certainly not representative of other international finance centres, most of which have never had banking secrecy and have adopted transparency and anti-money laundering rules faster and more deeply than the G7.

Mr Zucman makes no mention of the many benefits that international finance centres bring to the development of global wealth. These centres boost cross-border trade and financial intermediation and play a critical part in facilitating growth around the world. Investment through Jersey, for instance, can have a positive effect for vital public services in other countries. By creating a clear and safe environment for investors, we contribute to a more promising future where everyone benefits, including those who need it most.

I look forward to reading a report which considers all the facts. Only then can a constructive discussion be had.

GEOFF COOK
Chief executive
Jersey Finance
St Helier, Jersey

Not an easy fix

The recommendation that regulators should identify and correct obvious market failures and promote competition would not be at all helpful in practice ("Trump v the rule book", October 14th). The meaning of the term "market failure" has come to lie in the eye of the beholder and it is now widely used to refer to more or less anything that the relevant politician or regulator wants to change, very frequently at the behest of particular interest groups. The market "corrections" that are made are empirically a big, if not the biggest, source of impediments to the functioning of competitive transactional processes. Unfortunate it may be, but "fixing broken markets" has become a useful slogan for those who would wish pretty much the opposite of what you seek.

GEORGE YARROW
Regulatory Policy Institute
Oxford

Scotland in the EU, and UK

Is it misleading to suggest that the Scottish Nationalist Party's desire for Scotland to remain in the EU is "in line with the vote of 62% of Scots" who voted that way ("Lord, make me free—but not yet", October 14th). Scotland was not on the ballot paper in the referendum on the EU. In Scotland 62% of people voted for the UK to remain in the EU, which is not the same as voting for Scotland to remain. I voted Remain, as did many others who want the UK to stay whole. The SNP wants to hijack our Remain votes to further its push for separation, and we wish the media would stop falling for it.

MARTIN REDFERN
Edinburgh

Learning a language

Johnson wrote about Daniel Everett's work on the evolution of language (October 7th). In "Don't Sleep, There Are Snakes", published in 2008, Mr Everett describes the breakthrough that enabled him to translate the language of the Pirahã people. He realised that they did not use the complex phonemes of modern languages but relied on simple tones of various kinds. The complex humming which he had heard mothers use with children was not music as he had thought, but was instead a language, allowing communication in thick jungle and across rivers where complex phonemes do not work well.

NEVILLE HOLMES
Creswick, Australia

Free-speech movement

I read your article about free speech, or lack thereof, on college campuses ("The intolerant fifth", October 14th). We had a scandal last year involving our campus statue of Thomas Jefferson. Someone vandalised it by painting Jefferson's hands red and writing "Slave Owner" at its base. This does nothing to spark productive dialogue.

There is a discussion to be had about Jefferson's flaws, as he had many. But I would hardly say that his contributions to American society and liberalism should be overlooked, either. I would have loved to attend a lecture about the shortcomings of our most famous alumnus or listen to a respectful debate between campus members of Black Lives Matter and the ACLU. But the chances of either of those now happening are, regrettably, slim.

HENRY BLACKBURN
Williamsburg, Virginia

When I was at high school in Massachusetts in 1965 my English teacher, Mr Warshaw, invited me to debate with him on Vietnam in front of the class. At the time, he supported the war. I was against it. His invitation was courageous. Had he abused his authority, or equally, had I made a fool of him in that venue, it would have looked bad. What did happen was that we each presented our views, and reasons for them, capably and respectfully. Neither of us changed the other's mind that day. But my appreciation of free speech, and of the teacher who provided that opportunity, was greatly enhanced. Would that more people could have such an experience.

STEPHEN KAUFMAN
Pie Town, New Mexico

One of those Islington types

You cited a scientific finding that in London people with similar personality types tend to cluster in the same neighbourhoods ("J'y suis. J'y reste", October 7th). The study mentioned that those "who were most open to experience clustered in Hackney and Islington." This is not news to fans of Douglas Adams. In "The Hitchhiker's Guide to the Galaxy", Adams launches his protagonists into their adventure-filled lives from a cocktail party in Islington, at which Zaphod Beeblebrox makes his entrance. The study you quoted verifies Adams's keen sense of observation.

JOHN DRING
Alexandria, Virginia ■

Letters are welcome and should be addressed to the Editor at
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Head of Supervisory Processes Department m/f

(grade AD10)

European Insurance and Occupational Pensions Authority, Frankfurt/Main, Germany Ref. 1717TAAD10

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The world business organization

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Enter Tsar Vladimir

Ignoring the lessons of the revolution is dangerous for Russia

IN 1912 a group of Russian avant-garde poets, calling themselves futurists, published an almanac entitled "A Slap in the Face of Public Taste". On its last page Velimir Khlebnikov, one of the authors, listed dates for the collapse of the great empires. The last line read: "Nekto [someone or somewhere], 1917". "Do you believe that our empire will be destroyed in 1917?" asked Viktor Shklovsky, a literary critic, when he met Khlebnikov at a reading. Khlebnikov replied: "You are the first to understand me."

"Nekto 1917" is the title of the main display at the State Tretyakov Gallery in Moscow, dedicated to the 100th anniversary of the Bolshevik revolution. It is one of the few public exhibitions in Russia about the two revolutions in 1917: the first in February, which overthrew the imperial government, and the second in October, which swept the Bolsheviks to power.

Central Moscow's prosperity bears few traces of those violent events. An exit from the metro station in Revolutionary Square leads to a street lined with designer shops such as Tom Ford and Giorgio Armani. In nearby Red Square tourists and rich Russians sip $10 cappuccinos and gaze at the mausoleum shrouding the embalmed body of Lenin. It is almost as though the events of 100 years ago no longer matter.

In fact, over the past few years, they have taken on a new urgency. The Kremlin's habitual use of history as a resource for shaping the present makes its reticence about the 1917 revolution all the more conspicuous. Its wariness is not a sign of historical distance, but of the potency of the revolution. It is today's predicaments that make history relevant. Official silence about the revolution speaks volumes about the fears and discomforts of Russia's elite today and about the hold on power of their president, Vladimir Putin.

Remember the revolution

That is why, despite being banished almost entirely from public spaces and official narratives, the centenary of the revolution nonetheless makes itself present in other ways throughout political life. On October 7th, Mr Putin's 65th birthday, supporters of Alexei Navalny, the country's leading opposition figure, marched in Mr Putin's home city of St Petersburg, the cradle of the revolution. Invoking their president, the protesters chanted: "Down with the tsar!"

Russia today is hardly on the verge of a revolution. It is not involved in a ruinous war, as it was in 1917, and lacks the pent-up energy of that time. Its elites are more consolidated around Mr Putin than they were around Nicholas II—at least for now.

Yet the outward calm is deceptive. The kind of rule Mr Putin has gradually fashioned over his years in power has more in common with a tsar than with a Soviet politburo chief, let alone a democratically elected leader. The elites lack a legitimacy of their own and make no long-term plans. Everyone knows how easily tensions can flare up. Pollsters are registering a rise in social tension.

In the minds of Russia's elites, revolution is mainly associated with the recent uprising in Ukraine. But perhaps another reason Mr Putin is so reluctant to recall the overthrow of the *ancien régime* is because he has modelled himself on its rulers. Instead the Kremlin is said to be preparing a display of mourning for the execution of the last tsar.

Mr Putin's emergence as a 21st-century tsar is not as odd as it seems. Andrei Zorin, a historian at Oxford University, points out that the legitimacy of the tsar lies not (or, at least, not entirely) in the bloodline or the throne itself, but in the person who occupies the role and his ability to turn defeat into victory.

The event that gave Mr Putin's legitimacy was the war in Chechnya in 1999. After the bombing of apartment blocks in Moscow and other cities, blamed on Chechen rebels, people latched onto him, then prime minister and Boris Yeltsin's anointed successor, as their saviour. The day he appeared at the site of the bombing in Moscow, the public first registered and recognised him as their leader.

Like any tsar, Mr Putin has presented himself as a gatherer of Russian lands and the man who came to consolidate and save Russia from disintegration after a per- ▸▸

iod of chaos and disorder. To create this image, he portrayed the 1990s not as a period of transition towards Western-style democracy and free markets, but as a modern instance of the Times of Troubles—a period of uprisings, invasions and famine in the late 16th and early 17th centuries, between the death of the last Rurikid tsar and the consolidation of the Romanovs.

In a manifesto entitled "Russia on the Threshold of the New Millennium", published on December 29th 1999, two days before Mr Yeltsin handed him the reins of power, Mr Putin proclaimed the supremacy of *gosudarstvo*. Formally translated as "state", the word derives from *gosudar*, an old word which signifies a monarch or master. A modern state is a set of laws and formal rules. *Gosudarstvo* is an extension of the tsar as the ultimate source of order and authority.

Mr Putin's former KGB colleagues swore their allegiance to him as though he were the tsar. In 2001 Nikolai Patrushev, then head of the FSB, the KGB's successor, described his servicemen as a new aristocracy and men of the *gosudar*. In the years that followed, they promoted a class system bound by intermarriages, god-parentage and family ties. Many top managers in Russia's state-owned firms in the oil and gas and banking industries are the children of Mr Putin's close friends and former KGB colleagues. They perceived their sudden enrichment not as corruption but as an entitlement and a reward for loyal service.

Tsar quality

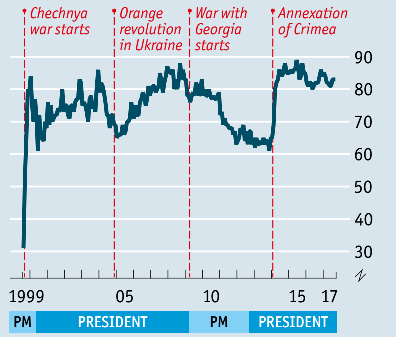
But the most important source of legitimacy for this neo-tsar was the display of "unity with his people". Every year since 2001 Mr Putin has appeared before the nation, miraculously restoring people's fortunes and disbursing favours over the heads of his bureaucrats. He established a direct line to the Russian people, using state television stations to project his message. In keeping with the tradition of Russian monarchs, he presented himself not as a politician driven by ambition but as a "galley slave" to his people. He rarely appeared with or talked about his wife. A tsar, says Mr Zorin, is wedded to the Russian people and nobody can stand between them.

This direct mandate allowed him to consolidate power, emasculating alternative political and economic forces, including oligarchs, the media, regional governors and political parties. Those who refused to submit to his authority were banished or jailed. Whatever the formal reasons for sending Mikhail Khodorkovsky to a Siberian jail, most Russians believed that he fell foul of Mr Putin and deserved his personal wrath. Few questioned the prerogative of the tsar to banish a rebellious underling.

In Mr Putin's system the oligarchs prosper at the ruler's pleasure. Equally, the only source of legitimacy for regional bosses is not the electoral will of the people but his appointment or approval.

Journey to the tsar 1

Vladimir Putin, approval rating, % polled



Source: Levada Centre

Mr Putin justified the Kremlin's monopoly over politics and the commanding heights of the economy by evoking the symbols of tsarist rule and appealing to cultural stereotypes says Lev Gudkov, a Russian sociologist. The beginning of his second term in 2004 was marked by an inauguration which closely resembled a coronation. Konstantin Ernst, head of Channel One, the main state television station, created a royal setting. All Mr Putin had to do was to walk into it.

"It was like sticking a head into a cut-out of a tsar," says Mr Gudkov. The Kremlin guards were dressed in tsarist-era uniforms. Their horses were borrowed from a film studio, having appeared in a scene about the coronation of Alexander III. Mr Putin walked down to the Kremlin cathedrals to the sound of Mikhail Glinka's "Glory to the Tsar" and was blessed by the patriarch of the Russian Orthodox church.

The legitimacy of a tsar, however, requires continual reaffirmation. Russian rulers, including Ivan the Terrible, have sometimes tested their authenticity by temporarily placing a fake tsar on the throne. Mr Putin repeated the experiment in 2008 when he withdrew from the presidency, putting a younger and doggedly loyal lawyer, Dmitry Medvedev, in his place.

Restructuring costs 2

Russia, GDP per person
International dollars, 1990 prices

Sources: Andrei Markevich and Mark Harrison; *Journal of Economic History*; Angus Maddison; IMF; *The Economist*

All the while, however, real power remained in the hands of Mr Putin, who assumed the job of prime minister. In 2012 Mr Putin came back to his throne.

That year sliding ratings, and protests in Moscow and several other large cities, forced him to reaffirm his status by traditional means—and he saw his chance by expanding Russia's territory during the protests in Ukraine in 2013 (see chart 1). Just as war in Chechnya helped create him, so conquest in Crimea pushed his ratings up to 86%, giving him an almost mystical aura.

Understandably, revolutions make tsars uncomfortable. At the end of 2004, just as Ukraine's Orange revolution began, Mr Putin expunged the celebration of the Bolshevik revolution from the Russian calendar, replacing it with a somewhat spurious anniversary: the chasing of the Poles out of Moscow during the Times of Troubles. While Yeltsin rejected the revolution because it was the foundation myth of the Communist regime which he had defeated, Mr Putin turned against it because it separated two periods of what he saw as a continuous Russian empire. He wanted to paper over a dramatic breaking point in the long line of Russian rulers that led ultimately to his own reign.

Empire building

Yet the past is not so easy to tame. The centenary of the October revolution dramatises today's challenges. Dominic Lieven, a British historian, writes that Russia faced a crisis as it entered the 20th century. Its main element was the alienation of the urban educated class from a state which refused to grant it political representation. Convinced that only an autocracy could hold the empire together, Nicholas II tried to rule a growing and increasingly sophisticated society as though he were an 18th-century absolute monarch.

Economically, the country prospered. By 1914 it was one of the largest and fastest-growing economies in the world, accounting for 5.3% of global industrial production—more than Germany. It ranked between Spain and Italy in GDP per person. It produced Malevich and Kandinsky, Prokofiev and Rachmaninov. Politically, however, it remained backward.

Even after Nicholas II was forced to grant a constitution in 1905, right up until the first world war, Mr Lieven writes, Russian politics boiled down to the question of whether to move down what was seen as the Western path of political development towards civil rights and representative government. Liberal advisers told Nicholas II that unless Russia's political system were reformed, the regime would not be able to ensure the allegiance of modern educated Russians, and would therefore be doomed. His reactionary ministers retorted that any version of a liberal democratic order would inevitably bring on social revolution.

Russia's elite is immersed in discussions about the lessons of the Bolshevik revolution. Nationalists and some of the clergy, including Mr Putin's confessor, Father Tikhon Shevkunov, claim that the Bolshevik revolution was brought about by a Western-sponsored intelligentsia, who betrayed their tsar. The opposite camp blames the stupidity of Nicholas II and the corruption of his court, which fed the sense of popular injustice.

The debate is as much about the present as it is about the past. The economic growth of the 2000s (see chart 2 on previous page) has also produced a thriving urban middle class that is alienated from the Kremlin. The challenge of transforming Russia into a modern state is as acute today as it was 100 years ago. The issues of legitimacy and succession of power are once again central to Russian politics.

Might, not right

Mr Putin's rule is an example of what Douglass North, an economist, called "a limited-access order". This is a state where economic and political resources are made available not by the rule of law but by privileges granted from above. Politically, it rests on a system that predates and survives the Soviet period. As Henry Hale, an American political scientist, explains in a recent article, these informal networks and personal connections take precedence over formal rules and institutions. In the 1990s these networks jostled for influence; in the 2000s they were integrated into a single pyramid with Mr Putin at the top as the chief patron.

The weakness of property rights and the rule of law are not accidental shortcomings, but necessary elements of this personalised system. The legitimacy of ownership or office can be provided only by the patron. The patron-client relationship cannot be imposed on a society, but requires its consent, which in turn depends on the popularity of the chief patron. Kirill Rogov, a political analyst, argues that Mr Putin appears both as a defender of his people against a greedy and predatory elite, and the defender of the elite against a possible popular uprising.

Mr Putin's legitimacy does not extend to his government, which is seen by 80% of the population as corrupt and self-serving. Legitimacy cannot be passed from the tsar to the next generation. That makes the question of succession the most crucial one for Russia's future, and the one that weighs most heavily on the minds of the elite. As Fiona Hill, senior director at the National Security Council, said in a recent essay written before she joined the NSC, "The increased preponderance of power in the Kremlin has created greater risk for the Russian political system now than at any other juncture in recent history."

There is little doubt that Mr Putin will be reaffirmed as Russia's president after the election next spring. But his victory will only intensify the talk of what comes afterwards. The point of the election is not to provide an alternative to Mr Putin, but to prove that there is none. And yet it is not just a formality. Although the tsar is not accountable to any institution, he is sensitive to public opinion and ratings. These are closely watched by opportunistic elites.

It is this weakness that Mr Navalny, Mr Putin's main challenger, is trying to exploit. He brought young people onto the streets this summer and has been campaigning ever since despite the Kremlin barring him from standing in elections on the grounds of a criminal conviction it had engineered.

Mr Navalny is not seeking to beat Mr Putin—for that he would need a fair election. He wants to deprive him of "miracle, mystery and authority". The Grand Inquisitor in "The Brothers Karamazov", Fyodor Dostoevsky's masterpiece, identified these as "the three powers, three unique forces upon earth, capable of conquering forever by charming the conscience of these weak rebels—men—for their own good."

Mr Navalny first pierced Mr Putin's aura in 2012 by branding his ruling United Russia party a collection of "crooks and thieves". That description spread through the country, causing more damage to the Kremlin than actual revelations of corruption. Although Mr Navalny faces real physical threats, he shuns the image of a revolutionary, a crusader or a martyr, which only elevates the tsar; instead, he seeks to bring Mr Putin down to his level by portraying himself as a professional politician doing his job.

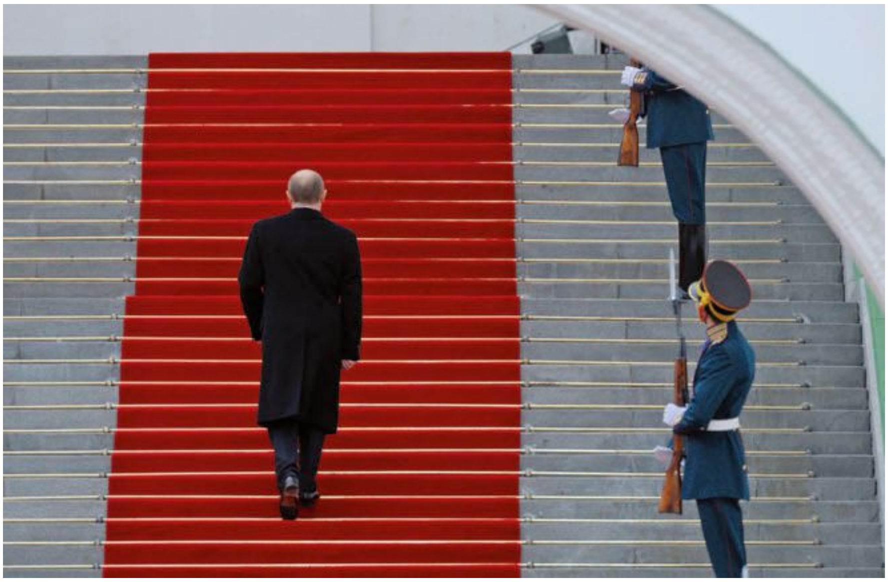
Recently he described Mr Putin not as a despot or tyrant, but as a turnip. "Putin's notorious rating of 86% exists in a political vacuum," he wrote in a blog. "If the only thing you have been fed all your life is turnip, you are likely to rate it as highly edible. We come to this vacuum with an obvious [message]: There are better things than turnips." Laughter and mockery can erode legitimacy far more than any revelations.

What Mr Navalny offers is not just a change of personality at the top of the Kremlin, but a fundamentally different political order—a modern state. His American-style campaign, which includes frequent mentions of his family, breaks the cultural code which Mr Putin has evoked. His purpose, he says, is to alleviate the syndrome of "learned helplessness" and an entrenched belief that nothing can change.

Reordering Russia

The longer Mr Putin stays in power, the more likely his rule is to be followed by chaos, weakness and conflict. Even his supporters expect as much. Alexander Dugin, a nationalist ideologist, says Russia is entering a time of troubles. "Putin works for the present. He has no key to the future," he says. While nobody knows what will follow, few people in Russia's elite expect the succession to happen constitutionally or peacefully.

Writing in 1912, Russian artists could not imagine that Nekto 1917 would turn into a Bolshevik revolution. The Bolsheviks were a mere 10,000 people, and even in 1917 nobody could believe they would seize power, let alone hold on to it. Yet everyone sensed a crisis and corrosion at the heart of the Russian court. In February 1917, five days before the abdication of the tsar, Alexander Benois, a noted artist, wrote: "It seems everything may still blow over. On the other hand, it is obvious that the abscess has ripened and must burst…What bastards, or to be more precise, what idiots are those who brought the country and the monarchy to this crisis." ■



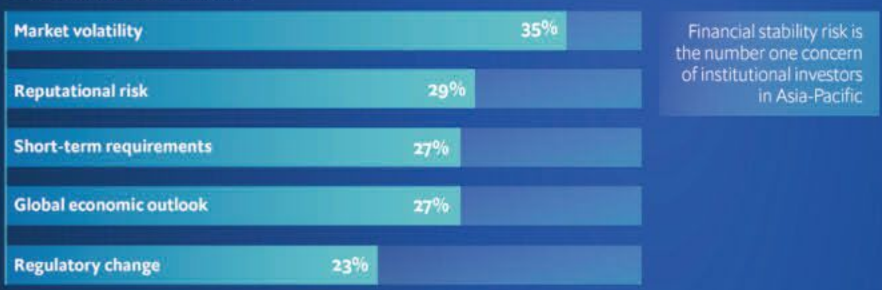
When will Russia see the back of Mr Putin?

The Economist Intelligence Unit

IS SHORT-TERM THINKING ON THE RISE?

In Asia-Pacific's prolonged low-yield and regulated environment, institutional investors are increasingly taking on greater portfolio risk in their search for returns, and the risks are plentiful. So how are Asia-Pacific investors striking a balance between finding opportunities and mitigating risks?

What is the biggest impediment to lengthening the investment horizon?
% respondents, top five responses



A new study from The Economist Intelligence Unit, sponsored by Franklin Templeton Investments, finds that many institutional investors are reacting to current market conditions with significant shifts in their short-term investment strategies. In Asia-Pacific, 52% of investors say they are increasing their portfolio turnover to find yield, despite the increased risk such action entails. Meanwhile, 45% have reallocated asset classes due to regulations, and four in ten are shortening holding periods.

These trends show little sign of reversing in the near future, as Asia-Pacific investors remain focused on market volatility as the number one barrier to lengthening their investment horizon (see chart).

However, Asia-Pacific's institutional investors' increased willingness to hunt for short-term returns stands in seeming contradiction to their approach towards their return targets. Only 27% say immediate pressures have prompted them to adopt a short-term approach to setting return targets, while 39% say these pressures have actually made them more focused on long-term objectives. Many of the respondents are insurance companies and pension funds, investors with lengthening liabilities that highlight the difficulty of achieving future targets.

40%

of Asia-Pacific investors are shortening their holding periods

For more insights from the research, visit institutionalinvestmenthorizon.eiu.com

All investments involve risks, including possible loss of principal. Source: Survey of 200 institutional investors in APAC conducted by The Economist Intelligence Unit (EIU) in June-July 2017. The EIU had final editorial control of the survey, and, for avoidance of doubt, was not obliged to comply with any input from Franklin Templeton Investments, which sponsored the survey.

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Japanese politics

Abe's winning streak

TOKYO

The ruling coalition keeps its supermajority in a snap poll. What's next?

SPEAKING the day after Japan's general election, Shinzo Abe boasted that he had made history for his Liberal Democratic Party (LDP). A big win on October 22nd was the third landslide he had helped it achieve in coalition with Komeito, a Buddhist-linked party, in the vote for the lower house of the Diet, or parliament. It was also Mr Abe's fifth successive electoral victory. If he remains four more years at the country's helm, as is likely, halfway into his term he will become Japan's longest-serving prime minister since the second world war. That is pretty good going for a politician who has often (not least at the start of this election campaign) looked in peril and is deeply unpopular with many voters. Mr Abe now has a chance to achieve a long-cherished goal: changing the pacifist language of Japan's constitution.

The LDP took 281 of the 465 seats contested, far beyond the simple majority that Mr Abe had set as his victory line (see chart). That means his party has a bigger share of the total, since the lower house has been slimmed by ten seats. Komeito did not do so well. But its 29 seats, plus the support of three independent legislators, give Mr Abe control of two-thirds of the house, and therefore the ability to pass most legislation without approval from the upper chamber.

Even so, it was hardly a ringing endorsement. Turnout was the second lowest since the war, partly because of an approaching typhoon that lashed most of Japan with rain. Many of those who voted for the LDP did so only because of fear of change and rising tensions on the Korean peninsula. The LDP also benefited from a divided opposition. The leader of the Democratic Party (DP), hitherto the LDP's main challenger, decided to field candidates under the banner of the Party of Hope, a new outfit set up by Yuriko Koike, the governor of Tokyo. After looking like it might pose a serious threat, the new party lost seven of the 57 seats once occupied by the legislators who campaigned in its name. Its causes, such as greater transparency in politics, were popular. But Ms Koike's decision to admit only members of the DP who agreed with her conservative views repelled many voters.

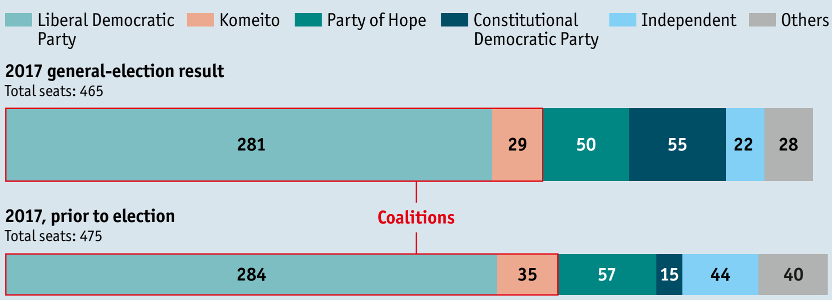
A party formed less than three weeks before the polls by left-leaning orphans of the DP's merger, the Constitutional Democratic Party (CDP), did better. The CDP only fielded 78 candidates, compared with over 200 who ran for the Party of Hope. But it took 55 seats to win the second-largest share in the house. The fact that it gained more than three times as many seats as it had going into the elections is a sign of voters' disgruntlement with Mr Abe. The party says it wants to preserve Japan's constitutional pacifism and shrink the wealth gap that has grown under Mr Abe's coalition government.

But the CDP is unlikely to deter Mr Abe. A day after his victory the prime minister described revising the constitution, which bars Japan from acting like a normal military power, as a "main policy". He wants to change Article 9 of the document to recognise the Self-Defence Forces (SDF), as Japan's armed services are coyly called, as a proper army. He would also like to revise the constitution's ban on the use of military force to resolve international disputes—though he may press less hard on this point for fear of antagonising Japan's many pacifists.

Mr Abe's aim, in part, is to bring the con- ▶▶

Abe's control

Japan, lower-house seats, by party



Source: Press reports

stitution more in line with the way things are: the SDF is an army in all but name, and a very well-equipped one. In 2014 he secured a reinterpretation of the constitution, allowing Japan to come to the aid of its allies if they are attacked. Legislation passed in 2015 permitted the SDF to be deployed in foreign conflicts for the "collective self-defence" of allies. But the constitution's wording gives ammunition to politicians who object to putting Japanese soldiers in harm's way. Some countries, including America, agree with Mr Abe that it is high time that Japan be freed of such constraints. Apart from China and South Korea, which are still haunted by memories of Japan's brutal occupations of their territory before and during the war, few countries fear a revival of Japanese militarism.

But changing the constitution may not be easy. Mr Abe's coalition controls two-thirds of both houses of the Diet, which is necessary for any constitutional change. The Party of Hope is in favour, as is Nippon Ishin, a party that wields power in Osaka, Japan's second-largest city. But tinkering with Article 9 remains a political hot potato. Any change must be endorsed by a simple majority in a national referendum. The outcome would not be certain.

Picking the moment

It is unclear how quickly Mr Abe will move on this. He says that he wants the assent of all parties—which may be impossible for the CDP to give. Some think he may try to cement his position first by winning another term as the LDP's leader in elections for the post that are due to be held next September. There will be local and upper-house elections in 2019 and in the following year Tokyo will host the Olympic games. So Mr Abe may well want to put a constitutional-revision bill to the Diet by the end of next year.

In other areas, policy will remain much the same. Beyond a pledge to use some of the revenue from a planned increase in consumption tax in October 2019 to provide free kindergartens, Mr Abe has not said much about how he will tackle what he describes as the other big issue facing Japan: an ageing population. An early priority will be to push through bills that were held up by the election, most notably one to change the country's stressful working style, not least by restricting overtime.

Despite the win, Mr Abe will still be vulnerable. Those thinking of challenging him in next year's leadership contest are quiet for now. But they, and voters, have not forgotten a plummet in Mr Abe's ratings earlier this year after he was reportedly linked to two scandals—in which he denies involvement. Even editorials in conservative media warn Mr Abe not to focus on constitutional change at the expense of the economy. He has proved his political savvy. But his mandate is weak. ■

Mourning in Thailand

A royal farewell

BANGKOK

Thailand prepares to cremate a much-loved king

FIRST a symbolic empty urn is placed on a gilded palanquin, and carried from the throne hall to a nearby monastery. There it is transferred to the "Royal Chariot of Great Victory" (pictured), which has been used for cremations of Thai kings since 1796. That carries the urn to the parade ground next to the royal palace and the temple of the Emerald Buddha, where it is shifted to an antique gun carriage. The carriage, in turn, parades in three counter-clockwise circles around the royal crematorium, a temporary structure built solely for the occasion.

Finally, the urn is raised to the crematorium's central pavilion, which is topped by a gilded spire and a nine-tiered umbrella reaching 53 metres (174 feet) into the air. Then, as dignitaries from dozens of countries and hundreds of thousands of Thai mourners look on, the current king, Vajiralongkorn, will consign the encoffined body of his father, Bhumibol, to the flames.

Keeping it frugal

As *The Economist* went to press, the elaborate, five-day schedule of funerary rites was just getting under way. The event caps a long period of mourning for the king, who reigned for more than 70 years and who died just over a year ago. Many Thais have dressed in black since his death. Black and white bunting adorns government buildings, office blocks and shopping malls. The authorities have urged humbler Thais to grow marigolds in the king's honour, since he was associated with the colour yellow. Street vendors decorate their carts with them, taxi drivers spread them across their dashboards and those who queued for several days to be the first to enter the public viewing areas for the cremation hung them over the barriers in which they were corralled.

Copies of the royal crematorium have been built in all of Thailand's 76 provinces, so that people around the country can pay their respects. As it is, almost 13m of the country's 69m people have prostrated themselves before the king's body, which lay in state at the royal palace in Bangkok for the past year. Television channels cancelled frivolous programmes in the run-up to the funeral, and broadcast in black and white at the government's request. Those attending the cremation were instructed not to wear hats or raise umbrellas as the cortege passed, and certainly not to lower the tone by taking selfies.

King Chulalongkorn, the grandfather of King Bhumibol, declared over-the-top funerals to be "a waste of human labour and money" before his own death, in 1910. And, to be fair, King Bhumibol's crematorium is a far cry from the 80-metre structures of the 18th century. After the death of King Mongkut, in 1868, the entire population was ordered to shave their heads in mourning.

But the generals who have run Thailand since a military coup in 2014 are pumping up the pomp in order to bolster their legitimacy. The government has set aside 3bn baht ($90m) for the funeral. They are locking up those who make even the mildest criticisms of the monarchy, such as joking about the late king's dog (a sculpture of which adorns the crematorium).

The junta has accused opponents of plotting to disrupt the funeral, but has provided no evidence. It has also complained, inconsistently and hypocritically, that opposition politicians are seeking to exploit the king's memory for their own benefit. For good or for ill, most Thais do seem to believe that politics should be suspended for the occasion. But when it is over, the generals will have one less reason to delay the promised return of civilian rule. ■

Energy in South Korea

People power

ULSAN

A citizen-jury saves two nuclear-power plants from the axe

ON A vast building site on the southern coast of South Korea near its industrial heartland, the foundations of the country's newest nuclear-power project are swaddled in protective tarpaulins. Ten cranes tower overhead but nobody sits in their cabins. The only movement is the whirl of a few fans. Work on the two reactors stopped suddenly in July, after Moon Jae-in, the country's left-leaning anti-nuclear president, ordered a pause to the project to give a citizen-jury time to consider its merits. "I was a little worried," admits Ahn Seong-Shik, the civil engineer in charge of building the reactor shells. "But I trusted the Korean people."

Mr Ahn's faith paid off on October 20th, after the jury endorsed the construction of the two reactors, Shin Kori 5 and 6. "It was a very smart decision," he says. Mr Moon, who has promised to phase out nuclear power, accepted the verdict. It is an unexpected reprieve for a project that Mr Moon had pledged to scrap before he was elected in May. In June, however, he said he wanted to "generate a social consensus" by delegating the final decision to a 471-strong jury picked by a polling company. Its members were given a month to study materials prepared by scientists and activists before debating the project for three days. In the final vote, 60% backed the new reactors, although more than half of them said South Korea should reduce its overall reliance on nuclear energy. Only 10% said the nuclear industry should grow.

Nuclear energy is a divisive issue in South Korea, with voters largely split along party lines. A poll by Gallup Korea in September found that 41% of Koreans favoured scrapping Shin Kori 5 and 6, while 40% backed their construction. Anti-nuclear campaigners have voiced louder concerns since the Fukushima disaster in neighbouring Japan in 2011 and a 5.8 magnitude earthquake last year in the southern city of Gyeongju, close to some of South Korea's 24 reactors. A corruption scandal in the industry and the revelation in 2012 that some safety certificates for reactor parts were forged amplified their doubts.

But the jury was probably swayed by economic arguments. Korea Hydro and Nuclear Power, the state-run company in charge of the Shin Kori project, claimed it had already spent 1.6trn won ($1.4bn) on the reactors, which were 30% complete. South Korea is the world's second biggest importer of liquefied natural gas and its fourth largest importer of coal. Hydroelectric and renewable energy provides only 6% of its electricity. So nuclear, which accounts for 27% of its electricity supply, helps to guard against volatile import prices, says Kerry-Anne Shanks of Wood Mackenzie, a consultancy. "Nuclear plants are expensive to build but they're cheap to run," she says. The industry also argued that axing the reactors would threaten deals to export nuclear technology.

Mr Moon's U-turn will frustrate his supporters in cities close to the site. But Hahn Kyu-sup of Seoul National University reckons the jury gave Mr Moon an "excuse" to ditch a thorny pledge that could have triggered lawsuits, while enabling him to stick to his overall plan to phase out nuclear energy. The government has already dropped plans to build six more reactors. Mr Ahn's celebrations could be premature. ■

Politics in New Zealand

A leader, at last

A youthful prime minister comes to power with promises of change

JACINDA ARDERN looked a touch less assured than usual when she took to the stage on October 19th after becoming New Zealand's prime-minister designate. The 37-year-old had raised Labour from the dead after assuming leadership of it in August, but the centre-left party had still finished second in last month's general election with just under 37% of the vote. She had managed to secure leadership of the country by turning her charm on the populists of New Zealand First, convincing them to side with her instead of the winning centre-right National Party. With support from the Greens (who are not part of the coalition), Ms Ardern has created the first government of losing parties in New Zealand's proportionally representative parliament. On October 26th she was sworn in as the world's youngest female leader.

Ms Ardern's promises of change resonated with many young New Zealanders. They were tired of the National Party, which had led the country for nearly a decade. But some commentators fret that change may involve a shift towards greater protectionism and an end to three decades of liberal economic reform. The populists and Labour have agreed to cut annual net migration by up to 30,000 people; to strengthen controls on the foreign purchase of farmland; and to renegotiate the Trans-Pacific Partnership, a now-sputtering regional plan for free trade, to curb house-buying by foreigners. The New Zealand dollar took a hit when Winston Peters, the populists' leader, said he had chosen to side with Labour because "too many New Zealanders have come to view today's capitalism not as their friend, but as their foe."

It is true that some locals have felt left behind during a period of strong economic growth but near-stagnant wages. And although most New Zealanders say they are proud of their country's multicultural mix, a few take umbrage at an upsurge of immigration: annual net migration (new arrivals minus departing locals) has risen to over 70,000 in the country of fewer than 5m people, 16 times as many as in 2008. Many fret about the impact of this on house prices. They also complain that treasured national parks are increasingly jammed by overseas visitors.

Ms Ardern strongly rejects allegations of stoking anti-immigration sentiment. Her party says it only aims to curb an influx of low-skilled migrants. Her populist partners will support her efforts to do so. For backing Labour, they have been rewarded with four seats in the cabinet. Mr Peters has accepted jobs as deputy prime minister and foreign minister. He has held both roles before, in coalitions both with Labour and with the National Party.

The previous prime minister, Bill English, is now the leader of the opposition. Having secured 44% of the vote, his National Party will be a powerful challenger to a government whose ministers have little experience: few members of Ms Ardern's cabinet have previously held such rank (one is Mr Peters). Moreover, the coalition is weak: the Greens and New Zealand First could not bring themselves to speak to each other during talks to establish the alliance. Ms Ardern has made lofty promises to build 100,000 houses, reduce child poverty and clean up polluted rivers. That will be tough while trying to prevent feuding between her partners. She has shown her powers of persuasion by wooing voters and cobbling together a majority. A far greater challenge lies ahead. ■

Banyan | Getting Myanmar wrong

A future not long ago deemed bright now feels bleak

IN THE bonfire of liberal certainties, Myanmar makes for an especially painful case. Only two years ago the world celebrated as a land long covered by darkness emerged from brutal army rule. In a jubilant election the National League for Democracy (NLD) swept nearly all before it. The party's revered leader, Aung San Suu Kyi, took over from the same generals who had imprisoned her or kept her under house arrest for nearly two decades.

Hers had been painted as a contest between good and evil, in which not just the people of Myanmar but much of the democratic world felt they had a stake. Ms Suu Kyi's moral authority on the global stage was matched only by the Dalai Lama's. Yet unlike Tibet, Myanmar enjoyed a fairy-tale ending with its first proper election—one in which, moreover, it was possible for outsiders to feel they had played a part. They included Western governments that had kept up the pressure on the generals, campaigning dons from the Oxford high tables at which Ms Suu Kyi in happier days had supped, and foreign journalists who had smuggled liberal reading matter to Ms Suu Kyi during her bleakest years.

In search of lost times

What to make of the country today? In the past two months alone 600,000 Muslim Rohingyas have fled their homes in Rakhine state, carrying tales of barbarity into squalid camps across the border in Bangladesh; plumes of smoke mark the villages from which they were chased. Detail is hard to come by, since the security forces prevent all but a few outsiders from visiting the ravaged areas. But this is certainly one of the biggest refugee crises and cases of ethnic cleansing since the second world war.

That is grim enough, and the complicity of the army and police is appalling. But for the many diplomats, aid workers and, yes, foreign journalists for whom contact with the country and its people has been a long and beguiling love affair, there comes a further shock. In Yangon, the commercial capital, old Burmese friends who long shared an open, decent outlook on almost every topic, have closed their minds to the Rohingyas.

Some pin all the blame for events on a nasty group, the Arakan Rohingya Salvation Army, whose attack on police posts in late August was the pretext for this latest and biggest anti-Rohingya pogrom. But the group consists of just a few dozen ill-trained recruits radicalised by years-long persecution of the stateless Rohingyas. Other Yangon folk veer alarmingly into the kind of language of conspiracy that enables genocide. The "Bengalis", they say (not even gracing the Rohingyas with their own name), are breeding so fast that they are overrunning the country; besides, they don't belong in Myanmar.

Worst of all, of course, is that Ms Suu Kyi, the erstwhile champion of the oppressed, refuses to condemn the soldiers, the police and the Buddhist chauvinists in Rakhine who have been responsible for the rapes, killings and evictions. On security matters, Ms Suu Kyi has chosen hawkish advisers—ex-army types with a suspicious view of the world. She, too, is prickly when criticised by foreigners who once supported her.

The West is struggling for a response. Some have called for Ms Suu Kyi to be stripped of her Nobel peace prize, though what that would accomplish is unclear. Equally doubtful is how America's secretary of state, Rex Tillerson, intends to follow through on his promise to hold those responsible for the pogroms accountable.

There is talk of reimposing sanctions. That would hardly help those near the bottom of a dirt-poor country. As it is, economic transformation under Ms Suu Kyi is a second, huge disappointment. Those in charge of the economy are themselves incompetents. The minister for planning and finance admits he has a fake degree. Non-NLD technocrats are not welcome. Ms Suu Kyi has failed to articulate a programme, and her minions do nothing without her say-so. Vital matters pile up on her desk while she micromanages trivia. A lack of reliable power supplies and transport has scared away foreign investors. And the banking system, as one observer puts it, is only a rumour away from collapse.

Then there is a further challenge in the dozens of simmering or frozen conflicts between other ethnic groups and the army, some dating back seven decades. Ms Suu Kyi's imperiousness has only harmed a "peace process" with armed groups that she once promised to bring to fruition. Her comportment seems all of a piece. Cocooned inside Naypyidaw, the weird, empty capital, the 72-year-old is distracted and out of touch.

Yet to obsess over Ms Suu Kyi is to repeat a mistake. For all her moral force before, and disappointment now, she is not Myanmar's key. It was always wrong, says Thant Myint U, a well-connected historian, to believe in a golden age that the generals put an end to and that democracy would restore. Myanmar, he argues, is a country broken by 20 years of sanctions, 30 years of self-isolation and 50 years of authoritarianism, not to mention more than a century of British rule in which the monarchy was ripped from the heart of society. Descendants of the last, exiled king are garage mechanics and rickshaw-drivers in southern India.

A broken state, then, with the army still entrenched in vital parts of it. Though Ms Suu Kyi is sincere in wanting a just and peaceful outcome to the Rohingya tragedy, her failure to condemn the armed forces is deplorable. Yet for her to blame the army over the Rohingyas would be to admit to two parallel governments. Certainly, huge changes in a few short years include far freer speech. But the widespread adoption of cheap Chinese smartphones is not entirely a boon. Hatred of Rohingyas is generated by sulphuric propaganda spread through Facebook.

And then, even with all the political will in the world, planning good stuff and getting it done, in a country starved for so long of health care, education, infrastructure and administrative competence, was always going to be a tall order. It is the end of the fairy tale, as Mr Thant puts it. Now for the long, hard slog. ■

A leadership reshuffle

The apotheosis of Xi Jinping

BEIJING

A Communist Party gathering has consolidated the power of China's leader, for life

ON OCTOBER 25th, one day after the close of a five-yearly congress of the Chinese Communist Party, the president, the prime minister and five lesser-known apparatchiks stepped onto a red carpet in Beijing's Great Hall of the People and onto the world's stage. They form the reshuffled inner sanctum of Chinese politics, the Politburo Standing Committee. For at least the next five years, they will be the most powerful decision-makers in China. Normally, the president's successor would come from within their ranks.

But the most important fact about the new line-up was who was not there: there was no obvious successor to Xi Jinping (top row, centre), the president and party leader. Moreover, the new line-up was overshadowed by an event on the previous day, when the 2,300 delegates to the congress approved a revised version of the party's constitution. Article 2 of the document lists the party's guiding principles. The congress approved a new one: "Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era". This will guide the country until the middle of the century. Its adoption is, in effect, the apotheosis of Mr Xi.

Party leaders have heaped extravagant praise on the ill-defined Xi Jinping Thought since he introduced the idea (albeit without his name attached) on the opening day of the week-long congress. Li Keqiang (top, left), the prime minister, called it "the latest achievement in adapting Marxism to the Chinese context". Xinhua, a state news-agency, called it China's "signature ideology". The education minister promised it would be taught next year in schools.

Talk of theory and -isms sounds recondite. But this change could have big implications because it invests Mr Xi with more authority than any Chinese ruler since Mao Zedong. Mr Xi is the first living leader to be named as a guide for the party since Mao died in 1976. Deng Xiaoping is also in the constitution but this was an honour accorded him after his death in 1997. Mr Xi's two predecessors are not named in the charter. On this reading, no one has more ideological clout than Mr Xi. The person has become the party.

More yes-men

If so, this would make a big difference to policy. Mr Xi has made influential enemies since his first term in office began in 2012, notably the allies and clients of the hundreds of thousands of influential officials he has punished or had arrested for corruption. He has complained repeatedly that lower-level officials are not following orders. Having one's own Thought with a capital T should make it easier to override resistance because to go against Mr Xi would be to go against the party's charter. But it raises the risk that underlings will tell Mr Xi only what they think he wants to hear. That could lead to bad decisions.

Some will argue that revising the constitution this way does not add much to Mr Xi's power. Communists are supposed to toe the party line anyway. Deng had no need of a Thought or, as he posthumously ended up with, a Theory, in order to rule. Having a Thought named after him may perhaps help Mr Xi in his battles to come, rather than signal that he has won a war.

At first glance, the composition of the new Standing Committee looks consistent with that interpretation. Only one of the five new members is a close ally of Mr Xi. Four of them are linked with organisations or factions usually regarded as his rivals. And Mr Xi's closest political friend, Wang Qishan, who served as his chief graft-buster, has retired (he is 69).

Two members, Mr Li and Wang Yang (bottom row, left), a vice-premier, began their careers in the Communist Youth League. The league was once a route to higher things for many officials, including Mr Xi's immediate predecessor, Hu Jintao. But Mr Xi has called it arrogant and out of touch and closed down its school. So the inclusion of two former officials of the league is surprising. Wang Yang's background is especially intriguing. As party chief in Guangdong from 2007 to 2012, he was part of the great "cake debate". He argued that market reforms should be used to make the economic cake bigger for everyone, a poke at statists who emphasised dividing the cake more fairly.

Two other new members began their ▶▶

careers in Shanghai and are usually thought of as allies of Mr Hu's predecessor, Jiang Zemin, who was party leader between 1989 and 2002, and before that the party's boss in Shanghai. They are Han Zheng (bottom row, right, on previous page), recently the city's party chief, and Wang Huning (bottom, second from left), Mr Xi's speechwriter who is largely responsible not only for Xi Thought, but also for Mr Jiang's and Mr Hu's ideological contributions (the "Three Represents" of Mr Jiang and Mr Hu's "Scientific Development"). Wang Huning will become the propaganda chief—the first person to do that job who has studied in America (Berkeley).

The factional background of one new member, Zhao Leji (bottom, third from left), who will take over as head of the party's anti-corruption agency, is unknown. That leaves only one new man who is known to be closely linked to Mr Xi. He is Li Zhanshu (top, right) the president's chief of staff. Mr Li and Mr Xi met in the 1980s when they were both county-level party chiefs in Hebei province near Beijing. In 2011, just before he became party leader, Mr Xi visited Guizhou, a south-western province which was then run by Mr Li. The two men are thought to have grown close during that trip.

At the highest level, therefore, Mr Xi seems to have given sops to other groups. But that is not the whole story. Over the past few years, the president has built up a system of "leading small groups"—informal committees that link together the party and government bureaucracies. In practice Mr Xi exercises much power through these groups, which limit the authority of the Politburo Standing Committee. Four new members of the inner sanctum are members of such groups. That suggests they owe more to Mr Xi than might appear.

Here they all are

One level down, among the 18 other members of the Politburo, Mr Xi's allies and influence are clearly in evidence. Over half of them now have ties to the party leader, including two new members: Cai Qi, the capital's party boss, and Chen Min'er, the party leader of Chongqing, both of whom have enjoyed stellar careers under Mr Xi.

The absence from the Standing Committee of any obvious successor to Mr Xi is striking. As president he is limited to two terms, ending in 2023. His job as party leader has no fixed duration, but according to precedent it should also end after two terms, in 2022. At this congress, Mr Xi would have been expected to signal a choice of someone to take over from him. Such a person would have had to be young enough to hold the party chiefdom until 2032, ie, by convention, someone born no earlier than 1960. But there is no one who qualifies in the new line-up. The youngest is Mr Zhao, the new anti-corruption chief, who was born in 1957.

That does not preclude Mr Xi from naming a younger successor later in his term. But for now, there is no leader-in-waiting. The conclusion must be that even if Mr Xi's rivals remain influential in the Standing Committee, the president feels empowered to ignore precedent with impunity. The succession system had constrained his predecessors by forcing them to stick with choices made long before they stepped down. Mr Hu and Mr Jiang had to work with successors who had been foisted on them by party elders. By insisting on keeping the job open, Mr Xi has shown that he alone calls the shots. He may decide not to retire at all in 2022.

With his name in the constitution, Mr Xi will be the final arbiter whether he has a formal position or not, since he—along with Marx, Lenin, Mao and Deng—now defines what it is to be a Communist. The congress has consolidated his authority not just for five years but, in effect, for life.

Xi Thought updates the Theory invented by Deng, namely "Socialism with Chinese Characteristics". But it is clear that Mr Xi is no Dengist. In 1980 Deng argued that China should have a collective leadership, that too much power held by one person was bad for the country and that the party needed predictability in choosing its leaders. Deng was also the source of other party norms that have been followed for many years, such as those relating to retirement (Politburo members cannot have their five-year terms renewed if they are 68 or older) and a foreign-policy dictum that says China should "hide its capacities, bide its time and never take the lead."

All but one of these precepts have been thrown out. The exception is that Mr Xi respected the rule on retirement ages in the Standing Committee. But ideas about collective leadership and predictability in succession are toast. The notion of hiding one's capacities has taken another knock. A commentary published online by *People's Daily*, the party's flagship newspaper, said Mr Xi's thinking merited "the attention of the entire world". Xinhua contrasted the vigour of Mr Xi's ideas with the problems of "doddering democracies".

So far, however, Mr Xi has offered few clues as to how his next five years (or more) in power will differ, if at all, from his first term. "Government, military, society and schools, north, south, east and west—the party is the leader of all," Mr Xi told the congress. Ensuring it remains so is certain to remain an overwhelming priority. ■

Xi and friends

Politburo Standing Committee of the Communist Party of China *(Expected role)* • New Politburo members

Name	Age	Job
Xi Jinping	64	General secretary, state president and military chief
Li Keqiang	62	Prime minister
Li Zhanshu	67	Director of General Office *(Head of National People's Congress, or NPC)*
Wang Yang	62	Vice-premier *(Head of NPC's consultative body)*
Wang Huning	62	Head of policy research *(Head of ideology, propaganda and personnel)*
Zhao Leji	60	Anti-corruption chief, head of personnel
Han Zheng	63	Party chief of Shanghai *(Vice-premier)*

Other Politburo members

Name	Age	Job	
Ding Xuexiang	55	Deputy director of party's General Office *(Director)*	•
Wang Chen	66	Vice-chairman of NPC	•
Liu He	65	Vice-minister, planning commission *(Head of policy research)*	•
Xu Qiliang	67	Vice-chairman of Central Military Commission	
Sun Chunlan	67	Head of United Front Work Department *(Vice-premier)*	
Li Xi	61	Party chief of Liaoning province *(Party chief of Guangdong province)*	•
Li Qiang	58	Party chief of Jiangsu province *(Party chief of Shanghai)*	•
Li Hongzhong	61	Party chief of Tianjin	•
Yang Jiechi	67	State councillor *(Vice premier)*	•
Yang Xiaodu	~64	Minister of Supervision	•
Zhang Youxia	67	Vice-chairman of Central Military Commission	
Chen Xi	64	Deputy chief of Organisation Department *(Chief)*	•
Chen Quanguo	61	Party chief of Xinjiang	•
Chen Min'er	57	Party chief of Chongqing	•
Hu Chunhua	54	Party chief of Guangdong province *(Vice-premier)*	
Guo Shengkun	~63	Minister of Public Security *(Head of politics and legal affairs, NPC)*	•
Huang Kunming	60	Deputy head of propaganda *(Head)*	•
Cai Qi	61	Party chief of Beijing	

Sources: China Vitae; Xinhua News Agency; Sinocism (Bill Bishop)

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Big tech and Washington

Capitol punishment

SAN FRANCISCO AND WASHINGTON, DC

America's tech giants could eventually receive the kind of scrutiny that banks faced after the financial crisis

THE tech giants have suddenly found themselves without a political party to protect them, just when they most need one. On November 1st executives from Facebook, Google and Twitter will testify before the House Intelligence Committee about how their platforms were used by Russia's government during last year's election. Politicians on both sides of the aisle, though they see eye-to-eye on very little, seem to agree that giant internet companies such as Amazon, Facebook and Google may pose a threat to society. "If data is the new oil, is [Amazon's Jeff] Bezos the new Rockefeller?" asks Bruce Mehlman, a Republican lobbyist, in a report called "Navigating the New Gilded Age", which is circulating in Washington.

Democrats, long backers of the tech sector's innovative products, are no longer the allies they used to be. When Barack Obama was president techies got plum jobs in his administration, and the party's supposedly superior data analytics seemed destined to help lock in an emerging Democratic majority. That warmth disappeared last November. Most Democrats believe Twitter, Google and Facebook helped put a Republican in the White House by boosting disinformation campaigns. A recent paper by the Computational Propaganda Project at Oxford University found that Twitter-users in swing states were just as likely to come across conspiratorial fictions in the run-up to the presidential election as they were to encounter something that passed for news. Liberal anti-tech sentiment in Washington was stoked in August, when a critic of Google's dominance, Barry Lynn, was fired from the New America Foundation, a think-tank, supposedly because executives at Google, a donor, wanted him gone (New America denies this).

Several Democratic senators are rallying supporters by taking sharp public jabs against tech firms' dominance. The odds are "very high" that the Democratic nominee for president in 2020 will run on an anti-tech platform, promising to break up the big companies, predicts Rob Atkinson of the Information Technology and Innovation Foundation, a think-tank.

Meanwhile, Republicans have also turned more hostile. In the past they could be counted on to approach regulation with a light touch, but today's populist Republicans are not so hands-off. President Donald Trump has sent tweets beating up Amazon and other tech firms; his former chief strategist, Stephen Bannon, has suggested regulating Google and Facebook as utilities. Fox News and other right-leaning outlets have begun to criticise tech with the venom they once reserved for Hillary Clinton. Tech bosses have also clashed with Republicans over immigration policy. "Can tech just find one issue that's supportive of Republicans?" laments a disconsolate Republican lobbyist.

Giant firms tend to attract scrutiny. However, unlike other huge companies, which create jobs in many states, internet firms employ fewer people per dollar of market value and concentrate those jobs mainly in thriving tech hubs. Techies' tremendous wealth has made it easy to draw comparisons to last century's robber barons. Consumers may benefit from their free products and from low prices, but small businesses have been hurt by the tech giants' incursions into a wide array of industries, which can influence politicians. According to one estimate, Amazon captures half of all dollars spent online. Google and Facebook have captured virtually all the growth in digital advertising.

Anti-social networks

So far America's techlash has consisted of more rhetoric than regulation. One exception concerns a proposal to regulate online political advertising. Two Democratic senators, Amy Klobuchar and Mark Warner, and one Republican, John McCain, recently introduced the Honest Ads Act, which aims to require online political ads to include information about who paid for them. Political ads on television, in print and on the radio must already do this, but Google and Facebook had successfully lobbied to be exempted from the requirement.

Bringing transparency to online political advertising is sensible, because more money will be spent on internet ads in future elections. This year digital advertising accounts for around 35% of total advertising spending in America. This will not rectify the larger problem, which concerns the ease with which Facebook, Twitter and Google spread fiction masquerading as news. After the recent shooting in Las Vegas, users who typed "Las Vegas shooting" into YouTube, which is owned by Google, were prompted to click on videos claiming ▸▸

that the shooter was secretly working for the government.

Compared with regulation aimed at holding companies responsible for spreading false information, the advertising bill ought to be fairly painless for tech companies to accept. That does not mean they will. Big tech companies have so far resisted any legislation that treats them like media companies, and have taken the minimum action necessary to appear co-operative. Facebook has found that Russian entities spent around $100,000 on ads in the election of 2016. But there is still more digging to do. Congressional leaders would be wise to demand an exhaustive audit of all political ads on the social network in order to see the extent of Russia's purchases, says a top executive of a large advertising agency, who believes Facebook's initial review and report to Congress were cursory.

In Europe America's tech giants have faced regulation and antitrust action. The European Commission levied a €2.4bn ($2.7bn) fine on Google for abusing its monopoly position in online search. Is Washington likely to follow Europe's path? In spite of the heated rhetoric similar enforcement measures, or sweeping new regulations, are several years away at least. Apart from the Honest Ads Act, the only other legislation that seems likely in the near term is a tax cut, which would benefit tech firms by making it easier to repatriate profits, says Blair Levin, a former official at the Federal Communications Commission.

Although there may be more calls to break up tech monopolies, there is not any real political appetite to do so. Nor is it clear that, under current law, trustbusters would succeed even if they tried. The likeliest impact will eventually be on the ability of tech firms to pursue acquisitions and mergers, although this has not happened yet. Amazon's $13.7bn bid for Whole Foods, a grocer, was approved by regulators without much protest. Facebook recently announced that it was buying TBH, a nascent social-polling firm, for an undisclosed sum. Some pundits, such as Ben Thompson of Stratechery, a technology blog, have called for the deal to be blocked, arguing that social-media firms should not be allowed to buy one another. But it is unlikely that regulators in the Trump administration will take such a view.

Perceiving future risk, internet firms want to do all they can to fight the souring mood and win political allies. They have spent around $50m on lobbying so far in 2017. More than half of that comes from Alphabet (Google's parent company), Amazon and Facebook combined. One of their tactics is to hire not just more lobbyists but also more employees. Amazon has started an advertising campaign to market its job creation: it has plans to hire an additional 100,000 people by mid-2018. But many of these jobs will probably be automated eventually. The e-commerce firm, which is based in Seattle, has also announced that it will open a second headquarters in North America, which would be a boon to any city it chooses. Around 240 cities and regions have submitted proposals. While Amazon contemplates its choice, it is enjoying a temporary boost in popularity among members of Congress.

Other firms are also proposing local projects as a way to curry favour with politicians. Microsoft is helping bring high-speed internet to rural areas. Google has run a programme called Google Fiber to roll out high-speed internet locally, although the project is on hold while it searches for a new boss. Facebook recently said it would spend $1bn to build a data centre in Virginia. But the new digital economy does not create many human jobs directly. Only around 100 Virginians will be needed to work at the data centre once it is built. Denso, a Japanese car-parts maker, recently announced that it would spend $1bn to build a manufacturing plant in Tennessee, creating ten times as many jobs as Facebook's data centre will.

While heavy regulation of tech does not seem likely in the near term, political winds can change quickly and unpredictably. If a national data breach occurred at Facebook, Google or Amazon, exposing people's personal information, as recently occurred with the credit-reporting firm Equifax, there could be a strong public outcry and greater urgency to impose regulations to ensure privacy. What helps protect internet firms today is that they have remained generally popular among consumers by offering cheap services and widely used products. But if a crunch comes, the big tech companies may find themselves haunted by their behaviour now. ■

Retiring senators

Flake news

WASHINGTON, DC

Another anti-Trump conservative heads for the exit

JEFF FLAKE, Arizona's junior senator, is among the upper chamber's more reliably conservative members, as conservatism was once defined. FreedomWorks, an organisation that scores members on their votes for low taxes and less regulation, gives him a 95% lifetime rating, higher than all but four other senators. The National Rifle Association endorsed him, as did the Club for Growth, a low-tax advocacy group. But he not only declined to endorse President Donald Trump last year, he wrote a book condemning Mr Trump's influence on conservatism. For someone as indifferent to policy and demanding of personal loyalty as Mr Trump, that proved unacceptable. The president repeatedly lambasted Mr Flake and praised Kelli Ward, his highest-profile primary challenger, whom Stephen Bannon, Mr Trump's former chief strategist, has endorsed. That augured a bruising campaign that Mr Flake decided was best avoided.

Jeff Flake breaks

In an emotional speech on October 24th, he announced his retirement at the end of his term. "We must never regard as normal the regular and casual undermining of our democratic norms and ideals," he said, or "accept the daily sundering of our country". He admitted that a pro-trade, pro-immigration conservative like him had "a narrower and narrower path to nomination". He promised to spend his remaining 14 months in office "unafraid to stand up and speak out as if our country depends on it. Because it does."

Mr Flake is the second conservative anti-Trump senator to announce his retirement. Bob Corker, who chairs the Senate Foreign Relations Committee, also declined to seek re-election. That brings the number of potential Republican rank-breakers in the Senate to five, including Susan Collins, Lisa Murkowski and John McCain. This will not necessarily alter the amount of legislation that gets through. A tax-cutting bill is the only thing with an imminent chance of passage, and Rob Portman, another Republican senator who has ▸▸

criticised Mr Trump's policies, says that despite their distaste for the president, Messrs Corker and Flake still support his tax plan.

Perhaps the biggest loser from Mr Flake's announcement is Mrs Ward, who now looks likely to have more company in the primary. Many expect at least one of Arizona's five Republican House members to run. The strongest may be Martha McSally, who has won twice in a swing district. Trent Franks is less erratic and more experienced than Mrs Ward and likely to appeal to similar voters. Matt Salmon and John Shadegg, two former Republican congressmen, could also jump in.

Whoever emerges will face a tough opponent in Kyrsten Sinema, the likely Democratic candidate, who boasts a centrist voting record and a $4m war-chest. She had been looking forward to facing either Mr Flake or the hard-right Mrs Ward, and may now have a tougher opponent. And Arizona could soon have a second Senate election: John McCain, the senior senator, is battling an aggressive brain cancer. If he retires or dies in office, whoever Arizona's governor appoints to replace him will have to run in a special election to serve out the rest of his term.

Mr Bannon, who has vowed to back primary challengers to those Republican senators he deems insufficiently loyal to Mr Trump, crowed that Mr Flake "went down without a fight". And indeed Mr Flake's dignified exit notches up another victory for the Bannonite nativism and Trumpian populism that now defines the Republican Party. ■

Robert Mueller's investigation

How it could end

WASHINGTON, DC

Those hoping for a neat conclusion are likely to be disappointed

GEORGE W. BUSH, the former president, earned headlines with a recent speech that—while it did not name President Donald Trump—unmistakably rebuked his Republican successor for degrading America's national discourse with divisiveness and even "casual cruelty". Yet his weightiest words came moments later, when Mr Bush urged America to secure both its electoral infrastructure and democratic system against subversion by foreign powers. This time he named names. "According to our intelligence services, the Russian government has made a project of turning Americans against each other," the 43rd president said. He added that foreign aggressions—including cyber-attacks, the spreading of disinformation via social media or financial influence—"should not be downplayed or tolerated".

Almost a year after his victory, and despite numerous revelations of Russian-funded attempts to stoke racial, religious and ethnic conflicts during the 2016 election, downplaying the attacks remains Mr Trump's default response. In discussions of Russian misconduct, the president sees a bid by Democrats, the "fake media" and other perceived enemies to undermine the legitimacy of his victory. As Senator Lindsey Graham of South Carolina, a Republican foreign-policy hawk, told NBC, the Trump administration has "a blind spot on Russia I still can't figure out".

Congress is running three separate Russia-related investigations, all of which are supposed to answer Mr Graham's question. None looks likely to do get to the bottom of it. Small wonder, then, that those Americans anxious to know more about who attacked their political system last year, and what could be done to prevent a repeat, pin such hopes on a probe led by Robert Mueller, who was appointed special counsel in May 2017 with a broad remit to investigate whether Russians tried to swing the election, and whether anyone in America tried to help them.

Ardent believers in Mr Mueller, a craggy faced former FBI boss under Republican and Democratic presidents, hope for a day when the super-prosecutor sweeps aside the tangles of partisan claims and counterclaims and lays criminal charges against those guilty of aiding and abetting Russia. Such folk imagine a moment with the satisfying finality of a Hollywood G-man bursting into a mafia hideout. Mr Mueller, for his part, has not said when his work will be wrapped up, nor whether he will press any criminal charges.

That official silence has been filled with speculation about what he is up to, based on clues such as the prosecutors he has hired for his team, his empanelling of a grand jury and a raid that he had conducted on the home of Paul Manafort, a former Trump campaign chairman who spent lucrative years as a political consultant, including to pro-Russian candidates in Ukraine. The latest mini-leak cheered Republicans, when NBC News reported that a Democratic lobbying firm founded by Tony Podesta, the brother of Hillary Clinton's campaign chief John Podesta, had been quizzed by Mr Mueller's team about work for a Ukrainian client of Mr Manafort's that was not at first declared under rules governing foreign lobbying.

People with long experience of how special counsels operate—including former federal prosecutors and government officials who have known Mr Mueller for years, who spoke to *The Economist* on condition of anonymity—warn that Americans may need to steel themselves for a more ambiguous, and unhappily political, ending to his work. To start with their simplest advice, it is a mistake to assume that leaks or purported leaks are a good way to map the investigation. Because official Washington is agog at the idea of members of Mr Trump's inner circle or family facing prosecution, most leaks involve what one expert calls "Trump people stuff". Mr Mueller's most significant work could involve a counter-intelligence probe built around closely-held secret evidence of National Security Agency intercepts of Russians talking to Russians, they say.

Nor is it possible to deduce much from the fact that a grand jury has been formed to help Mr Mueller. One former prosecutor describes this as a "normal tool" of any serious investigation. Another person scoffs at reports that Mr Mueller has recruited a dream team of lawyers skilled in scaring suspects into turning on their colleagues. Persuading witnesses to co-operate, at times with threats of prison time, is the work of any decent prosecutor, he notes.

There has been plenty of speculation about Mr Trump's firing of James Comey, the FBI boss he inherited from Barack Obama, and whether that dismissal might trigger obstruction-of-justice charges. Mr Comey has said since his firing that Mr Trump asked him if he could see his way to dropping a probe into Michael Flynn, a former three-star general sacked as national security adviser for keeping quiet about contacts with Russians. But obstruction of justice is hard to prosecute unless clearly nefarious motives can be proven, says one experienced federal prosecutor. If Mr Trump were able to argue that he simply wanted to let Mr Flynn go quietly into retirement, any case might crumble.

One rule to follow is that "good prosecutors don't do bullshit cases". That means avoiding weak cases, but also small ones against minor figures that do not provide accountability when great wrongs are alleged. Mr Mueller is frequently described as a principled "Boy Scout", whose mission is not to collect political scalps but to investigate something exceedingly serious, namely that Russia tried to sway an election. He has sweeping powers. It is quite plausible that he already has the tax returns that Mr Trump refused to make public. Those may or may not show that Mr Trump's business empire was at some point propped up by funds or complex financial structures with links to Russian nationals—though the president denies receiving Russian loans. But even the most dramatic revelations might not involve criminality, warns one person. One plausible scenario is that Mr Mueller finds that Russia's government did indeed attack America, and that Mr Trump is more beholden to Russian interests than he admits, but does not find evidence of collusion that justifies prosecutions.

If Democrats take control of one or more chambers of Congress in the mid-term elections of 2018, then they could attempt to impeach Mr Trump, triggering yet another partisan fight. Alternatively, Mr Trump could review Mr Mueller's report, declare it "fake news" and recommend to the Department of Justice that it should not be made public. These scenarios are just guesses, our sources concede. But one thing above all seems probable: for all that many Americans long for clarity, this saga will have a political ending. ■

Congressional investigations

Muddying the waters

WASHINGTON, DC

Republican committees and the cynical art of whataboutism

AMERICAN politics has no superior practitioner of the old Soviet art of "whataboutism", which aims to deflect criticism by pointing out that other people elsewhere have done bad things, than President Donald Trump. At a now-infamous press conference, when asked about the murderous violence of far-right marauders in Charlottesville, Virginia he snapped, "What about the alt-left"? When an interviewer noted that Vladimir Putin, whom Mr Trump said he respected, killed political opponents, Mr Trump responded, "We've got a lot of killers. What, you think our country is so innocent?"

Congressional Republicans are following their leader. On October 24th Bob Goodlatte and Trey Gowdy, chairmen respectively of the House Judiciary and House Oversight committees, announced they would open joint investigations into actions taken by the Justice Department during the 2016 campaign, including James Comey's decision to publicise its investigation of Hillary Clinton's e-mails (the Federal Bureau of Investigation, which Mr Comey headed until Mr Trump fired him in May, is part of the Justice Department). What they could gain from this, other than distracting the public from Robert Mueller's ongoing investigation, is unclear.

Meanwhile on Fox

Also on October 24th Devin Nunes, who heads the House Intelligence Committee, said his committee would open a joint investigation with Mr Gowdy into the 2010 sale of an American uranium firm to a Russian company. The deal gave Russia control over 20% of American uranium-production capacity. Because America considers uranium a strategic asset, multiple federal agencies—including the State Department, which Mrs Clinton then headed—had to approve the deal. In 2015 the *New York Times* reported that several men linked to the new firm made large donations to the Clinton Foundation. A former spokesman for Mrs Clinton denied any *quid pro quo*, and multiple sources say she was not personally involved in the approval.

Mr Trump has repeatedly tweeted about both the uranium deal and Mr Comey's behaviour. Elijah Cummings and John Conyers, the top Democrats on the House Oversight and Judiciary committees, called the investigation "a massive diversion to distract" from the Trump campaign's Russia ties. Mrs Clinton's spokesman accused Republicans of "throw[ing] sand at the eyes of the public." House Republicans certainly seem more eager to investigate Mrs Clinton and Barack Obama than Mr Trump—or indeed to legislate.

Forecasting the opioid epidemic

Treatment effects

NEW YORK

One opioid epidemic is levelling off just as a deadlier one is beginning

OPIOID abuse is a national emergency, and the president is expected to declare it so officially. That will help free up funds for agencies to treat the problem. As part of this effort, researchers will try to determine when the opioid epidemic will peak, and how many more people are likely to die before it fades. The answer to that second question can vary by half a million deaths over the next decade.

The epidemic appears to be gathering pace. Of the 65,000 drug-overdose victims in the 12 months to March 2017, 80% died from opioids (coroners' reports may undercount that figure). The death toll now exceeds the height of the AIDS epidemic in 1995. Donald Burke, dean of public health at the University of Pittsburgh, points out that the number of fatal drug overdoses has doubled every eight years for the past ▸▸

37. Unabated, a continuation of that trend would see annual opioid deaths rising to 90,000 by the middle of the next decade.

That analysis may be too simplistic. Mr Burke's forecast is "plausible if nothing changes", but it is "insane if it actually happens", according to Michael Barnett, a professor of health policy and management at Harvard University. A more nuanced model would try to capture the fact that the opioid epidemic is not a singular event but a set of intertwined ones taking place in different places. Mr Barnett forecasts that the epidemic will gather pace for some time yet, before stabilising at about 45,000 deaths per year by 2025.

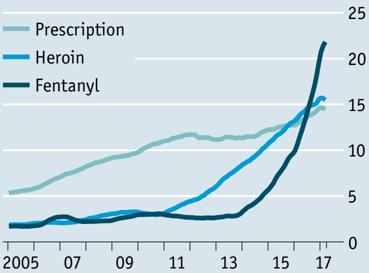
There is good reason to be pessimistic as the epidemic enters a new and deadlier phase. While deaths from prescription opioids are reaching a plateau, deaths from fentanyl—an illegal drug with 50 times the potency of heroin—have risen 92% over the past year to 22,000 in March (see chart 1). Brandon Marshall, a professor of epidemiology at Brown University, worries that this rise demonstrates the difficulty of preventing addiction. Mr Marshall's worst-case scenario forecasts that opioid deaths will rise to 100,000 a year by 2025. His middling scenario is still dire: it expects deaths to increase by half, to 52,000 by 2019, before falling slowly.

Epidemiologists are frantically scrambling to go beyond simple best-guess estimates to dynamic models that can forecast addiction and overdoses more accurately. The Centres for Disease Control and Prevention (CDC) hopes that in time it can develop an early warning system, using novel data inputs, that will be able to identify opioid outbreaks before they become deadly. The CDC disbursed some money to 20 states last month to improve their data collection on overdoses.

A reliable early warning system is still some way off. Mr Burke bemoans the fact that few people are modelling the opioid epidemic, whereas infectious diseases such as Zika have a small army of epidemiologists working on them. University labs are only now diverting brain power away from infectious diseases to tackle opioids.

The needle... 1

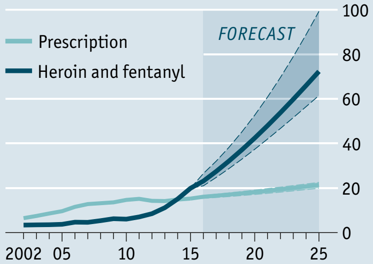
United States, opioid-overdose deaths
By drug type, 12-month rolling total, '000



Source: Centres for Disease Control and Prevention

... and the damage done 2

United States, opioid-overdose deaths
By drug type, '000



Source: "A Dynamic Transmission Disease Model of the Opioid Epidemic", by D. Sinclair, H. Jalal, M. Roberts & D. Burke, University of Pittsburgh, 2017

One such model, under development at the Public Health Dynamics Lab in Pittsburgh, matches data in the national drug-use survey to outcomes in mortality. It predicts that prescription opioid deaths will rise slowly to about 20,000 a year within the next five years, but reckons heroin and fentanyl deaths will increase markedly to 72,000 per year by 2025 (see chart 2).

That is not inevitable. But working out how best to prevent it will be hard. State legislatures have enacted over 400 bills related to the opioid crisis since 2010. Many came into force concurrently, making it ever more difficult to disentangle the effect of a good policy from a bad one. ■

Licensing laws

Locking up firefighters

CHICAGO

Most restrictions of occupational licences for ex-prisoners make no sense

BUT for the heroic work of state prisoners, the wildfires that recently swept through northern California would have been even more destructive. Around 4,000 low-level felons made up 30% of the forest firefighters battling the raging flames, carrying chainsaws and other heavy equipment. Some risked their lives. Last year Shawna Lynn Jones, a 22-year-old who had less than two months of her three-year sentence left, died while fighting a fire. By all accounts, Ms Jones took great pride in her work, for which she was paid less than $2 an hour, and would have liked to continue firefighting once released.

Yet California, like many other states, makes it virtually impossible for former prisoners to get a firefighter's licence. The state requires nearly all firefighters to be certified as an emergency medical technician (EMT), an approval usually denied to convicted felons. That is why only a handful of former prisoners managed to get a job with Cal Fire (the California Department of Forestry and Fire Protection), explains Katherine Katcher, founder of Root & Rebound, a California-based charity helping prisoners to re-enter society after they complete their sentences. Around 30% of all jobs in California require a licence, compared with a national average of one-quarter. The state's 200-odd licensing boards have lots of discretion over whether former prisoners can obtain occupational licences. Many licences have a "good moral character provision", which immediately disqualifies anyone with a felony conviction.

California's rules are actually relatively benign compared with some states. The National Employment Law Project graded the licensing laws of the 39 states and the District of Columbia which restrict the scope of licensing boards to consider criminal records. It found that Minnesota's laws were the least punitive, California's needed improvement, and 28 states had minimal or unsatisfactory laws. In Oklahoma, which has the highest incarceration rate in the country, state licensing boards completely banned convicted felons from almost 40 professions ranging from asbestos-abatement contractor to embalmer, and from landscape architect and podiatrist to wrecker, a job which usually entails removing debris from building sites.

Such requirements are correlated with a higher rate of reoffending, says Jarrett Skorup at the Mackinac Centre for Public Policy in Michigan. Around 4m Michiganders have a criminal record, which makes it difficult or impossible for them to find work in the 150 professions that ban convicted felons. A recent study by Stephen Slivinski of Arizona State University found that between 1997 and 2007, states with the heaviest burdens of occupational licensing saw an average increase in reoffending within three years of release of over 9%. The states with the lightest burdens saw a decrease of 2.5% over the same period.

A few states have woken up to the cost of failure to reform their occupational licensing. A bill sponsored by Whitney Westerfield, a Kentucky state senator, would prevent licensing boards from denying applications if a criminal conviction is not relevant to the licence being sought. In Illinois a law was passed last year that prevents licensing boards rejecting the applications of aspiring barbers, cosmetologists and hair braiders because of a criminal conviction, unless it is directly related to the job. And at the end of last month, after some hesitation, Connecticut admitted to the bar Reginald Dwayne Betts, who spent eight years in prison after being convicted of carjacking when he was 16. A graduate of Yale Law School, fellow at Harvard, accomplished poet, husband and father, Mr Betts has become the poster-child of the second chance. ■

Lexington | Semper fidelis

John Kelly's ill-judged tirade reflects America's problematic love affair with uniformed men

A POIGNANT feature of American bases in Iraq were their walls of Thank You cards sent by American schoolchildren. Often displayed outside the chow-hall, where the troops gathered to eat, they typically thanked them for "being over there to keep us safe". Hardly any of the soldiers Lexington spoke to, during several trips to Iraq, believed that to be the case. Their Iraqi enemies were fighting a defensive war, not trying to launch one against America. Yet the soldiers accepted the sentiment unblushingly. No soldier expects the beloved chumps back home to understand what he gets up to. He just needs to feel appreciated.

This paradoxical tendency among soldiers, to hunger for the approval of civilians whose views they otherwise set little store by, came to mind during chief of staff John Kelly's recent presentation in the White House briefing room. The retired marine general's boss, President Donald Trump, had got himself into hot water after it emerged that he had not written to the grieving relatives of four soldiers killed in Niger, an oversight he made worse, characteristically, by falsely suggesting his predecessors hadn't contacted Gold Star families much either. Worse still, in a call to the grieving widow of Sergeant La David Johnson, which was overheard and described by a family friend, Frederica Wilson, who is a Democratic congresswoman, the president crudely suggested her dead husband "knew what he signed up for".

In response, Mr Kelly sought to delegitimise the president's critics, by implying that, as they had little direct experience of military affairs, including the "selfless devotion that brings a man or woman to die on the battlefield", they should not pass comment on them. Indeed, Mr Kelly went further, suggesting, to a group of awestruck journalists, that they were not merely incompetent to pass judgment on military affairs, but unworthy of doing so. "We don't look down upon those of you who haven't served," he said as he left the podium. "We're a little bit sorry because you'll have never experienced the wonderful joy you get in your heart when you do the kind of things our servicemen and women do—not for any other reason than they love this country."

Setting aside, for the moment, that this was a spurious defence of the president's slander of his predecessors and his carelessness towards Mrs Johnson, Mr Kelly pointed to an important truth. The gulf between America's armed forces and its civilians has never been greater. In 1990, 40% of young Americans had a military veteran for a parent; in 2014 only 16% did. But this dissonance has not, as the general implied, caused Americans to underappreciate the forces. To the contrary, it has encouraged, as his remarks also indicated, a highly romanticised view of military service, which is inaccurate and counter-productive at best.

Members of the armed forces are often patriotic. But many see their service primarily as a way to make a living, as the soaring cost of recruiting and retaining them indicates. Personnel costs have risen by over 50% in real terms since 2001. Acknowledging this truth takes nothing from their professionalism and valour, which your columnist has witnessed at close quarters. Nor is it disrespectful to fallen heroes such as Mr Johnson to dig a little deeper into their motivations. When the bullets fly, it is true, most soldiers really are motivated more by a great, self-denying sense of love than by money. Yet that momentous and inspiring emotion is primarily aimed at the comrades fighting either side of them, not the flag.

Meanwhile there are costs to America's uncritical soldier worship. Most obviously, it gives the Department of Defence an outsize advantage in the battle for resources with civilian agencies. Today's cuts to the State Department, whose officers are not noticeably less patriotic or public-spirited than America's soldiers, are a dismal case in point.

The phenomenon also provides an easy opening for political opportunists, such as Mr Trump. His eagerness to hire former top brass—including James Mattis, H.R. McMaster and Mark Inch, a retired army general who was recently appointed to run the Bureau of Prisons, as well as Mr Kelly—was on one level a cynical bid to appropriate their hallowed reputation. And it is working. Where earlier soldier-politicians, including George Marshall and Colin Powell, were viewed as political figures, Mr Trump's generals are widely considered to be above the political fray, including by the president's critics, who look to them to moderate an errant commander-in-chief. Perhaps they do. But it is unwise to subject such powerful men to so little criticism, as Mr Kelly's ill-judged intervention illustrates. On the one hand, the former marine implied that he, too, through the awfulness of his experience, as a commander who had sent men to their deaths, and as the father of a soldier killed in Afghanistan, was unimpeachable by journalists. On the other, his remarks, including a harsh, erroneous attack on Mrs Wilson, were highly partisan and contestable.

Those lovely men in uniform

A less-noted problem is that America's unthinking reverence for its fighters is forestalling a badly needed reappraisal of how it organises its forces, and to what end. The fact is, America's foreign-policy doctrines envisage a degree of global dominance, based on military might, which its volunteer force is now too small to enforce. And to increase the force sufficiently, on current trends, appears unaffordable or impossible. "This force cannot carry out that foreign policy," concludes Andrew Bacevich, a historian and former army officer, who happens also to be a Gold Star father.

This constitutes a looming crisis, which could logically end in one of two ways. Either America will have to reintroduce conscription. Or it must curtail its military ambitions. Neither outcome is palatable to American policymakers, however, so the problem is seldom discussed. Maintaining the happy delusion that America's forces are ideal and irreproachable makes that easier. But reality cannot be deferred indefinitely. ■

Also in this section

Mexican-American relations

New fences make bad neighbours

MEXICO CITY

Donald Trump's antagonism could both harm Mexico's economy and set off a backlash of populist nationalism

AMID the shiny skyscrapers and hipster cafés of central Mexico City, the legislative offices of Armando Ríos Piter, a centre-left senator from the poor, rural state of Guerrero, offer a salutary shock. The walls are crammed with jaguar masks, indigenous art and placards from anti-corruption protests: reminders that this is a large, diverse country, in which reformers like the senator must battle income inequality, graft and violent crime.

Despite pressing domestic concerns, Mr Ríos Piter now also has a new worry abroad: President Donald Trump. Some 1m Mexicans from Guerrero live in the United States, he says; they tell him they "feel frightened" by rumours of looming immigration raids and deportations.

In a country whose leaders have intermittently resorted to anti-Americanism to prop up autocratic rule or justify protectionist policies, modernisers have long laboured to overcome distrust of the United States. The resentment was learned early, in childhood lessons about *gringos con colmillos*, or fanged Americans, stealing territory in the 19th century and, more recently, oppressing the 36m Mexicans who live over the border, as many as 6m of them without legal papers.

Thanks to such pacts as the North American Free-Trade Agreement (NAFTA), signed 25 years ago, Mexico and the United States have built powerful networks of interdependence. The relationship has remained prickly, and unequal. But since the days of John F. Kennedy, both countries have believed that building an open, prosperous, democratic and stable Mexico was in their mutual interest. NAFTA arguably hastened the end of one-party rule in Mexico, and has anchored everything from electoral reforms to central-bank independence.

All this now seems uncertain. Mexicans are confronted with an American president who gave campaign speeches about Mexican migrants murdering "beautiful" American girls, attacked NAFTA as a job-killing disaster and made fantastical promises to build a border wall that Mexico would pay for. As damagingly, Mr Trump's attacks on the media and praise for autocratic leaders make it sound quaint for democratic politicians in Mexico to defend a free press and human rights, or to call for the country to open to the world.

Team Trump has proposed revisions to NAFTA that neither Mexico nor Canada could accept, such as a call to review the pact every five years, a move that would wreck investor confidence. These demands challenge the very idea of North American value chains, in which jobs are kept in Mexico, Canada and the United States by sourcing labour and materials in all three countries, allowing firms to compete with rivals in Asia or other emerging markets.

Indeed, Mexican officials worry that Mr Trump is not merely driving a hard bargain, but wants his voters to see his country win and Mexico humiliated in a zero-sum contest. Robert Lighthizer, the United States Trade Representative, scolded Canada and Mexico for their "resistance" to American demands in the most recent round of NAFTA talks. When told that radical changes might undermine confidence, Mr Lighthizer answered coldly: "Why is it a good policy for the United States government to encourage investment in Mexico?"

Shrewd Mexicans, seeing a crisis that their country cannot solve alone, are recruiting allies north of the border to argue that the United States benefits greatly from co-operation with Mexico. Mr Ríos Piter, for one, thinks hard about public opinion in American farm states like Iowa, North Dakota and Nebraska. Earlier this year he wrote a bill proposing a cap on purchases of yellow corn from the United States, and urging the government to replace them with imports from Brazil, Canada or Argentina. Though the bill was more a symbolic warning than the first shot in a trade war, it jangled nerves in Washington and in farm-state capitals. It was meant to.

To Mr Ríos Piter, who supports free trade, Mr Trump was exploiting "a gap filled with ignorance". American farmers export $2.6bn worth of corn a year to Mexico, mostly as cattle feed (Mexican cuisine relies on largely home-grown white corn). But because farmers sell to intermediaries, Mr Ríos Piter thinks that many Americans living in conservative states that voted for Mr Trump "did not have a clear idea" of the importance of the Mexican market.

In a speech this year in Washington, DC, Ricardo Anaya, the young, ambitious leader of Mexico's conservative National Action Party (PAN), noted that the value of two-way trade has grown sixfold under NAFTA. A wonkish sort, he spreads out ▸▸

charts at PAN headquarters showing how American manufacturing jobs were stable for years after NAFTA came into force in 1994, only to collapse after China joined the World Trade Organisation in 2001.

Margarita Zavala, the wife of Mexico's former president, Felipe Calderón, recently broke with the PAN to launch an independent presidential bid ahead of elections in July 2018. She says bluntly that the bilateral relationship is "being poisoned". Like other opposition leaders, she sharply criticises the current president, Enrique Peña Nieto, for welcoming Mr Trump to Mexico with the pomp of a government leader when the New Yorker was still a candidate. Ms Zavala wants Mexico to think "creatively", lobbying border-state governors to stand up to Mr Trump and city mayors to shield Mexicans from deportation.

For decades Mexico's government has worked to prevent disputes in one field, such as trade, from contaminating other areas of co-operation, such as security and intelligence-sharing. Now that strategy has been turned on its head. All the talk is of linkage and leverage, to give the transactional Mr Trump a taste of his own medicine. Alas, says Alejandro Hope, a former intelligence officer, such an approach carries risks. Mexican security services have become "dependent" on American drones and signals intelligence in dealing with drug gangs and terrorists. America's Drug Enforcement Administration controls probably the country's largest pool of criminal informants. One American veteran of the drug wars recalls how a drug lord was taken down after hiring 50 prostitutes for a Christmas party, not realising that some were in the pay of American spooks.

Some populist Mexican politicians talk of opening the country's southern border to migrants from Central America, giving them train tickets northwards to Texas. Not

▸▸

Bello | Foxes in the henhouse

Murderous Latin American police need to start policing themselves

"SEVEN rats eliminated," began one voice message in a WhatsApp chat in El Salvador. "What joy!" In a country ravaged by gangs, such exchanges might be expected among hit men. Instead this discussion was among policemen. According to revelations in August by Revista Factum, a website, they gloated over killing gang members, shared tips on tampering with crime scenes and posted videos of detainees being tortured.

El Salvador has the world's highest murder rate, and its policemen kill with worrying frequency. The fact that police kill people so often in countries wracked by violence may stand to reason: the more armed criminals that officers confront, the more they will need to open fire. But something particularly alarming is taking place. A study by Ignacio Cano, a Brazilian criminologist, found that the higher a country's murder rate, the greater the overall share of killings committed by cops (see chart). It seems that police unable to quell violence may lose their inhibitions about taking part in it.

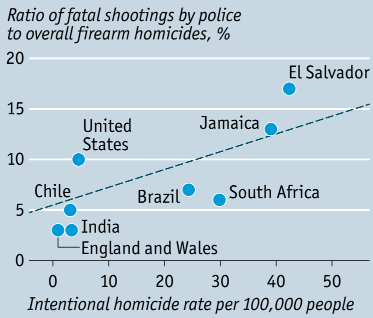
Latin American and Caribbean countries along drug-trafficking routes lead world rankings for both types of killing. Mr Cano's study found that 17% of El Salvador's fatal shootings in 2015 were committed by police. Jamaica's ratio in 2014 was 13%. Those proportions are higher than the 10% rate in the United States, where police brutality is a heated political issue, and dwarf Germany's 4%.

In theory, these high ratios might stem from Latin American cops facing frequent dangerous encounters. But the data do not support this explanation. In Mr Cano's view, a ratio of people killed by police to police officers killed by suspects higher than 10:1 implies a misuse of force. In 2016 El Salvador's figure was 59:1—meaning some "shoot-outs" were probably assassinations by police.

Copped out

Civilian and police homicide rates

Latest available



Source: "Police deadly use of firearms: an international comparison" by A. Osse and I. Cano

Moreover, official statistics may understate the problem. Governments only tally killings committed by police in the line of duty. These alone can add up. Venezuela acknowledges hundreds of deaths at the hands of officers on "People's Liberation and Protection Operations". However, in countries where organised-crime groups have infiltrated state security forces, off-duty cops often do the dirty work for vigilantes or gangs. Official ledgers do not record such murders as killings by police.

One explanation for the prevalence of trigger-happy cops is the embrace of punitive policing as an antidote for weak justice systems. As recently as 2013, police in El Salvador killed just 39 people. But in 2015, the government reinstated a *mano dura* ("iron-fist") approach, warning gang members that officers could shoot them "without any fear of suffering consequences". Police killed 591 people the next year.

There is little evidence that *mano dura* works. In Central America's "northern triangle" (El Salvador, Guatemala and Honduras), such policies have failed to stem rising murder rates. They can be counterproductive: as police brutality grows, civilians stop offering tips or seeking protection from the authorities. That makes the public more vulnerable. In a recent poll for the Atlantic Council, a think-tank, 77% of respondents in the northern triangle said they did not trust the police. Nonetheless, Latin Americans seem more eager to punish civilian wrongdoers than to limit police violence. A survey in 2015 found that half of Brazilians believe "a good criminal is a dead criminal."

Reformers could start to reduce killings by police with technical fixes, such as equipping officers with non-lethal weapons like tasers. But the countries that have drastically reduced police brutality have instituted broad reforms to rid the justice system of organised crime. In the early 2000s Colombia purged 12,000 corrupt officers, while teaching clean ones to investigate crimes more effectively.

Some hopeful signs have emerged in Central America. In Guatemala, a UN-backed team of independent prosecutors secured convictions in 2013 against four police officers responsible for systematic killings of prisoners. And last year Honduras appointed a civilian-led commission to vet its police force. It has already purged 30% of the country's officers.

Guatemalan and Honduran police are still too violent. However, those countries have at least admitted that their problems stem from a rotten system, not just bad apples. In contrast, El Salvador has fired or charged only a few of the 559 officers it has arrested this year for allegedly belonging to death squads, participating in firefights or committing other crimes. Even the officers in the WhatsApp chat were freed just three days after their arrest. They are back at work, and no one is protesting.

so fast, says Mr Hope. Mexico has faced its own influx of asylum-seekers from Haiti and Africa, and simply opening its frontiers could create new headaches. Mexico might gain some leverage by denying the CIA access to southern border crossings in places like Tapachula, where American officials currently get to question migrants from Iraq, Afghanistan and other countries in search of terrorists. A breakdown in security ties would also endanger the discreet extradition of high-ranking crime and terrorism suspects to the United States. But Mexico could suffer too, for instance if American-funded training for prosecutors and judges were interrupted.

Perhaps the most potent argument in America is the warning that Mr Trump risks turning Mexico's election into a contest of anti-Americanism—particularly if he abandons NAFTA. He might empower Andrés Manuel López Obrador, a strident class warrior who will stage his third presidential bid in 2018, and who is compared by critics to Hugo Chávez, the late authoritarian leader of Venezuela. Strikingly, one of Mr López Obrador's closest allies, Yeidckol Polevnsky, is at pains to reject comparisons with Chávez or Mr Trump, and even the label "populist". Ms Polevnsky, the secretary-general of the Movement for National Regeneration, insists that her boss, if elected, would be serious and responsible and would not compete with "the Trump show". The electoral calculation is clear enough: it is popular to be against Mr Trump, but less profitable to be like him.

Enrique Krauze, a leading historian and essayist, is sure that, if elected president, Mr López Obrador would seek to accrue the powers of a strongman. A further risk is that as a proudly parochial man who speaks no English, Mr López Obrador would lack the savvy to navigate domestic American politics, hobbling attempts to go around Mr Trump and rally a cross-border North American coalition. "He has this mystical thing, that he will go to Trump and explain that he is not being reasonable," says a sorrowful Mr Krauze.

For now, Mexican officials are taking solace in the more collaborative attitude of several members of Team Trump, including Rex Tillerson, the secretary of state, and Jared Kushner, the president's son-in-law. Optimists say that Mexico's democratic institutions have grown strong enough to resist backsliding. Mr Krauze notes that Mexico has seen protests against Mr Trump but not broader demonstrations against the United States: "Mexico is a good neighbour, not out of love, but pragmatism, realism and, yes, an undercurrent of respect."

Still, unease is spreading. Mexican leaders feel abandoned by American politicians who should know better, but are scared of Mr Trump and his voters. Mexicans are not the only allies of the United States who feel that way. ■

Public transport

Subways in the sky

ECATEPEC

Why politicians and commuters like cable cars

MEXICABLE, a cable-car line 4.9km (three miles) long, soars above Ecatepec, a poor suburb of Mexico City. Open for just over a year, its 185 gondolas carry 18,000 people a day between San Andrés de La Cañada, at the top of the hill, and Santa Clara Coatitla at the bottom. The trip makes five stops en route and takes 19 minutes, compared with the 80-minute bus trip residents previously endured. The cable car is "super quick and much less stressful," says Nelly Hernández, a passenger accompanied by her awestruck four-year-old daughter.

In rich Western countries, cable cars are mainly for tourists. Latin America, in contrast, has adopted them as mass transit for the poor. They suit the region's mountainous cities, many of which have expanded chaotically, says Julio Dávila of University College London. Ecatepec's population jumped after an earthquake hit Mexico City in 1985.

The pioneer was Medellín, Colombia's second city. Refugees from the country's long civil war had crowded into hillside districts. Widening streets to create new bus lanes or extending the metro would have been too costly. A cable car, opened in 2004, was the answer. Since then Cali, Caracas and Rio de Janeiro (as well as Mexico City) have built similar systems. In September Evo Morales, Bolivia's president, opened La Paz's fifth *teleférico*, extending the world's longest and highest network with a link to the clifftop city of El Alto.

Flyest ride in town

One reason cable cars are popular is that governments usually subsidise them in order to compete with private buses. Mexicable charges seven pesos (37 cents), less than half of its break-even price. Politicians like them because they can be built without displacing large groups of people; it often takes 18 months or less, in time for re-election. "Mayors think, 'I'm going to be cutting the ribbon'," says Mr Dávila.

The jury is out on whether cable cars are worth the cost. In 2012 Mr Dávila and others conducted a study of Medellín's system, which found that crime fell and jobs grew in areas the cars served. However, the city also made investments in policing and economic development at the same time, which may have been responsible for these gains. The researchers did find that the cable car made residents prouder of their community. People in Ecatepec feel the same way. Bandits go after buses but leave the cable cars alone, says David Ramírez, a passenger. The gondolas' cosy interiors include two facing metal benches, encouraging conversation.

Residents of Complexo de Alemão, a shantytown in Rio de Janeiro, have no such cause for cheer. Rio's state government paid 253m reais ($135m) to a consortium led by Odebrecht, a construction company, to build a cable car connecting the area to the city's metro. That now looks ill-advised. In a plea bargain, the former head of Odebrecht's infrastructure arm said it had paid 94m reais in bribes and donations to the state's former governor, who was later convicted on corruption charges, to win a development deal that included the federally-funded cable-car project. For five years, residents rode the gondolas free of charge. But they have been grounded since September 2016, after the state stopped paying the firm that ran them.

Despite the Rio fiasco, Latin American cities are still cabling up. Bogotá, Colombia's capital, will open its first commuter cable car next year. The state of Mexico, which borders Mexico City, intends to build two new lines by 2023. In all, 20 projects are planned in the region. The sky, it seems, is the limit. ■

Also in this section

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Turkey's latest purges

Too many kooks

ISTANBUL

President Erdogan's sacking of an oddball mayor hints at trouble for his party

EARLIER this year, Melih Gokcek, the veteran mayor of Ankara and a member of the ruling Justice and Development (AK) party, hosted a group of foreign journalists at an estate on the capital's outskirts. Mr Gokcek began by clicking his way through a gruesome PowerPoint presentation on the previous summer's failed coup, mixing images of bodies mangled by tanks with the soundtrack from the film "Requiem for a Dream". He finished by claiming that Western powers had been involved in the bloodbath, that the Obama administration had created Islamic State, and that American and Israeli seismic vessels were deliberately setting off earthquakes near Turkey's Aegean coast. A bewildered reporter asked where Mr Gokcek was getting his information. "I have the world's best intelligence service at my disposal," the mayor responded. "It's called Google." He did not seem to be joking.

Mr Gokcek's career as Turkey's leading conspiracy theorist, a title fought over by many members of President Recep Tayyip Erdogan's inner circle, came to an abrupt end on October 23rd, when the mayor announced he would resign after more than two decades in the job. (Many were baffled that he had held on to his office for so long.) His decision followed weeks of rising pressure by Mr Erdogan and pro-government newspapers, some of which suggested Mr Gokcek would face criminal charges if he refused to step down. The nature of those charges was not specified, but many readers got the hint. In 2015 a former deputy prime minister accused Mr Gokcek of large-scale corruption. He never produced the evidence he claimed to have gathered, and the mayor denied the allegations.

Mr Gokcek's is one of many heads to have rolled at municipalities across Turkey this autumn. Since September, six AK mayors whose terms would have expired in 2019 have stepped down. Mr Erdogan is said to have ordered the resignations, which began with the mayor of Istanbul.

The fact that Mr Erdogan can casually defenestrate elected officials is further evidence of how authoritarian his government has become. Over the past year he has presided over the arrests of more than 80 mayors in the Kurdish south-east. Many have been replaced by government-appointed trustees. Inside AK itself, dissent has ceased to exist. There is less and less room for it elsewhere. The purges unleashed by Mr Erdogan since the coup have cost some 60,000 people their freedom and 150,000 their jobs. In a sign that more arrests may be coming, police detained Osman Kavala, a respected philanthropist, on October 18th, and Saban Kardas, a think-tank scholar, a couple of days later.

The repression at home is causing headaches abroad. In early October, after police in Istanbul arrested a Turkish staffer at the American consulate on terrorism charges, the United States suspended visa services across Turkey. Mr Erdogan's government responded that it would no longer issue visas to Americans. The clash between the two NATO allies is not abating. "They are seething here," says Henri Barkey, a former State Department official, referring to his old workplace. (Mr Barkey has been unable to set foot in Turkey for the past year. Turkish authorities are investigating him and several other Americans, including a former CIA chief and a New York senator, for supposed links to the coup.)

The mood in the European Union is equally foul. At a summit this month, EU leaders discussed freezing the aid Turkey gets as part of its bid to accede to the bloc. On October 25th the European Parliament voted to cut it by up to €80m ($94m), citing the human-rights situation. The membership talks have reached a dead end.

The general in his labyrinth

Under emergency rule, which was recently prolonged for three months, Mr Erdogan enjoys unchecked powers. But by turning the purge against his own party's mayors he may have revealed a sense of anxiety about his future. Earlier this year a referendum on giving him more power barely passed despite the government's efforts to stack the odds in his favour; in Ankara and Istanbul, the "no" vote prevailed.

Senior AK officials defend the sackings by saying that the party must rejuvenate itself for the local, parliamentary and presidential elections in 2019. Polls show the number of "undecided" voters rising. "We need some changes and new faces," says Yasin Aktay, a presidential adviser. But there is no guarantee that the mayoral shake-up will play in Mr Erdogan's favour. "He thinks AK voters are disappointed with the local administrations," says Atilla Yesilada, a political analyst. "They may be disappointed with him." ■

The battle for Catalonia

The countdown

MADRID

The government prepares to intervene, and the secessionists to resist

MANY Spaniards have long hoped that an all-out confrontation between the government and the pro-independence leaders of Catalonia could be avoided. But this week time all but ran out.

On October 21st Mariano Rajoy, Spain's prime minister, asked the Senate to grant him the constitutional power to dismiss the Catalan regional government, impose direct rule and call a fresh regional election within six months. With Catalan leaders pledging resistance, it is unclear whether this heralds the start of a solution or a worsening of Spain's constitutional crisis.

As *The Economist* went to press, Carles Puigdemont, the president of the Generalitat, as Catalonia's devolved government is known, was due to address his parliament. Many in his coalition, which holds a bare majority of seats, want him to declare independence. Since no European government will recognise this, it would be purely symbolic. Over the past few days pressure has grown on Mr Puigdemont in Barcelona, the Catalan capital, to stave off intervention by calling a regional election himself. Mr Puigdemont turned down an offer to make his case before the Senate.

Having invoked Article 155 of the constitution, which grants the Spanish government wide powers to compel a region to obey the law, many in the cabinet and the ruling conservative People's Party want to go ahead regardless. "No government of any democratic country can tolerate the breaking of the law," said Mr Rajoy. The laws Mr Puigdemont's executive pushed through the Catalan parliament last month allowing an independence referendum violated Catalonia's statute of self-government, as well as Spain's constitution. But if Mr Puigdemont does call an election, the opposition Socialists may wobble in their support for Article 155, which the Senate is due to approve on October 27th. Mr Rajoy is unlikely to want to plough on alone.

The Generalitat says 43% of the electorate voted in the unauthorised referendum on October 1st, 90% of them in support of secession. It takes that as a mandate to declare independence. But it faces a number of unpleasant realities. Since October 1st more than 1,300 companies, including almost all the big ones, have moved their domiciles outside the region, and tourist bookings have dipped.

If it goes ahead, the government's intervention is likely to start with the dismissal of Mr Puigdemont's cabinet, the naming of new commanders for the Catalan police, and the takeover of the Generalitat's finances and IT centre. The next targets might be Catalan public television and radio, which the government sees as separatist mouthpieces. "They will try and do it surgically," says a former minister.

Mr Puigdemont promises resistance. The government "has undertaken the worst attack on the institutions and people of Catalonia" since Francisco Franco, Spain's dictator from 1939-75, he proclaimed. The 200,000-odd employees of the Generalitat will not take orders from Madrid, Raul Romeva, a Catalan councillor, told the BBC. Their trade unions say they will only obey the Generalitat.

Weeks of civil disobedience in Catalonia probably lie ahead. Officials in Madrid are worried about whether they can make intervention stick. But if the Spanish state decides to move, it cannot afford to lose the subsequent trial of strength. Mr Puigdemont has repeatedly called for "dialogue"—but only about the "terms and timescale for independence", as Mr Rajoy complained this week. Polls show that most Catalans want a better deal within Spain, rather than to leave it. Mr Rajoy has agreed to a Socialist proposal to set up a congressional committee to discuss constitutional reform. If there is a solution to Spain's ills, that is where it lies. ■

Independent thinkers

Russia's presidential race

Centre ring

MOSCOW

Ksenia Sobchak fills out the cast of Russia's electoral circus

KSENIA SOBCHAK first gained fame in Russia as the host of *Dom-2*, a raunchy reality-television show where contestants compete for love while building a house. Since then, Ms Sobchak, whose father was Vladimir Putin's political mentor, has cycled through a variety of roles, including talk-show host, opposition leader, journalist, restaurateur, model and actress. Her latest part may be her biggest yet: candidate for president of Russia.

Ms Sobchak acknowledges that the election, due in March 2018, is not a real contest, but a "high-budget show". She knows that she has no chance, but says she represents voters who are "against everyone". Ms Sobchak insists her role has not been approved by the powers that be, but few in Moscow politics believe her. Many recall the bid in 2012 of Mikhail Prokhorov, the oligarch who owns the Brooklyn Nets basketball team, which was widely seen as a Kremlin ploy to absorb the protest vote.

Ms Sobchak's candidacy looks similar. In early September, *Vedomosti*, a respected business daily, reported that the Kremlin was seeking a woman to face off againstMr Putin; one source called Ms Sobchak the "ideal candidate". When she announced her candidacy in mid-October, she got an approving comment from Mr Putin's spokesman and coverage on state television, which normally shuns the opposition. She says her campaign is financed by unnamed "businessmen", and avoids criticising Mr Putin. "He helped my father in a very difficult situation, and basically saved ▸▸

his life," she says. (Her father, Anatoly Sobchak, was mayor of St Petersburg in the early 1990s; Mr Putin helped him to flee a politically-motivated investigation in 1997.)

For the Kremlin, Ms Sobchak's presence distracts attention from Alexei Navalny, the anti-corruption campaigner and opposition leader. In recent months Mr Navalny has criss-crossed the country, staging rallies in hopes of forcing the Kremlin to allow him on the ballot. (He is barred from running due to trumped-up embezzlement convictions.) The thousands of youngsters at Mr Navalny's marches this year have spooked the Kremlin. Aged 35, Ms Sobchak, too, positions herself as the youth candidate. "I want the voice of my generation to be heard," she says.

With her social-media following and celebrity glow, Ms Sobchak will also help inject drama into the tedious ritual of Mr Putin's re-election. Despite much scepticism, talk of Ms Sobchak's announcement dominated social media and Russia's remaining independent news outlets, reflecting a hunger for political movement of any kind. "Now we must write about Sobchak, the noise is constant, the hype incessant," riffed Dmitry Bykov, a prominent writer and poet. "We've run out of rhymes for the word 'Putin.'" Ms Sobchak's first press conference provided a preview of the theatrics. She announced as her campaign manager Igor Malashenko, a former television boss who helped engineer Boris Yeltsin's re-election in 1996. The event was interrupted by a heckler in a unicorn mask.

Yet unlike the hermetically-sealed world of reality television, politics can take on a life of its own. Ms Sobchak's liberal agenda, argues Kirill Rogov, a political analyst, may prove more enduring than her candidacy. By giving her a platform for her message, "The Kremlin seriously risks strengthening the influence of this agenda in public opinion, making it commonplace, especially among the youth." The circus may yet surprise the ringmasters. ■

A model candidate

Elections in Czech Republic

Czechs and balances

PRAGUE

Andrej Babis's win shows voters are frustrated with politics

THE ANO ("Yes") party, led by Andrej Babis, an agro-industrialist billionaire, won a clear victory in the Czech general election on October 21st. Like other populist politicians, Mr Babis attacked established political parties as a cartel of insiders, despite himself serving as finance minister from 2014-17. "Traditional parties play this game of left and right, but they are not left and right," Mr Babis says. "They have the same programme: power and money." The message worked. ANO took 29.6% of the vote and 78 of 200 seats.

But as in many European countries, Czech politics is fragmenting. Nine parties will enter parliament, including everything from communists to far-right xenophobes, and there is no obvious coalition. Czech unemployment is low, the economy is growing and wages are rising. Yet voters seem more focused on fears that the European Union will force their country to accept refugees, and the sense that corrupt insiders have cornered the gains from the country's decades-long transition to a market economy. Besides ANO, the two parties that gained the most were on the political fringes: the Pirate Party, which came third with 10.8%, followed by the far-right Freedom and Direct Democracy (SPD) party, which won 10.6%. Like Mr Babis's party, they embody Czech voters' disenchantment, but in different ways.

Even in the colourful field of European far-right populists, the SPD stands out. The party is a personal vehicle for its founder, Tomio Okamura, whose own background (he was born in Tokyo, and his father is half Japanese, half Korean) sits oddly with his racially provocative, anti-immigrant platform. Mr Okamura has played on anti-Roma prejudice by falsely claiming that the Nazis did not exterminate them based on race, but sent them to concentration camps because they refused to work. In a country with a negligible Muslim presence, he wants police to ferret out backers of sharia law. He also demands implausible EU reforms (such as ending freedom of movement), or a referendum on a Czech exit.

Before entering politics, Mr Okamura launched a beer magazine and a travel agency for stuffed animals, which charged clients €90 ($123) and up to ship their teddy bears to their landmark of choice and take a photo. He founded his first party, the Dawn of Direct Democracy, in 2013, and won 14 seats. That party forced him out two years later, accusing him of abusing

Tomio Okamura, Czech nationalist

funds. Mr Okamura denies the allegations. But many observers doubt he can hold his new MPs together for long, either.

The Pirates are a more credible lot. Founded in 2009, they advocate transparency and e-government, and strongly support the EU. The party's chairman, Ivan Bartos, is a former IT professional with impressive dreadlocks. The Pirates' main strength is in Prague, where they already hold seats in the city assembly. But they appeal broadly both to the young and to educated elites worried by Mr Babis. With the country's other pro-EU parties discredited during previous terms in government, many liberals turned to the Pirates as a sort of blue-blooded protest vote.

Mr Babis is a pragmatist who prides himself on competence; the Czech government ran a budget surplus with him as finance minister last year. But his ownership of newspapers and other media leads to fears of incipient oligarchy. A new law has forced him to place his conglomerate, Agrofert (the country's largest private employer), into a trust, but he remains the beneficiary. In September, parliament stripped him of immunity so that he could be charged with fraud over an alleged Agrofert scheme to tap EU funds. The election renewed his immunity; a new vote would be needed to reinstate the charges.

Mr Babis rejects forming a coalition with the SPD or with the communists, and moderate parties (like the conservative Civic Democrats, who came second with 11.3%) rule out co-operating with him. But they do not necessarily reject his party, ANO. Mr Babis may be forced to appoint someone else as prime minister. Such an arrangement would allow him to run the country as he now runs his business—as a behind-the-scenes power-broker. ■

Italy's referendums

Autonomous movement

ROME

Northern Italy is not asking for independence, yet

MORE than 5m Italians took part on October 22nd in two referendums on granting more autonomy to the rich, northern regions of Lombardy and Veneto, which drew inevitable comparisons to the independence ballot three weeks earlier in Catalonia. Few in Italy travelled as far to cast their votes as Maurizio Zordan. The 53-year-old executive recently moved to Grand Rapids, Michigan, to run the American subsidiary of his family firm, which sells shop fittings for luxury-brand stores. But he felt so passionately about the referendum that he flew back to vote in his home town of Valdagno.

The governments of the two regions staged the ballots ostensibly to give themselves a popular mandate to open negotiations with Rome (even though they could have demanded talks without a vote). Both administrations are dominated by the Northern League, which once advocated secession for the richer north.

Few people opposed to more autonomy bothered to vote against it, so the size of the turnout was crucial. In Veneto, which includes Venice and its flat, agro-industrial hinterland, the turnout was 57% (with 98% of the votes in favour). But in Lombardy, the region around Milan, it was a mere 38% (95% for autonomy).

Currently, five of Italy's 20 regions have more extensive powers than the others. If Lombardy and Veneto joined them, they would hang on to a greater share of the taxes collected there. And since the two regions generate about 30% of Italy's GDP, that could mean much less money for distribution to the poorer south.

Even though he is a member of the centre-left Democratic Party (PD), Mr Zordan would welcome that. "The moment has come for Italians to take responsibility for themselves," he says. The south, he argues, is mafia-infested and backward, despite almost 70 years of subsidies. The regional governments of Lombardy and Veneto claim to have a combined annual fiscal deficit with the rest of Italy of more than €70bn ($82bn), equal to 8% of national government spending.

As in Catalonia, the Italian votes reflect the impatience of rich northerners with poor southerners, whom they consider corrupt and spendthrift. But there the parallels end. The referendums in Lombardy and Veneto were indisputably legal and endorsed by the Constitutional Court. Neither proposes independence. And advocates of autonomy in Italy invoke cultural and linguistic identity far less than secessionists in Spain (even though, for over a thousand years, Venice was an independent republic, and its dialect is considered a separate language by many linguists).

So what now? The most cynical view is that the Northern League pushed the referendums merely to raise its profile ahead of a general election due early next year, and that the party leadership may drag its feet in its pursuit of autonomy. Matteo Salvini, who has led the party since 2013, has shifted his focus away from purely northern issues, trying to build a right-wing populist movement with national appeal. He has even gone fishing for votes in the south.

The referendums were non-binding, and while autonomy won a majority of all registered voters in Veneto, in Lombardy it won only among those who voted. In Milan, barely 30% of registered voters supported it. The governor of Lombardy, Roberto Maroni, said the central government had agreed to talks. But Rome is under no obligation to reach an agreement. And any deal would need to be approved by both chambers of the national legislature.

Nevertheless, the example of Catalonia suggests that calls for autonomy can change inexorably into demands for independence. In an interview before the vote, Mr Maroni scoffed at the comparison with the Spanish region, which he said wanted to be the 29th state of the EU. "We, no," he said. But he added: "Not for now." ■

Malaria in Switzerland

A recurring ague

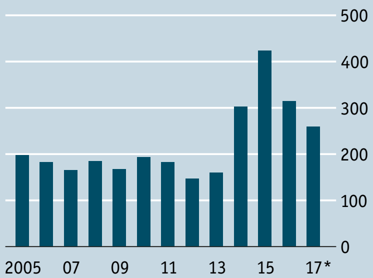
Europe should watch out for an old disease

"YE SHUL hav a fevere tertaine," a line from Chaucer's *Canterbury Tales*, is probably a reference to malaria, which was rife in swampy areas of medieval England. ("Tertaine" refers to the fever's tendency to recur every three days, a hallmark of the variety known as *Plasmodium vivax*.) The parasite was once endemic throughout Europe, not just in southern countries like Greece but as far north as Finland. In Italy in the late 19th century it used to kill 15,000 people each year. But by the end of the last century public-health programmes had rid the continent of the disease. Today, even in Africa and Asia, the war on malaria is going well: between 2000 and 2015, the World Health Organisation reported a 37% drop in the global incidence rate, and a 60% fall in the death toll.

One might thus think that in Switzerland, of all places, doctors would have little need for anti-malarial treatments. Yet data from the Swiss public health department (BAG) show that annual cases of *P. vivax* have recently jumped, from under 200 in the mid-2000s to 250-400 for the past four years. Similar increases in malaria have been recorded in Germany, France and Sweden, according to the European Centre for Disease Control (ECDC). Almost all of the Swiss cases since the start of the migrant crisis in 2014 have been refugees from Eritrea.

Fever rising

Switzerland, cases of malaria



Source: Swiss Federal Office of Public Health

*Year to August, annualised

Researchers do not think any of the victims were infected in Switzerland. A 2016 report in the *Malaria Journal* found it was unclear whether *P. vivax* infection is occurring before migrants embark on their journey to Europe or along the way. But parasite stages can lie dormant in the liver for months or years, meaning patients can transmit the disease to others before symptoms arise. Switzerland is free of the *Anopheles* species of mosquito that transmits *Plasmodium falciparum*, the more deadly variety of malaria which is present in sub-Saharan Africa. But other mosquito species common in temperate climates can transmit *P. vivax*.

It is extremely unlikely that malaria will again become endemic in Europe. That would require a large infected host population and lots of mosquitoes. But short outbreaks are possible, especially in southern countries. One in Greece in 2011-12 infected 189 people, a warning that countries like Switzerland should be prepared to treat those who arrive carrying the sickness. Yet primaquine, the only treatment for *P. vivax*, is not registered in Switzerland. Doctors must order the drug from abroad, says Adrien Kay of the BAG, and they are reimbursed only at insurers' discretion. That seems risky. The best way to stop malaria from coming back is to swat it quickly.

Charlemagne | The mogul of Prague

The new star of Czech politics is not about to lead an anti-Europe uprising

WHY does it keep happening? Consider some events of the past week. Andrej Babis, a tycoon with a populist bent, sweeps aside the old guard in a Czech election. Fresh from his own electoral success, Sebastian Kurz, the boy wonder of Austrian conservatism, opens coalition talks with a far-right party that harbours former neo-Nazis in its ranks. Dozens of deputies from the anti-immigrant Alternative for Germany party take their seats in a Bundestag that was supposed never to find space for their kind, while Viktor Orban, the father of Hungary's illiberal democracy, declares central Europe a "migrant-free zone".

It is tempting to seek a single explanation for these disparate phenomena. Perhaps Angela Merkel's open-door refugee policy of 2015 is to blame. Maybe this is the rage of those left behind by the uneven distribution of globalisation's booty. Or it could be that the central Europeans have had enough of the overbearing bully-boys of Brussels. Worse, if these outcomes stem from a common cause, some fear they might coalesce into a common threat. Surveying the bleak landscape, one commentator discerns "an insurrection by the Habsburg Empire against the EU."

That is a misunderstanding. True, the likes of Mr Orban or Jaroslaw Kaczynski, the de facto leader of Poland, pose a genuine threat to the EU by undermining its legal order. But most of the neighbourhood's leaders seek to harness the benefits of the club they belong to. Mr Kurz's obsession with managing migration leads him to advocate collective European border controls rather than bash Eurocrats. Mr Babis is a pragmatist who knows his country's success rests on Europe's integrated supply chains and open internal borders. Indeed, Robert Fico, the prime minister of Slovakia, is currently enjoying a star turn as the region's Europhile-in-chief. All have been happy to use the EU as a punchbag when expedient. None wants to blow it up.

Rather than an inveterate nationalist or Eurosceptic, Mr Babis is in fact a man of "no ideology whatsoever," in the words of a Czech official. Yet this makes his political success, posing as an anti-elitist outsider, even harder to grasp. The Czech economy is one of Europe's zippiest. Czechs suffer few of the historical grievances or cultural cleavages that beset their neighbours. And yet almost one-third of them plumped for an angry billionaire who spends his time lambasting the political system as a cabal of corrupt insiders (despite serving as finance minister for the past four years). His great champion, President Milos Zeman, is a hard-living, Putin-loving boor who this week brandished a mock AK-47 bearing the inscription "For journalists". The new parliament will be chock-full of anti-system parties (see page 40), including Mr Babis's ANO. What makes the Czechs so cranky?

One clue might lie in unreasonable expectations about what EU membership could bring the ex-communist countries of Europe. Nearly 30 years after 1989, wages in the Czech Republic are 40% that of neighbouring Germany. A related gripe is a perceived sniffiness from the West, expressed in exaggerated central European fears that food multinationals are dumping second-rate products on to their markets. The European Commission's response to eastern jitters has been to insist that all EU projects, such as the single currency, should be open to all EU countries, not just the usual suspects in the West. But in non-euro countries like the Czech Republic, even mentioning euro membership sounds like a haughty warning to join, or be left behind.

Emmanuel Macron takes a different approach. Over the summer France's president toured central Europe, glad-handing friendly leaders while shunning Messrs Orban and Kaczynski. This divide-and-conquer stratagem paid off handsomely this week when the Czechs and Slovaks broke ranks with a group of eastern European countries to back a tightening of cross-border labour rules inside the EU, a totemic issue for Mr Macron. Today France's relations with Poland are at rock-bottom. But things are going swimmingly with the Czechs.

The morrow would obliterate the plans of today

What does unite the populists of the east is the fragility of the institutions around them. Political parties come and go with alarming speed, often, as with ANO, merely serving as vehicles for the interests of an individual or small group. Bureaucracies may be malleable to political caprice. Media and civil society may not have the strength or independence to check leaders' excesses.

Mr Orban has exploited these weaknesses to reshape Hungary's institutions to serve his Fidesz party and its cronies, while railing against "globalists" like George Soros, a Hungarian-born financier, and the European officials who supposedly dance to his drum. Mr Kaczynski, despite holding no government post, has embarked on a messianic mission to reinvent the Polish state to correct what he considers the injustices of the post-1989 settlement. Both men lead parties that dominate opinion polls, crowd out opponents and foul the air.

The Czech system has its own fissures, but Mr Babis poses a different sort of threat. The risk is not of an ideological reshaping of the state, but of weak institutions failing to restrain oligarchic rule. Mr Babis, the second-richest person in the Czech Republic, has vast agricultural and industrial holdings (though he has placed them in a trust) and two newspapers. In his modestly titled book *What I Dream Of When I Happen To Be Sleeping*, he proposes scrapping checks on power, like the Senate or town councils. Lacking a majority in parliament, Mr Babis cannot inflict too much damage. But Milan Nic, an analyst at the German Council on Foreign Relations, worries about who may follow in his wake.

Certainly, Mr Babis and his kind warrant a certain vigilance. But Europe need not gird itself for Habsburg mutiny. There is no tidal wave of revolutionary populism washing over the east. That is just as well, for managing the swirling eddies of central Europe's politics presents enough of a challenge. ■

The Economist

SPECIAL REPORT
E-COMMERCE
October 28th 2017

The new bazaar

The new bazaar

E-commerce is transforming business and daily life, mostly for the better, says Charlotte Howard

IN WAREHOUSES AROUND the globe, they wait: toys, phones, dresses, televisions, blankets, trainers, laptops and much more. In China, online retailers are gearing up for "Singles Day", November 11th, the world's busiest shopping day. Last year Alibaba, much the biggest of the country's e-commerce giants, rang up sales of $18bn on that occasion, the most ever spent in one day anywhere on Earth. Much of the rest of the world is preparing for the Christmas rush. Present-hunters used to wear themselves out tramping around crowded shops. Now, increasingly, they order from the comfort of their homes or offices.

Over the past decade global e-commerce has been expanding at an average rate of 20% a year as bricks-and-mortar shops have languished. Yet its share of total retail trade last year, at 8.5% worldwide, was still modest. Even in South Korea, the country with the highest percentage of retail sales online, it amounted to only 18%, according to Euromonitor, a research firm. In America, the world's biggest consumer market, it made up about 10% of the total. And in many middle-income countries its share was much lower: less than 5% in India and Brazil, for instance.

But there is every reason to think it will get much bigger. In rich countries millennials who grew up buying goods online are moving into their prime spending years. In poorer ones, rising incomes and the spread of mobile phones will bring more shoppers online. In China, although growth in e-commerce has slowed, Goldman Sachs, a bank, still expects online spending to more than double between 2016 and 2020, to make up nearly one-third of total retail sales. In America, Euromonitor predicts that its share will rise from about one-tenth last year to about one-sixth in ▸▸

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A list of sources is at
Economist.com/specialreports

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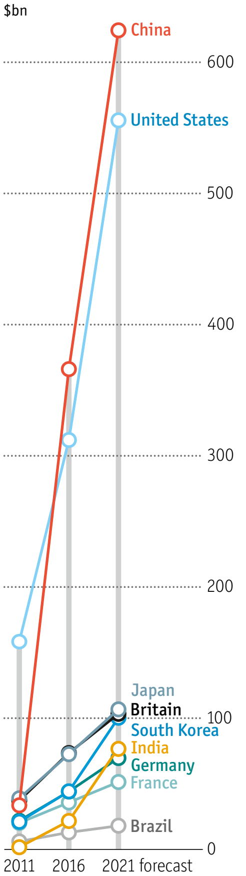
Whoosh!

Online sales, 2016 prices
$bn



Source: Euromonitor

2021. In Britain the figure may rise to one-fifth.

The relentless growth in e-commerce may eventually run up against natural limits. In America, argues Frederick Smith, the founder and chief executive of FedEx, a logistics firm, rising shipping expenses will make e-commerce less attractive. And different parts of the world will progress at different speeds. In India, for instance, growth has faltered. Yet there is no doubt that e-commerce has much further to go. What is less clear is how far and how fast it will rise, where it will do best, and how great its impact will be.

America and China, the world's two biggest economies, have produced the two titans of the industry, Amazon and Alibaba. Both are relative youngsters. Amazon, started by Jeff Bezos as an online bookshop, had its initial public offering in 1997. Alibaba was founded by Jack Ma in 1999. Since then both have been growing at breakneck pace, bringing large-scale disruption not only to retailing but to a range of industries spanning logistics, entertainment, advertising and manufacturing in their home countries. Both have also been expanding their empires abroad. Amazon already has e-commerce sites in 14 markets and is planning further growth. Alibaba's foreign ventures range from South-East Asia to Brazil and Russia.

The two giants do not have the field all to themselves. In America, Walmart remains the biggest retailer and is spending heavily on trying to fend off Amazon. It also has a stake in JD.com, an e-commerce firm based in Beijing that had 13% of the Chinese market last year. In China, Alibaba faces not just JD but also Tencent, a messaging and payment company that is now JD's biggest shareholder. Smaller e-commerce firms around the world have the backing of giant investors such as SoftBank, Naspers and Tiger Global. In this business, size matters. Thanks to the power of data, technological expertise and large distribution networks, the biggest e-commerce firms will only get bigger.

Data day

Since retailing touches the economy and society in so many ways, e-commerce is already having broad effects well beyond the industry itself. In many countries retail is the biggest single private employer. In America it accounts for one in nine jobs. It is also affecting the way that other kinds of firms do business. Logistics companies are trying out new ideas to meet ever-rising expectations of fast, free delivery. Small new manufacturers are able to challenge big, established ones, thanks to the ease of selling goods online. Mountains of consumer data, the most treasured commodity of 21st-century commerce, are helping manufacturers develop products and interact with shoppers, not just online but increasingly in physical shops as well.

The implications are all the broader because Amazon and Alibaba, the industry's two most innovative companies, do not define themselves as retailers at all. Amazon does not just sell goods: it leases cargo planes, produces films and offers a voice assistant, Alexa. Its cloud-computing business, Amazon Web Services (AWS), powers its own operations along with those of many other firms and is a vital source of profits, keeping its investors patient. Alibaba's business is even broader than Amazon's, including not just shopping, entertainment and cloud computing but payments and social media as well. Both companies' activities generate cash and rich streams of data which can be used to improve their existing services and add more. Alibaba describes itself as providing the pipes and cables for all kinds of business. "To some extent we are a utility company," says Daniel Zhang, its chief executive. "We are trying to provide an infrastructure for digital commerce."

Consumers have already gained much from all this, with more in prospect. They are enjoying a broader choice of goods and more price transparency than ever before. Instead of spending time travelling to shops, picking up goods and waiting in queues, they can now do other things. Companies no longer take them for granted but compete to offer them better products, greater convenience and improved service.

For bricks-and-mortar shops these are difficult times. In some parts of the world shopping malls are being blighted as their customers move online and are served from vast warehouses instead. Many traditional retail jobs will vanish as shops close and the remaining ones use more automation. Some new jobs will be created, but they may not make up for those that have gone. And electronic tracking of consumers in order to sell them more stuff will become ever more intrusive.

This special report will examine the effect of these changes on the retail industry and those linked to it, such as logistics, marketing and manufacturing, and assess their broader impact on society. It will begin by looking at the role played by America's and China's twin e-commerce giants, Amazon and Alibaba. ■

Amazon

Beyond shopping

The one-time bookseller has become a conglomerate

FOR SHOPPERS IN 2017, it can be hard to remember what life was like in the early 1990s. There was mail order, but by and large if you wanted to buy something you went to a shop. Jeff Bezos, Amazon's founder, who was then working for a New York hedge fund, noticed the exponential growth of the internet. His idea was to create an online company that would bring together shoppers and manufacturers around the world, starting with books.

Not everyone was convinced. A cover story in 1999 in *Barron's*, a business weekly, entitled "Amazon.bomb", argued that the company would struggle to compete with mighty Walmart and Barnes & Noble. But like many of Amazon's competitors, it failed to predict the firm's ever-expanding scope, the feverish pace of its spending and the enthusiastic support from investors.

For much of its life Amazon has bled red ink. As recently as ▸▸

Amazon's spheres of influence

2014 it lost $241m on sales of $89bn. Its e-commerce side now makes money, but its most profitable arm is its cloud-computing business, which last year earned 74% of its operating income. Mr Bezos continues to value long-term growth more highly than short-term profits. Morgan Stanley, a bank, expects Amazon to grow by an average of nearly 20% a year between now and 2025. When the firm announced in September that it would build a second headquarters in North America in addition to its Seattle base (pictured), mayors queued up. In Seattle it now employs more than 40,000 workers, and globally a further 340,000.

Amazon's mission, to be "Earth's most customer-centric company", places few limits on what it might do next. "We want to invent on behalf of customers," says Jeff Wilke, who runs the company's e-commerce business. "We're going to experiment in a host of ways and try things. Some of them will fail and many of them will succeed."

The company has pursued a strategy of relentless investment to win new customers and generate more cash so it can win yet more customers. What is remarkable about this effort is the scale. In the year to June Amazon spent about $13bn on new technology products for its cloud and e-commerce businesses, nearly 20% more than Google and more than three times as much as Facebook, according to Goldman Sachs.

Amazon aims not just to meet customers' expectations but to set new ones. Its Prime annual subscription ($99 in America) initially just made it easier to buy things online and covered shipping, but now includes audio and video streaming.

With its cloud business, launched in 2006, Amazon created a new way to serve its own computing needs and those of other companies. Instead of investing in their own facilities, firms can rent computing power from Amazon. AWS now provides the infrastructure for startups and a growing number of big firms. Its basic computing business is larger than that of its three closest competitors combined.

But Amazon's biggest impact is still in e-commerce. In America it accounted for more than half the growth in online spending last year. More searches for products begin on Amazon than on Google. The company has found that its entertainment offerings complement its e-commerce business, keeping its Prime subscribers on board. That is important because those subscribers spend more than four times as much as other Amazon shoppers, estimates Brian Nowak of Morgan Stanley. He reckons that in America more than a third of all households have Prime. Its success depends in part on the speed of delivery, usually within a day or two, and the absence of incremental shipping costs. The result is that consumers buy more kinds of goods online.

In America at least, an exception so far has been groceries, for which most people still trek to supermarkets. But that may change. When Amazon announced in June that it would buy Whole Foods, an upmarket grocer, for $13.7bn, supermarkets' share prices plunged.

The company's investments in its warehouses have persuaded ever more independent sellers to use them, too. Amazon's own inventory now accounts for less than half the sales on its site. Revenue from independent merchants around the world that list their products on Amazon reached $23bn in 2016, about twice as much as two years earlier. Customers enjoy a broader selection and Amazon reaps more profits to reinvest.

It is a dizzying way to do business. Amazon's many sources of revenue, as well as its masses of data and comprehensive distribution system, make it difficult for competitors to keep up. And when new ones have emerged, Amazon has often ended up buying them, as it did with Quidsi, an online nappy business, and Zappos, a shoeseller.

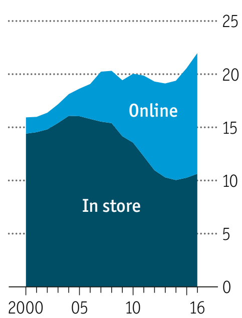
The next thing it might do is to reinvent physical stores—whether Whole Foods or others. In an experimental Amazon shop in Seattle, customers can choose items and pay automatically, without stopping at a checkout, thanks to sensors and machine learning. If it catches on, it could be widely deployed.

Among the company's most interesting new tools is its voice assistant, Alexa, available through its Echo speaker. It offers a way for customers to order goods from Amazon. But the company has also opened the assistant to other firms so that they can enable Alexa to operate their products. In this field, Amazon is competing against Google, Microsoft and Apple. Techies reckon voice assistants could replace phones and tablets as the interface with the digital world. For now, Amazon is far ahead, holding 76% of the American market for smart home speakers.

Amazon is still seeking new ways to enmesh itself further in its customers' lives. Consumers in rich countries, in particular, are spending more on services, health care and entertainment as opposed to goods. Amazon intends to follow that business. In America, customers can already use the company to deliver a Chinese meal to their home, hire someone to assemble a flat-pack, manage their newspaper subscriptions or search for a local dermatologist.

A new chapter

United States, book sales, $bn



Sources: Cowen and Company; US Census Bureau

In effect, Amazon has become a conglomerate—a model that has had its ups and downs. Not everything it has touched has turned to gold. Its Fire phone flamed out disastrously soon after it was launched in 2014. But the company is happy for some of its ventures to flop as long as many thrive. So it will probably continue to expand, reaching ever farther into people's daily lives. That may seem overambitious, but a precedent already exists: Alibaba in China. ■

China

The everywhere stores

Alibaba demonstrates the benefits of breadth

ON AN AVERAGE morning a young urban professional anywhere in the world might wake up, check her social-media feed and order a cab on her mobile. While sitting in traffic, she might use her phone to purchase groceries and watch a video, and later to pay the driver and buy a coffee. Once at work, she might make an online payment to reimburse a friend for a concert ticket. So far, so normal. But if that young urbanite were living in China, every one of these activities could have been powered either by Alibaba or a company in which it has a stake.

E-commerce in China is sweeping the board. Last year online sales in China hit $366bn, almost as much as in America and Britain combined. Growth has slowed from its eye-popping pace of a few years ago, but Euromonitor predicts that online shopping's share of total retail will rise to 24% by 2020; Goldman Sachs, whose forecast includes sales from one consumer to another, puts the figure at 31%. That will mean selling more to existing shoppers and gaining new ones in smaller cities and towns. About 80% of adults in China's biggest cities already shop online.

Alibaba, the company leading this transition, makes most of its money from advertising. But it has permeated consumers' lives in ways not yet seen in America or Europe. Westerners should picture a combination of Amazon, Twitter, eBay and PayPal, but broader. Alibaba's creation story is well polished. Jack Ma, its founder and chairman, was born in Hangzhou in 1964, the same year as Amazon's Mr Bezos, and perfected his English by offering free tours of his home town to foreigners. His first visit to America in 1995 inspired him to set up an internet business in China. After a few false starts he founded Alibaba in 1999 to help Chinese manufacturers sell to foreign buyers. He also established Taobao, where independent sellers can list products, and Tmall, an e-commerce site for big brands. Much more followed.

Alibaba's vertiginous rise was powered by hundreds of millions of increasingly well-off Chinese coming online, and helped along by a dearth of well-established incumbents. For example, its online marketplace required a reliable way to make payments in a country where credit cards were still rare. So Alibaba created Alipay, a digital payments system that held a buyer's money until he received his order and was happy with it. It was spun out into an affiliate, Ant Financial, in 2014. Alipay is now used by about 520m people, not just to shop on Taobao or Tmall but to pay bills, buy lunch or send money to family. Amazon has nothing of this kind. Most American and European consumers have stuck with their tried-and-trusted credit cards. Last year Alipay had 2.5 times as many users as PayPal and more than 11 times as many as Apple Pay. And new services are still being added.

Alibaba's online marketplaces are also expanding. The company not only sells all manner of goods but has now moved into health care and services. Ali Health sells medicines online. Mr Zhang, Alibaba's CEO, recently announced a partnership with Marriott, the world's biggest hotel chain. His company has also bought or taken stakes in other firms to extend its reach. It owns Youku, a video-streaming site, and has invested in Weibo, a Twitter-like social-media company with 361m users, as well as Didi, a ride-sharing service. If a consumer likes the dress worn by an actress seen on Youku, she can instantly buy it through Tmall.

But if China reveals how broad one company's scope can be, it also shows how a rival might emerge. Alibaba has two main competitors, JD and Tencent, which have recently joined forces. Tencent began as a gaming and messaging business. Its "Honour of Kings" is estimated to be the world's top-grossing video game; its popular messaging app, WeChat, has 963m monthly users. Whereas Alibaba began with e-commerce and payments and then expanded, Tencent began with gaming and messaging and has moved further into commerce. Tencent's mobile-payment app, WeChat Pay, had 40% of the market in the first quarter of the year, compared with Alipay's 54%. Tencent started investing in JD three years ago; it now owns about one-fifth of it and is its biggest shareholder.

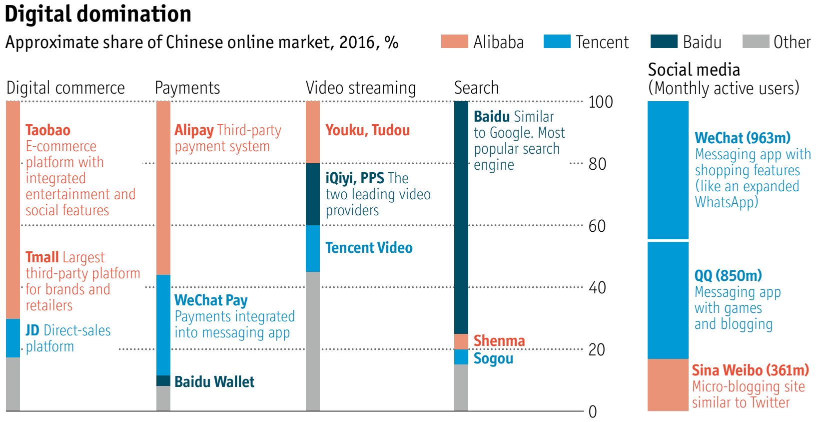
We know what you want before you want it

Unlike Alibaba, JD sells its own inventory and that of third parties, and has its own distribution system. Shoppers can buy goods from JD within WeChat's app. In August JD announced a partnership with Baidu, China's biggest search engine. This blurring of boundaries between digital activities provides Alibaba, JD and Tencent with a vast amount of information about its customers' lives. "We will know you as well as you know yourself," says Zhang Chen, JD's chief technology officer. Tencent can gather data from social-media feeds and payments both online and in stores, and Alibaba recently introduced a "unified ID", which collects data on individuals across Alibaba's many businesses. These data give companies greater insight into what consumers want so they can adjust their marketing accordingly. Big Brother, it turns out, is a capitalist who wants to sell you blue jeans.

"The most important thing is not meeting the demand but creating the demand," says Alibaba's Mr Zhang. His company, JD and Tencent have ambitions beyond e-commerce. They are also after the 85% of the retail trade that still takes place offline, either by bringing more spending online or by serving customers in stores. WeChat Pay and Alipay are already widely used for physical transactions. Pass a clothing store and you may receive a personalised coupon on your phone. JD and Alibaba cast them- ▸▸

Digital domination

Approximate share of Chinese online market, 2016, %



Sources: Goldman Sachs; Boston Consulting Group; company reports selves as potential partners of bricks-and-mortar retailers, not just helping with delivery but providing tools to transform the way stores operate. JD is using its logistics business to supply goods to small convenience stores, cutting out parts of the supply chain. Alibaba has invested in grocery and department stores. In Hema Xiansheng, its growing supermarket chain, prices on electronic tags can be changed throughout the day.

Mr Ma says he wants to use technology to change Chinese manufacturing. Alibaba already provides services such as advertising and cloud computing and hones those services continually, based on the data it gathers. Mr Zhang wants to use such "data-driven infrastructure" to support other businesses. In China, Alibaba has achieved some of that. But as it invests abroad, it is coming up against Amazon and others, who are eager to do so with infrastructure of their own. ■

Going global

Home and away

E-commerce giants are trying to export their success

IN SEPTEMBER 2014 Jeff Bezos announced his first big investment in India, hopping aboard a colourful bus in Bangalore. It was the start of a rapid $5bn investment in India, part of Mr Bezos's plans to take Amazon global. Two months later Alibaba's Jack Ma appeared in Delhi. "We will invest more in India," he declared. The following year Alibaba put $500m into Paytm, an Indian digital-payments company. This year it led a fundraising round for Paytm's e-commerce arm. The two giants seem set for an epic clash in India.

But in their home markets they have so far stayed out of each other's way. Amazon has only a tiny business in China. Alibaba's strategy in the United States has been to help American businesses sell in China and vice versa. "People always ask me, when will you go to the US?" says Alibaba's CEO, Mr Zhang. "And I say, why the US? Amazon did a fantastic job." The two firms have mostly invested in different foreign markets: Alibaba across South-East Asia and Amazon across Europe. But much of the rest of the world is still up for grabs.

In September 2014 Jeff Bezos announced his first big investment in India, hopping aboard a colourful bus in Bangalore

The biggest tussles will probably be over growing economies and cross-border commerce. Alibaba aspires to serve 2bn customers around the world within 20 years—a benevolent empire that supports businesses. In some cases it has begun with digital payments, as in India with Paytm. In others it has invested in e-commerce sites, as with Lazada, in South-East Asia. But it intends to build a broad range of services within each market, including payments, e-commerce and travel services, and then link local platforms with Alibaba's in China.

Mr Ma wants to enable small firms to operate just as nimbly as big ones on the global stage. Alibaba helps Chinese companies sell in places such as Brazil and Russia, and assists foreign firms with marketing, logistics and customs in China. Eventually it hopes to use its technology to link logistics networks around the world so that any product can reach any buyer anywhere within 72 hours. That is still a long way off, but it gives a glimpse of the company's staggering ambition.

Amazon already earns more than one-third of its revenue from e-commerce outside North America. Germany is its second-biggest market, followed by Japan and Britain. This year it bought Souq, an e-commerce firm in the Middle East. Its criteria for expansion elsewhere include the size of the population and the economy and the density of internet use, says Russ Grandinetti, head of Amazon's international business. India has been one of its main testing grounds.

Amazon, like Alibaba, also wants to help suppliers in any country to sell their products abroad. An Amazon shopper in Mexico, for instance, can buy goods from America. Mr Grandinetti sees such cross-border sales as an increasingly important component of Amazon's value to consumers and sellers alike.

Yet both companies run the risk that strategies which did well in their home countries may not succeed elsewhere. In China, for instance, the popularity of e-commerce relied on a number of special factors. China's manufacturers often found themselves with excess supplies of clothes and shoes; Alibaba provided a place to sell them. Alipay thrived because few consumers had credit cards. China has also benefited from having cheap labour and lots of big cities—more than 100 of them with over 1m people—creating a density of demand that made it worthwhile for logistics firms to build distribution networks.

As they expand, however, Amazon's and Alibaba's business models may shift and, in some markets, start to converge. So far the companies have differed in important ways. Amazon owns inventory and warehouses; Alibaba does not. But Alibaba has a broader reach than Amazon, particularly with Ant Financial's giant payments business. As Amazon grows, it may become more like Alibaba. In India, for instance, regulations prevent it from owning inventory directly. And Amazon recently won a licence from the Reserve Bank of India for a digital wallet. Alibaba, for its part, may become more like Amazon. As the Chi-

WE ARE ALL IN THIS TOGETHER

By Tan Sri Dr Jeffrey Cheah AO

Tan Sri Dr Jeffrey Cheah AO is the Founder and Chairman of Sunway Group, and Foundation Chancellor of Sunway University, Malaysia.

On 25 September 2015, the 193 countries of the UN General Assembly adopted the 2030 Development Agenda titled "Transforming Our World: The 2030 Agenda for Sustainable Development." It was inspiring to see the world come together as one, and decide that addressing the planet's ills was no longer an option, but an urgent imperative.

The 17 Sustainable Development Goals (SDGs) range from addressing climate change to making education more accessible, from ending poverty to enhancing gender equality, to overcoming socio-economic issues such as rising inequality and widening wealth disparity. In short, the 17 SDGs represent a holistic approach to creating a better tomorrow for our future generations.

My views on sustainability were shaped by my formative years growing up in a small town called Pusing in the northern state of Perak in peninsular Malaysia. I witnessed first-hand the impact of poverty on families and how it closed off avenues for advancement, particularly in education, for the children. And Pusing back then was largely a tin-mining town. You could not fail to notice the ugly scars on the landscape left by abandoned and disused mining pools.

Poverty and environmental degradation are, thus, not abstract concepts for me. They helped form my convictions that education provides the optimum route out of poverty, and that we needed to help heal a bleeding Mother Earth. These formative childhood memories guided me in my subsequent entrepreneurial career and my philanthropic endeavours.

The very birth of the company I founded in 1974, Sunway Group, was grounded — if you will pardon the pun — in the concept of sustainable development, with the development of Sunway City, located just 10 miles from the national capital, Kuala Lumpur.

Four decades ago, the area was a barren land of disused and abandoned mining pools. Today, Sunway City is home to a thriving community of more than 200,000 people living, working and playing in Malaysia's first integrated township. Apart from residential units, it houses 10 educational institutes and entities, including three universities, hotels, one of the country's largest malls, a medical centre and Malaysia's first-ever theme park.

With more than 25,000 trees transplanted here, a complete ecosystem was restored. Today, you can find more than 150 species of flora and fauna within Sunway

City. Through a public-private partnership with Prasarana Malaysia Berhad, we have built a public transport system, with buses that run on electricity. Almost 50% of the city is open space and 24% of the city is green space.

We have built certified green buildings and constructed our own water treatment plant — the first of its kind in Malaysia — to purify water from a local urban lake to meet potable water standards. We have initiated a whole range of energy-saving and efficiency measures and have reduced carbon dioxide equivalent emissions by 12% between 2015 and 2016. And we are not finished yet. We plan to integrate technology even more deeply to establish Sunway City as a model "Smart Sustainable City" of the 21st century.

But environmental concerns are not the only SDG we address at Sunway Group.

As a "Master Community Developer," we recognise that no corporation can stand apart from the community it serves. We invest in job creation, and fill those jobs with local people. We have created an inclusive workplace for all Malaysians irrespective of race, religion, age and gender. Half of the group's workforce is female and a little over one-third of all Sunway Group managers are women. Sunway is also a signatory to the UN Global Compact, which unites businesses across the world under one large corporate sustainability initiative.

At Sunway, education is particularly close to my heart. As soon as I was able to, we established the Jeffrey Cheah Foundation (JCF) to which I gifted in perpetuity all of my equity in Sunway's educational institutions. The gift was valued at around US$180 million then, and the value has since grown to around US$250 million. The Foundation is now Malaysia's largest education-focused social enterprise and is governed by an independent board of trustees.

The foundation now owns and governs 16 educational institutions. It operates as a not-for-profit trust. Operating surpluses are reinvested into the institutions and disbursed as scholarships and research grants. The JCF has thus far given more than US$65 million to students in the form of scholarships. It is my personal goal to award more than US$250 million in my lifetime.

The foundation also gifted US$10 million to the UN Sustainable Development Solutions Network, which was used to establish the Jeffrey Sachs Center on Sustainable Development at Sunway University in Malaysia. The Center, launched on 9 December 2016, will mobilise comprehensive collaboration, particularly by Southeast Asian nations, to work coherently towards achieving the SDGs.

Our efforts at Sunway are underpinned by our recognition that in this time of budget restraints and economic uncertainty, realising the SDGs is not the sole responsibility of Governments alone. It requires the commitment of all sectors of society — the private sector, academia, civil society and, of course, every single individual.

We are all in this together.

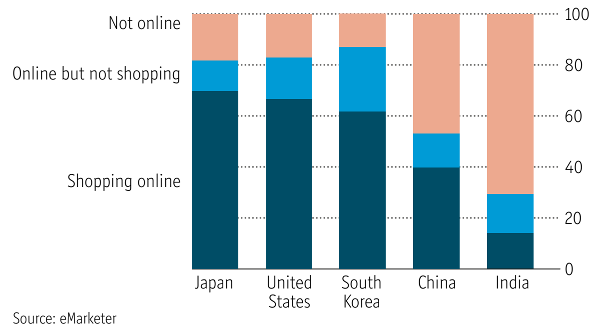
Sunway City, Kuala Lumpur, Malaysia

jeffreysachs.center

JEFFREY SACHS CENTER
on Sustainable Development
SUNWAY UNIVERSITY, Malaysia

Room for growth

Internet use, % of population, 2016



Source: eMarketer

nese firm set its sights on South-East Asia, it invested in SingPost, Singapore's state postal system. In September it became the majority owner in Cainiao, a Chinese logistics network, and said it plans to spend $15bn on logistics in the next five years.

Their advances may be slowed by other rivals. Smaller firms can flourish in niches. Flipkart, whose backers include Naspers and SoftBank, is competing fiercely with Amazon in India; the two companies routinely bicker over which has the bigger market share. Yoox Net-a-Porter, an online luxury-goods seller, is also expanding around the world.

Among the questions facing the two giants are whether other technology firms will pour more money into e-commerce, and what partnerships might emerge. Tencent's WeChat Pay is already challenging Alipay in China. About one-third of WeChat's users in China shop on that platform. Tencent is trying to recruit shops to accept its payment app in other countries, too, and recently took a stake in Flipkart. In deploying its services abroad, Tencent might get a helping hand from Naspers. The South African company owns about one-third of Tencent and has backed e-commerce firms around the world. Facebook is now muscling in on this business by making it easier for its users to buy goods through its messaging service as well as its other platforms, WhatsApp and Instagram.

The A-list still stands

For now, however, Amazon and Alibaba remain each other's most formidable international rivals. Success in e-commerce requires scale, which needs lots of capital. Local e-commerce firms in India have come under pressure from investors to boost profitability. Amazon has no problems on that score. As Amit Agarwal, head of Amazon India, puts it: "We will invest whatever it takes to make sure we provide a great customer experience."

Big firms also have a natural advantage as they expand, because technologies developed for one market can be introduced across many. "It's like a Lego set," says Lazada's chief executive, Maximilian Bittner. He can use pieces of Alibaba's model, such as algorithms for product recommendations, to improve Lazada's operations. Amazon's investments in machine learning have myriad applications anywhere in the world.

That does not mean that Amazon and Alibaba will dominate every country around the world, nor that they will crush every competitor. Bob Van Dijk, chief executive of Naspers, maintains there is room for many operators: "I don't believe in absolute hegemony." But given the two giants' ambitions and the benefits of scale, they are bound to become more powerful and compete directly in more places. That has implications for all sorts of industries, but particularly the retail sector. ■

Traditional retailing

Shop till you drop

The painful metamorphoses of physical shops

WHEN AMERICA'S RETAIL bosses gathered in New York earlier this year for the annual shindig of their trade association, the National Retail Federation, there was much talk about new technology to improve the industry's prospects, from sensors that read consumers' facial expressions to machine-learning software that can optimise prices. The ghost at the banquet was the company that gave no presentations but made its presence felt everywhere: Amazon.

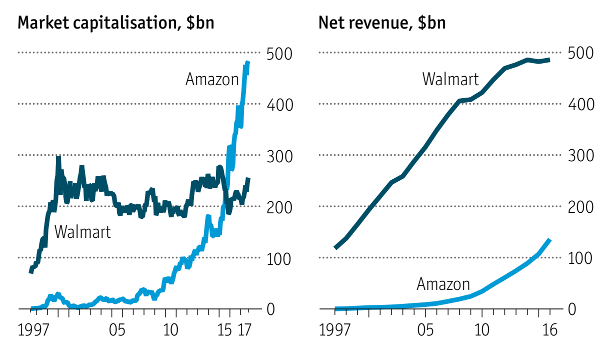
Traditional retailing has had a tough time lately. Traffic in shopping centres in Europe's biggest markets has been declining. In America, which has about five times as much space in shopping centres per person as Britain, the pain is acute. Chains that were faltering even before Amazon's ascent are now in even deeper trouble. Macy's, a department store, last year said it would close 100 of its 728 shops. Fung Global Retail & Technology, a consultancy, expects nearly 10,000 stores in America to close this year, about 50% more than at the height of the financial crisis in 2008. And there will be more to come.

Shops used to compete by offering a combination of selection, price, service and convenience. E-commerce's most obvious edge is in selection and convenience. Even the biggest store cannot hold as many items as Amazon can offer. Walmart conquered America by saving consumers money; Amazon is doing the same by saving them time. Shops still provide immediacy and a personal experience. But though getting attentive service at Gucci may be fun, waiting to pay at the supermarket is not.

E-commerce firms are also competing on new kinds of service and pricing. A website knows more about you than any shop assistant can, enabling it to offer personalised recommendations straight away. Online, a shopper can easily compare prices between retailers. More intriguingly, merchants can quickly move prices up or down, using bots to match competitors' offerings. Eventually this pricing may become more personalised. Alibaba and JD already use their troves of data to offer discounts on particular products to some of their customers.

All this has meant that consumers are now buying a wider range of goods online. The shift has been most dramatic in Amer- ▸▸

Old money, new money



Source: Thomson Reuters

ica, home to both a relentlessly disruptive e-commerce giant and a herd of entrenched retailers (which China lacks). Consumers still buy certain types of goods in stores, such as food and building equipment. But many shops have had no choice but to follow consumers online, setting up their own e-commerce businesses as they maintain their bricks-and-mortar ones. In the short term, this only exacerbates their problems. Building an e-commerce business on top of a traditional one is costly; firms must create websites and ship products to individual consumers, rather than to stores in bulk.

It does not help that Amazon has conditioned consumers to think delivery should be free. Moreover, online sales often cannibalise those from existing shops. Analysts at Morgan Stanley reckon that for each additional percentage point of shopping that moves online, a retailer's margins shrink by about half a point. Bricks-and-mortar shops also often have trouble recruiting technology staff. For a hotshot data scientist, working at a department store is not an obvious choice. Traditional chains must routinely pay a premium to lure skilled tech workers. Amazon has no such difficulty.

Startups, tech firms and consultants are offering tools to help smaller retailers adjust. Some of the more interesting ones promise to narrow the gap between what e-commerce sites and physical stores know about their customers. Floor mats can measure store traffic, video analytics will track shoppers' age, sex and mood, and beacons can gather data about what customers do in the shop once they have signed up for free Wi-Fi. For now, though, many American firms are reluctant to invest in such expensive new technology for shops that may not be there for much longer.

In China, those offering to remedy retailers' woes include some of the big e-commerce firms, and retailers may be happy to work with them because their platforms are so pervasive. In the West, small merchants already pay Amazon to list products on its

Burying the Hachette

Makers of goods, from books to biscuits, are trying to adapt to e-commerce

NO COMPANY WANTS to replicate what happened to Hachette in 2014, when the publisher balked at Amazon's terms. Suddenly its book shipments seemed to be delayed and Amazon was recommending titles from other publishers. The dispute ended with Hachette getting more control over pricing. But the deal showed the risks for producers of all kinds as online platforms gain strength.

The old system suited many businesses. Clothing manufacturers followed a predictable calendar for when goods would be produced and distributed. Giant makers of household products and food had to deal with stingy retailers such as Walmart, but they could also swat away smaller competitors with spending on expensive television ads.

E-commerce is changing all this. Companies that sell dresses and shoes to conventional retailers like Macy's find them in turmoil, threatened both by online sellers and by nimbler bricks-and-mortar ones such as Zara. For larger producers of packaged consumer goods, the rise of e-commerce compounds problems created by customers' increased interest in healthier, more "natural" products. E-commerce helps small rivals distribute their products. Thanks to online reviews and blogs, shoppers no longer have to rely on big brands.

Yet for those brands, all is not lost. Evidence from Sanford C. Bernstein, a research firm, suggests that the strongest ones will be fine, just as Adele and Taylor Swift have thrived in the age of streaming music; it is the mediocre brands that will fade away as both smaller competitors and giant ones flourish. And e-commerce brings its own opportunities. Alibaba and JD make it easier

That's going straight in my basket

for big firms to reach China's smaller cities, which are expected to provide more than 70% of new online shoppers by 2020. New distribution methods can also reap efficiencies by cutting out the middleman. Other stages of a product's life such as design and production might be transformed, too. Mattel, an American toy company, is working with Alibaba to mine the Chinese firm's data to develop toys that appeal to Chinese mothers.

E-commerce is also changing how manufacturers advertise their goods. Companies have long used cookies to follow consumers around the web, bidding in automated auctions to place ads before the right kind of shoppers. Now those strategies are being further refined. Sebastien Szczepaniak, an Amazon veteran, is head of e-commerce for Nestlé, the world's biggest food company. He matches Amazon's data with Nestlé's own sources to target messages to individuals rather than just to certain types of consumers. "We are moving from marketing to the unknown to marketing to the known," he explains. Chinese e-commerce firms, given the scope of their activities, have even more useful data about consumers' habits and purchases, both online and in stores.

Meanwhile all producers will continue to worry about big online platforms amassing too much power. It is Amazon, not the companies that sell on it, that knows what customers buy, and when. It makes some of these data available to others, for a fee, but Ali Dibadj of Bernstein notes that the data are limited and come at a high price.

Amazon now looks set to wield even more power over manufacturers. Alexa can suggest that consumers buy certain items, for instance, and might eventually be programmed to shop automatically. "We'll be having bots trying to influence your bots about buying our products," predicts Keith Weed, chief marketing officer for Unilever. To complicate matters, Amazon is steadily introducing its own private-label goods to compete. Mr Bezos's tolerance for low profits—"Your margin is my opportunity," as he once put it—provides little comfort.

"We need Amazon, and Amazon needs us," says Mr Szczepaniak. But another executive privately describes the company as a "freight train" heading for his business. In future, many makers the world over are likely to pursue a three-part strategy, distributing on sites such as Amazon, in stores and through their own channels. Avoiding the first option is getting increasingly hard. Nike, which had withheld its products for years, recently agreed to sell on Amazon after all.

site and store goods in its warehouses. The small sellers can reach more consumers more easily; Amazon earns fees and, thanks to sellers' listings, can offer a broader selection.

Big retailers, on the other hand, seem much less likely to team up with Amazon. Target and Toys"R"Us chose Amazon to handle their e-commerce businesses in the early 2000s, but both ended the partnership, with Toys"R"Us doing so in court. Unlike Alibaba, Amazon owns much of the stuff it sells, so competes directly with any seller that uses its services.

Despite such troubles, there are examples of how bricks-and-mortar shops might thrive. One strategy is to offer distinctive products that are not available elsewhere (as does Zara, a clothing chain owned by Inditex), or which are difficult to sell online. A second is to give shoppers a great deal. TJX, an American firm, offers manufacturers' surplus goods at bargain prices. Another option is a great experience: champagne at Louis Vuitton, perhaps, or personalised advice at Nike. The most difficult route is to try to match Amazon's retail standards and offer more.

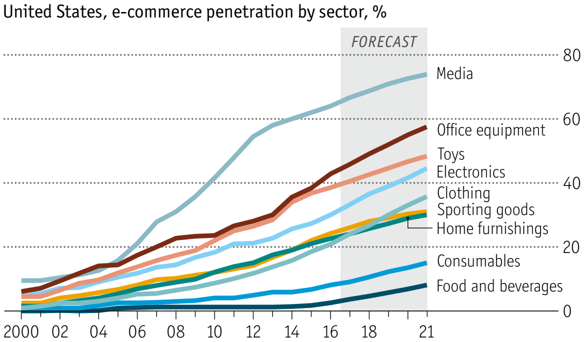
Walmart, once the undisputed king of American retailing, is mounting the boldest counteroffensive. It can no longer simply open stores to boost growth; 90% of Americans already live within ten miles of a Walmart. So the company is seeking to protect its margins by making stores even more efficient—saving $7m by printing shorter receipts, for instance—while investing online. Last year it spent $3.3bn buying Jet.com, an e-commerce site founded by Marc Lore, who now oversees Walmart's suite of online businesses. He is not trying to match Amazon's breadth. "We are focused on being a retailer," he declares. But Walmart is trying to catch up with Amazon in other ways. The company now offers free two-day shipping. Just as JD's integration with Tencent is helping it challenge Alibaba, Walmart may succeed by partnering with tech giants. In August it said it would sell through Google's voice assistant, in a bid to counter Amazon's Alexa.

Walmart can also use its vast network of stores to do things Amazon cannot. In one experiment, Walmart staff drop off customers' orders on their way home. And as America's biggest grocer, it has developed an easy way for customers to order food online, then drive to a Walmart where staff load it into their car.

Even as Walmart adapts, however, Amazon continues to morph. It is using machine learning to measure the ripeness of a peach and to determine how many blue shirts to stock in which size. Constant innovation gives it a huge competitive advantage which many retailers will struggle to match. Too many physical stores lack the strategy or distinctive merchandise that might help them thrive in retail's new era. And in the main they still rely on the customers coming to them to choose their purchases, whereas their rivals deliver. ■

Online stars

United States, e-commerce penetration by sector, %



Sources: Cowen and Company; US Census Bureau

Logistics

Delivering the goods

Surging demand requires new distribution methods

YANG MING IS standing beside his red electric tricycle in a courtyard in Beijing. A former factory worker from an industrial town outside the capital, he and dozens of other men are awaiting the arrival of a lorry. As it pulls in from JD's warehouse, the men form an assembly line to unload boxes. They reload the packages to their tricycles and are off, weaving through the traffic. JD has about 400 such delivery stations in Beijing alone. Across the country, 2.5m couriers are at the ready to shuttle packages to their final destinations. When he first started several years ago Mr Yang made about 80 deliveries a day. Now the number is closer to 130 and still rising.

To a consumer, e-commerce's rapid delivery seems like magic: a few clicks, and within an hour or two a package can land on your doorstep. Behind this, however, lies an enormous amount of investment, engineering and hard work as firms face ever-rising expectations of fast, cheap delivery. Delivery networks are likely to be strained as the volume of parcels grows. That is spurring new experiments in logistics, some mundane (picking up parcels in stores) and some apparently mad (Amazon patents for underwater warehouses).

In emerging markets, e-commerce has relied on an army of delivery men with relatively low wages, such as Mr Yang. In America, points out Christian Wetherbee of Citi, a bank, the United States Postal Service has subsidised the rise of e-commerce by systematically underpricing the cost of parcel deliveries. Amazon has been a main beneficiary, sorting goods by zip code in big warehouses, then delivering them to post offices to handle the last mile of delivery.

Both these things look set to change. In America, the postal service owes $34bn in defaulted worker benefits. Mail volumes are declining, which means fewer deliveries per stop, and thus even lower efficiency and more financial duress. If the post office introduces reforms, as some politicians are now asking, parcel delivery will become more costly. Labour costs are rising, too. That is no surprise in Japan, where the broader labour market is ▸▸

tight. But even in China, a shortage may loom: swelling parcel volumes will require 4m express delivery staff by 2020, according to Goldman Sachs. In September, BEST Inc, a logistics firm backed by Alibaba, had a disappointing initial public offering in New York, in part because investors were anxious about labour costs. Pressures on e-commerce companies to deliver cheaply will only rise, yet customers are thinly spread, making it less efficient to deliver to them than to offices or shops.

Another challenge is sorting out how to deliver packages across international borders. DHL, which with FedEx and UPS forms a triumvirate of global parcel firms, estimates that 15% of all e-commerce sales already move from one country to another. By 2020 it expects that share to exceed 20% as customers seek lower prices and a broader selection. The big carriers are keen to capture that business. In 2014 FedEx bought a company called Bongo that specialises in cross-border deliveries, to help customers with duties and protect them from fraud.

E-commerce firms are testing innovations that might help. Cainiao, the logistics network in which Alibaba now owns a majority stake, has built bonded warehouses where foreign manufacturers can store goods, duty-free, within China's borders, ready to be shipped to consumers. Alibaba wants to build free-trade zones around the world to help small businesses with customs clearance, warehousing and financing.

Automation may lower costs. In one of JD's huge warehouses outside Shanghai, men still operate forklifts, but by the end of the year robots will take over. Amazon's robots already bring packages to warehouse staff. The next frontier of warehouse automation is for robots to pick individual items and put them in bags or boxes. More than 90% of such work is still done by hand. Amazon holds a regular robotics contest for automating the process. Robotic pickers may be more broadly deployed as technology becomes cheaper and labour more expensive.

Lowering delivery costs is tricky. What has been achieved so far does help, though it can seem unexciting. With the aid of machine learning, demand is predicted on the basis of past shopping patterns, weather and other inputs; that information is then used to decide which goods should be stored where. Amazon has opened small warehouses where it keeps popular products, so they can be dispatched quickly to impatient shoppers. Companies are also trying to concentrate deliveries by sending goods to central pickup points rather than to customers' homes.

Retailers have long used "click and collect" models, though the ease of collecting online orders varies greatly from one shop to another. Now some stores are becoming hubs for online orders from third parties. From November FedEx will have package-pickup counters in about 8,000 Walgreens pharmacies across America. In Japan, both Rakuten, Japan's leading e-commerce firm, and Amazon deliver packages to convenience stores.

Look, no hands

The most enticing ideas in logistics involve unmanned delivery. Driverless delivery trucks may one day help, and Amazon has patents for flying warehouses and drone-charging stations atop church steeples. But all such new methods have drawn scepticism. Many drones carry only one parcel, then must recharge. Asked about technological changes that might bring down costs, FedEx's Mr Smith says, "We don't see them on the horizon for the last-mile delivery at present."

Once again, things are moving faster in China. Cainiao has developed a waist-high robot called Little G to undertake the final leg of delivery. JD is testing something similar in universities. Both companies expect to dispatch autonomous trucks within the next three years. Wan Lin, president of Cainiao, doubts the economics of drone delivery, but JD is forging ahead. In four Chinese provinces, drones fly on fixed routes to predetermined landing spots. A worker then carries the parcels for the last stretch of the journey. JD plans to expand to more provinces and offer more services. One of the drones being tested can carry up to a tonne.

As this experimentation continues, once again the largest players are the most likely to win. They have the cash to pour into new technologies and the volume of sales to reap the benefits from big investments. If America's postal service were to raise its charges, Mr Wetherbee reckons, Amazon might, perversely, be the one to gain. Driven by higher charges, independent sellers that once used the postal service might turn to Amazon to handle their distribution. It has more bargaining power with logistics firms like FedEx and UPS and has recently expanded its network of delivery partners, using both regional firms and crowd-sourced couriers. So Amazon would become even mightier. ■

The future

Part and parcel

How e-commerce will change cities and jobs

A STRETCH OF Bleecker Street, in Manhattan's West Village, is among the loveliest in New York, with quaint shopfronts opening on to tree-lined pavements. Until recently a landfill across the Hudson river, in New Jersey, was among the region's most repulsive. For years smouldering hazardous waste sparked fires among the rubbish. But Bleecker Street is now dotted with empty shops, their landlords unable to find tenants. The lot in New Jersey has been cleaned up and turned into a giant warehouse by Prologis, the world's biggest industrial-property firm. The chemical fires are out. Delivery trucks are in.

E-commerce will not obliterate all retail trade. Stores that are distinctive in one way or another—because they offer excellent service, for instance, or unique products—will remain. But consider the change already wrought in America, where e-commerce accounts for about one-tenth of retail spending. If that share were to rise to one-fifth, let alone one-third, the effects would be vast. In the longer run the impact of e-commerce will not be limited to the conventional retail industry it is increasingly replacing. It will also change how consumers spend their days, transform the landscape, disrupt workers' lives and reshape governments' view of corporate power.

For consumers, e-commerce has ushered in a golden age. They can choose from more products of better quality than ever and spend far less time and effort to get what they want. Once-complacent manufacturers must compete fiercely for their business. No wonder Amazon is the most popular company in America, according to a recent Harris poll.

But there are downsides, too. Debates over privacy will intensify as consumer tracking online, at home and in shops becomes ever more pervasive. Companies say they anonymise and aggregate customer data collected by tracking, but their methods are opaque, says Marc Rotenberg, head of the Electronic Privacy Information Centre. In essence, firms just tell consumers that "we will take care of it", he says. "I don't think that reassurance is adequate."

The effects of e-commerce on the physical landscape are just beginning. So far, the most notable changes have been in rich

countries, and particularly in America. Recent announcements of store closures by Macy's, Gap and American Eagle will be followed by more. According to Green Street Advisors, a property firm, sales by department stores continue to shrink faster than the selling space of the stores themselves.

As demand for physical shops ebbs, that for warehouses will surge. Citi estimates that 2.3bn square feet (214m square metres) of new warehousing—equivalent to about 20,000 football pitches—will be needed worldwide over the next 20 years. But what will happen to the shops that no longer have enough customers, and where will the new warehouses go? There is no easy way of turning one into the other. Companies want to build warehouses close to consumer hubs, but the malls most likely to shut down are farther afield.

So warehouses will probably be built close to residential developments, with which they are already competing for land. In Enfield, an area of north London, logistics centres and new homes are being built side by side. Since land is scarce and expensive, warehouses will get taller, as many in Asia already are. For same-day deliveries, smaller distribution centres will spring up near central business districts. Rents there are likely to rise.

How about a cycling studio?

The future for ailing stores is less certain. Many shops in big cities will remain, less as sales hubs than as showrooms. Rents for them will probably come down. Retail rents are already falling in America and in much of Asia, according to CBRE, a property agency. One space in midtown Manhattan formerly occupied by clothes retailers now contains a coffee shop, a smoothie bar and a cycling studio. But there may not be enough of those to take over all the retail space that will become vacant in the years ahead. In places where there is little demand from the private sector, governments may have to step in. In Cleveland, Ohio, one large store has become a community centre, with a gym and offices for city employees, financed by municipal bonds.

An even hotter topic is the effect of all this on employment. So far the decline in traditional retail jobs in America seems to have been offset by a rise in warehousing work. Between 2007 and 2017 the number of retail jobs shrank by 140,000 while those in e-commerce and warehousing rose by about 400,000, according to Michael Mandel of the Progressive Policy Institute, a think-tank. But the net gain in jobs may be temporary. Stores are only now starting to close, and those that remain are just testing automation. More robots will be used in warehouses, too, as their costs come down and their picking skills improve.

That need not be a bad thing. In America, real retail wages have been flat for three decades. Technological change will improve productivity and create new types of work, and the jobs that remain will probably be better paid. But workers will need new skills as stores try to create more footfall.

The question looming over all this is whether governments might step in. Chinese leaders may want to exert more control over their powerful technology giants. According to one report, the state is mulling a direct investment in some of them. In America, Donald Trump periodically skewers Amazon: he has claimed that the *Washington Post*, which is owned by Mr Bezos and has criticised Mr Trump, intimidates politicians into granting Amazon favourable tax treatment. The firm now pays sales tax in every American state that has one. Antitrust enforcers judge firms based on market control, where Amazon does not look overmighty, and the effect on consumers, who so far seem to have only gained. But scrutiny in America is likely to intensify, though the most imminent regulatory risk for Amazon may be abroad. In October the European Commission ordered Amazon to pay back taxes. It recently slapped Google with a €2.4bn ($2.8bn) fine for using its power as a search engine to boost its comparison-shopping business; more action against e-commerce platforms may follow.

Cainiao has developed a waist-high robot called Little G to undertake the final leg of delivery

Barring any dramatic intervention, however, the biggest e-commerce sites look set to get bigger. Amazon and Alibaba typify a new breed of conglomerate that benefits from network effects. The more shoppers firms can muster, the more sellers will flock to them, attracting yet more shoppers. These effects are turbocharged by the breadth of their businesses and the vast amount of data they generate. This does not mean they will dominate every sector or market, but their mere presence in an industry will reshape it. The question is not if they will keep upending retailing, manufacturing and logistics, but which industry and part of society they will change next. ■

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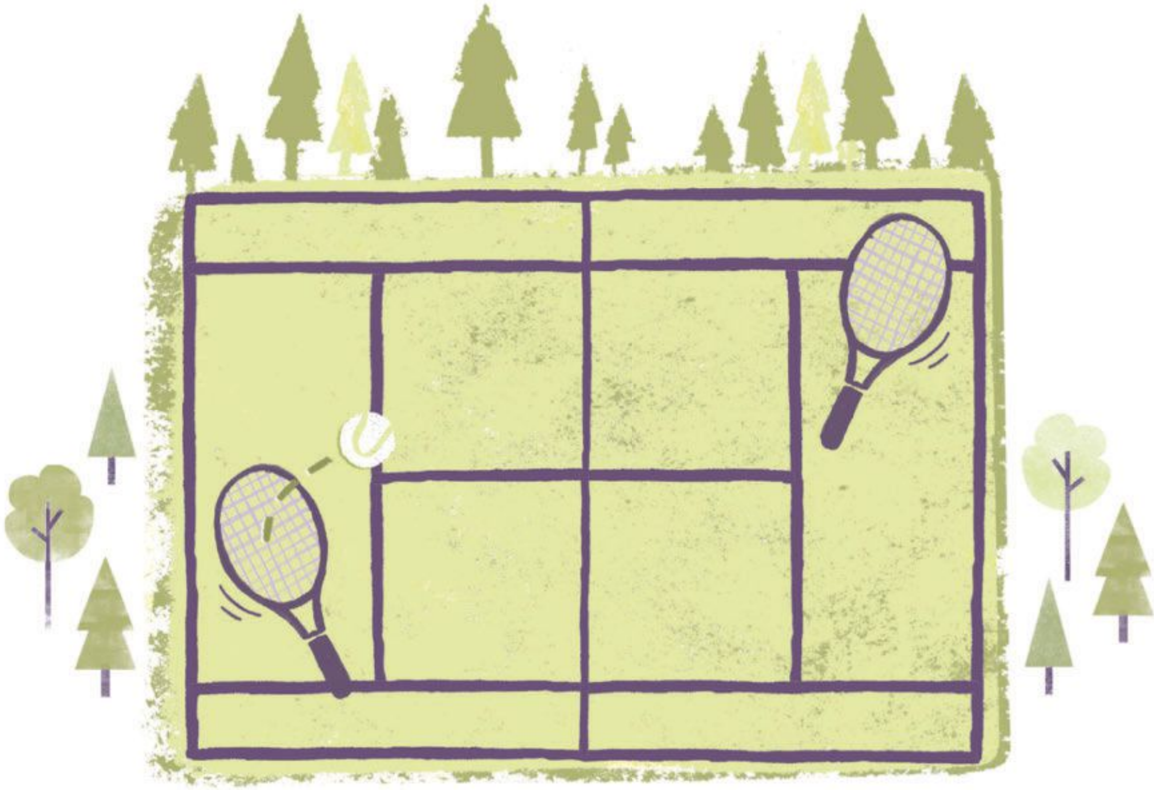

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The dangers of a flawed poll

Strong man redux

KISUMU

Kenya's fresh election will do little to improve the president's legitimacy

CLUTCHING a large rock on his shoulder, Sam Ogada is ready for battle. "This", he says, gesturing with it, "is the only language our government understands". A little way down the street, in Kisumu, a large city in western Kenya, piles of burning tyres spew black smoke into the air. Policemen, dressed in full camouflage and clutching assault rifles, mill about. The sting of tear gas hangs in the air. On the streets men have fashioned bricks, stones and tree branches into crude roadblocks, where, when not fighting with the police, they ask somewhat menacingly for donations from passing motorists.

The people of Kisumu are used to this. The city is the stronghold of Raila Odinga, Kenya's veteran opposition leader. It has been a centre for discontent with Kenya's government for as long as most Kenyans can remember. In 1969 the first president, Jomo Kenyatta, visited but had to be rescued from an angry crowd by policemen firing a hail of bullets. Yet people here, who are mostly of Mr Odinga's Luo tribe, seem angrier than ever. "We have been marginalised for 50 years", says Adam Mbatah, another protester. "It is as if we are not part of this country."

The focus of their anger is the repeat of Kenya's presidential election, due to be held on October 26th (as *The Economist* went to press). The election was scheduled after the Supreme Court spectacularly threw out the results of a vote on August 8th that would have returned to power the incumbent, Uhuru Kenyatta (the son of Jomo and scion of the Kikuyu tribe). Without commenting on whether the result would have been affected, the court said that the process of counting votes was too flawed to be credible. But instead of arranging a more transparent election, Kenya's Independent Electoral and Boundaries Commission (IEBC) is pressing ahead with one that appears to be even more flawed than the original.

On October 10th Mr Odinga withdrew from the race, claiming the new vote would not be fair. In Kisumu his supporters echo his words, shouting "no election in October" at protests.

When Mr Odinga withdrew, it seemed like a last roll of the dice. Although the IEBC made plenty of errors in the tallying and transmission of votes, there is little proof that the election in August was rigged, as Mr Odinga claims. Short of the cash needed to continue campaigning, Mr Odinga's boycott seems to have been a desperate attempt to avoid an election he would probably have lost anyway.

Yet since he left the race, his stated reasons for doing so have been vindicated. On October 18th Roselyn Akombe, one of the IEBC's commissioners, fled to America claiming to have been threatened for advocating reforms. Later that day Wafula Chebukati, the chairman of the commission, said that he could not guarantee credible elections in an atmosphere of intimidation. Compounding the sense of an organisation under siege, its chief executive officer, Ezra Chiloba, left suddenly to take a three-week holiday.

On October 25th this supposed exercise in democracy became more farcical still when only two of seven Supreme Court judges arrived at work to hear a last-ditch plea to postpone the election yet again. With the court deprived of a quorum, it could not rule. One judge, Deputy Chief Justice Philomena Mwilu, stayed away after her bodyguard was shot and injured on a Nairobi street the night before the hearing. The other judges offered a variety of excuses. One was abroad; another said she had missed her flight to Nairobi.

Many Kenyans, even those who do not support Mr Odinga, worry that Mr Kenyatta is determined to push ahead with an election, no matter how preposterously flawed. Kenya's economy has slowed sharply this year as businesses have held back investment until after the election: a contested poll in 2007 led to violence that cost more than 1,000 lives and plunged the economy into crisis. Some argue that with Kenya's budget deficit forecast to reach 12% of GDP, funded almost entirely by inflows of foreign investment, the country can ill afford another few months of uncertainty. And Mr Kenyatta's supporters feel, not unreasonably, that Mr Odinga is holding the country hostage in an attempt to win concessions or a power-sharing agreement.

Yet the election, even if it proceeds without violence, will not produce the legitimacy that Mr Kenyatta needs. If the Supreme Court were to apply the same standard that it did to the poll in August, it could hardly endorse this one. And even if the judges are cowed, Mr Kenyatta will have to contend with continuing protests. In Nairobi on October 25th Mr Odinga ▸▸

called for "national resistance", including boycotts, strikes and other economic disruption. Some of his closest allies even talk about secession. "If a government subverts the sovereignty of the people... people are entitled to rebel", says Peter Anyang' Nyong'o, the governor of Kisumu county.

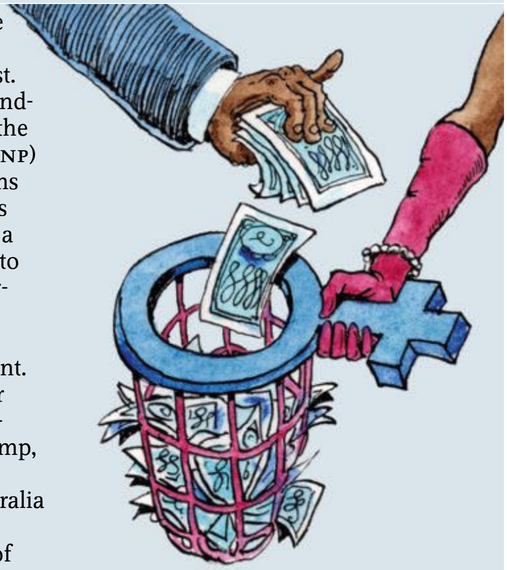
In Nairobi's slums, where people of dozens of different tribes live side by side in crude tenements and tin shacks, anger could overflow into ethnic violence. In Mathare, a particularly mixed slum near the city centre, Kikuyu residents say that they have sent their children to the countryside until they feel safe again. The Luo residents of Kisumu do not feel safe either. "He is killing our children", shouts Yvonne Onyango, a housewife, of Mr Kenyatta. "But he does not have enough bullets to kill all us Luos. We will keep fighting." ■

Beauty and the police

Arresting development

MONROVIA

A pageant with a feminist cause



"THEY want to strike fear into the hearts of their opponents!" remarked an onlooker, tapping his chest. Fighting words, perhaps, for a staff fundraiser—but hyperbole is the name of the game at the Liberia National Police (LNP) Queen Contest. Trading their uniforms for ballgowns and flanked by raucous entourages raining confetti and cash, a half-dozen policewomen peacocked to their seats under a balloon-lined marquee. They vogued, cat-walked and delivered impassioned speeches.

This was no normal beauty pageant. The contestants were chosen for their professional ambitions, their appearances almost incidental. For all its pomp, the contest is a practical affair to raise money to send policewomen to Australia for training. Guests and officers of all ranks put banknotes into the basket of the nominee they support. The winner is not the queen judged most beautiful, but the one who raises the most cash.

The money is then pooled and is meant to help send ten policewomen abroad. The previous year, they sent two. Yet the need is as great as ever. The LNP force has a shortfall of about 3,000 police officers and it is particularly in need of trained policewomen. Last year the UN Mission in Liberia sent most of its soldiers and policemen home, putting the LNP in charge of national security. It left an unmet target of having women make up a quarter of the force: they now comprise less than a fifth. That matters because women avoid reporting crimes such as rape to male officers when they might do so to policewomen.

On this sweltering afternoon in May, a contestant hoped to win favour both by wearing a diamanté-encrusted pink gown and by impressing potential donors with her ambition to be promoted to senior office in the LNP.

Wielding a big bag with labels showing it contained money, an officer from the Patrol Unit knelt before his department's nominee and unloaded stacks of Liberian dollars into her basket. In a direct counter another threw down several wads of cash before his pick. One donor was lambasted for throwing money not at one queen, but at two.

As night fell over Monrovia and the crowd thinned, officials counted the equivalent of $8,350 raised. It is not quite enough for ten tickets to Australia. Where would the rest of the money come from? One officer pondered an inverse scenario. "A King Contest? I don't think so."

Nigeria's old wounds

The undead python

UMUAHIA

Biafran separatists are gaining support, 50 years after the civil war

DOORS hang off their hinges. Cupboards have been emptied onto floors, walls and windows are pitted with what appear to be bullet holes. A statue of Nnamdi Kanu, the leader of the Indigenous People of Biafra (IPOB), a Nigerian separatist group, is missing a hand and an arm. Mr Kanu's family compound in Umuahia, the sleepy capital of Abia state in south-eastern Nigeria, was raided by soldiers on September 14th. His brother, Emmanuel, claims 28 people were killed and says he has not heard from Mr Kanu since. The army denies the raid even happened. Meanwhile Mr Kanu, who was charged with conspiracy to commit treason two years ago, failed to attend a bail hearing on October 17th.

His disappearance illustrates how the unhealed wounds of Nigeria's brutal civil war have been reopened in recent years. That conflict, which was fought between the breakaway Republic of Biafra and the Nigerian state, resulted in the loss of almost a million lives between 1966 and 1970. Separatist sentiment, which lay largely dormant since then, has started to simmer again, as people with no memory of the war have come of age and been seduced by the idea that the region is not getting its fair share of spending.

Helping to fuel that anger is Radio Biafra (named after the original republic's station), which was relaunched by Mr Kanu and has pumped propaganda to Nigeria from its London base since 2012.

Yet separatism has also been fuelled by the deadly response of the Nigerian army to even the slightest hint of resurgent nationalism among the Igbo, one of the country's three main ethnic groups, who live predominantly in the south-east and formed the core of Biafran separatism. The army has shot and killed protesting IPOB supporters on several occasions. It is not clear how many supporters IPOB has, but Mr Kanu attracted huge crowds to his family residence after his release on bail in April (despite the bail conditions stipulating he should not hold rallies or be seen in a crowd of over ten people).

The government has resorted to an even firmer hand. In August Muhammadu Buhari, Nigeria's president and a stern former military dictator, said that "Nigeria's unity is settled and not negotiable." In September the government sent in the army on "Operation Python Dance II", which sought to tackle "violent agitations by secessionist groups, among other crimes". One of its first acts was to attack an office in Abia belonging to the Nigerian Union of Journalists and to smash reporters' equipment. The government also declared IPOB a terrorist organisation. The group says it is not violent.

The government's response may, however, be feeding the resentment that first led to an upsurge of support for IPOB among Nigeria's Igbo. "It was as if the approach of the government labelled every Igbo man a member of IPOB," says Sam Hart, an adviser to Abia's governor (who is ▸▸

from the main opposition party).

The perception of the army as a northern institution, and the fact Mr Buhari is from the north (there has not been an Igbo head of state since the military government of Major-General Johnson Aguiyi-Ironsi in 1966), has compounded many Igbos' feelings of alienation. Many also refer to comments made by Mr Buhari in 2015, when he said that constituencies that gave him 5% of the vote (mainly those in the south-east) cannot expect the same treatment as those that gave him 97%.

The army may have cut off the head of the Biafran separatist snake for now. But until Nigeria cleans up its public finances so that its various ethnic groups can see how much money it raises, and where it is spent, resentments will simmer and the appeal of Biafra will remain. ■

Rebranding the Left

Israel's "New Labour"

JERUSALEM

Trying to grab the centre

AVI GABBAY has already overturned convention once—when on July 10th he won the primaries to become the leader of Israel's Labour party just six months after joining it. Now he is causing more ructions in the main opposition, with a series of statements that are heretical to those on the far left of Israeli politics. Although other Labour leaders have, at times, espoused similar views, Mr Gabbay has done so earlier and more emphatically. He says that, should he win the next election he would not invite the country's Arab parties to join his coalition. And he has said that he does not think that Jewish settlements built on land in the West Bank, which Israel captured in 1967, should necessarily be dismantled as part of a peace agreement. Further disconcerting some Labour supporters is his view that "a Jew cannot really not believe in God."

Mr Gabbay's intentions are clear. He is determined to break the image of Labour as a left-wing party that is detached from the concerns and beliefs of more conservative (and religious) voters. To win an election he needs to attract supporters away from other centrist parties as well as some of those on the right that have propped up the coalition government headed by Binyamin Netanyahu, the prime minister, and his Likud party.

Mr Gabbay is not the first leader of a Labour party to tack to the right. One of those he has sought advice from is Tony Blair, a former British prime minister and one of the architects of "New Labour", which modernised the party and dropped its commitment to nationalising industry. But Mr Gabbay seems motivated by more than electoral mathematics.

He comes from a conservative family of Moroccan origin, a group that usually supports Likud, as Mr Gabbay once did. And unlike many of Labour's previous leaders, who came from the army or out of the left-leaning kibbutz movement, his background is in business.

The Labour party last won an election in 1999 and has since changed leaders eight times. Party members who voted for a very different kind of leader this time are willing to give him a chance. "People on the left still think what happened is just an aberration and the reins of power will soon be handed back to us," says Emilie Moatti, a Labour member who is planning to run for a seat in the Knesset at the next election. She laments that Mr Netanyahu has successfully "tainted us all as unpatriotic haters of Israel."

Labour, which ruled Israel for its first three decades after the state's establishment in 1948, is not the only opposition party undergoing an identity crisis. Meretz, a fiercely secularist party that describes itself as "Israel's Left," has suffered a series of electoral defeats that almost wiped the party out. On October 18th the party's leader, Zehava Galon, said she was resigning from the Knesset in the hope of sparking "open primaries" for its next leaders. "There is a deep frustration on the left over having drifted away from positions of influence for so long," says Nitzan Horowitz, a former member of the Knesset for Meretz. "Moving to the right or changing selection procedures won't change that."

The anomaly of Israeli politics is that a majority of voters supports the left's two-state solution but continues to vote for right-wing leaders. Perhaps that will change if Labour is led by a right-winger. ■

A third way in the Jewish state

Saudi Arabia's reforms

There's no place like NEOM

RIYADH

The crown prince's plans get ever grander

IT WAS like Davos in the desert: some 3,500 politicians, business bosses and bankers from around the world crowded into a vast conference centre in Riyadh for a jamboree called the Future Investment Initiative. This was a giant coming-out party for "Vision 2030", the economic plan to move Saudi Arabia away from dependence on oil. It is the brainchild of the country's crown prince, Muhammad bin Salman, widely known as MBS. A cornerstone of the plan is selling shares in Saudi Aramco in what is touted as the world's biggest IPO if it goes ahead next year.

The young prince proclaimed that he wants the kingdom to be "a country of moderate Islam that is open to the world and open to all religions." As for extremist ideas, "we will destroy them today." His striking remarks came at the launch of an equally striking mega-scheme: a futuristic city-cum-economic-zone called NEOM (from the Greek *neo*, meaning new, and the Arabic *mostaqbal*, meaning future).

Spread over 26,500 square kilometres (10,200 square miles) and along 468km of coast, NEOM will operate under its own rules rather than those of the rest of the kingdom. It could thus create an environment optimised for drone deliveries, say, or driverless cars. Energy is to come entirely from renewable sources, thanks to an abundance of sun and wind. Everything that can be automated will be. NEOM is envisaged as a hub between Europe, Asia and Africa, and a home drawing in people with the skills to create world-class businesses in industries from biotechnology to food.

The ambitions for NEOM are huge. It will supposedly attract $500bn of investment, from the kingdom's Public Investment Fund and international backers. It wants to lead the world in both efficiency and income per head. It aspires to be "the safest, most efficient, most future-oriented, and best place to live and work."

Sceptics can point to plans elsewhere for "smart cities" (such as Masdar in the United Arab Emirates) that are launched with much fanfare but fail to live up to the hype. In Saudi Arabia itself, the King Abdullah Financial District in Riyadh is a $10bn white camel. Will NEOM be different?

It starts, at least, with the credibility that comes from its big-name supporters. At the launch were an ebullient Masayoshi Son, the Japanese head of a $100bn "Vision Fund", and Stephen Schwarzman, head of Blackstone, a private-equity giant. Klaus ▸▸

Kleinfeld, a former boss of Arconic, Alcoa and Siemens, is to be NEOM's chief executive. The prospect of creating a dynamic zone without the barriers to enterprise found elsewhere in the country has such people genuinely enthused.

Still, three big questions stand in the way of the NEOM dream becoming a reality. The first is timing. Can the project come together fast enough to maintain momentum? So far, the details remain sketchy, and the timing vague. The government says the $500bn will arrive "over the coming years". Yet a fall in oil prices since 2014 has already squeezed public finances: this year Saudi Arabia's government will probably run a fiscal deficit of 9% of GDP and the economy has ground to a halt.

Second, can NEOM generate bottom-up creativity to match the top-down vision and planning? A little "chaos" is needed, said the man dressed in Silicon Valley casual next to Mr Kleinfeld at the launch: Marc Raibert, the boss of Boston Dynamics, a robotics company.

Whether Saudis are prepared to sit back and let such creative chaos happen will also help to answer the third, and perhaps most important, question: will NEOM attract the sort of international talent (including women) it will need to achieve its ambitions? To do so, it will have to be a much more relaxed, open place than the kingdom is today. True, it is starting to change, as MBS's comments this week made clear. Thanks to his influence, women will at last be allowed to drive next year. Maybe NEOM can accelerate such progress. But there is a long way to go.

Unless it becomes a truly desirable place in which to live and work, NEOM will risk realising one of its goals, but not in the way intended. It hopes to be the first city where robots outnumber people. ■

A century after Balfour

People of the declaration

CAIRO

Israel's founding document still has resonance

IN OCTOBER 1917, in the depths of the first world war, an expectant Chaim Weizmann was waiting in a London anteroom. Britain's war cabinet was voting on a document, now known as the Balfour Declaration, that would pledge Britain's support for Zionists' hopes of statehood in Ottoman-ruled Palestine. Mark Sykes, a British diplomat, rushed out to share the good news: "Weizmann, it's a boy!" But the 67-word declaration was vague. It offered a Jewish "homeland", not a state. Nor did Britain explain how it would be created, promising only "best endeavours" to do so. The Zionist leader's first reaction was disappointment. The boy "was not the one I had expected," he later wrote.

A century on, his successors have no such doubts. On November 2nd Binyamin Netanyahu, Israel's prime minister, will attend a dinner in London to celebrate the document's centenary. Theresa May, the British prime minister, will join him. So will Lord Balfour, a descendant of the man who lent his name to the letter. In Jerusalem, the Knesset will hold a special session. The British Museum may lend Israel the original letter to put on display.

Yet Weizmann was right to be sceptical. Britain, mired in war, was unsure how to handle Palestine. Some officials wanted to offer a homeland to the Jews, in part because they hewed to the anti-Semitic trope that Jews were influential enough to bring America into the war and flip the Ottomans to the Allied side. And British diplomats made contradictory promises to the Sherif of Mecca and the French.

Mr Weizmann believed that the support of world powers, particularly Britain, would be enough to create a Jewish homeland. At the time Jews made up less than 10% of the population in Palestine. They lacked the resources or the strength to establish a state. With time, Britain would obstruct the Zionist project. To quell an Arab revolt it published a white paper in 1939 that capped Jewish immigration to Palestine and stated "unequivocally" that it should not become a Jewish state.

By then, however, the Jewish community had organised itself, forming militias, a parliament and a nascent government. When the UN voted in 1947 to partition Palestine, the Jews already had the trappings of their state. "What matters is not what the *goyim* [gentiles] say, but what the Jews do," said David Ben-Gurion, the first prime minister.

That history is still relevant. An ascendant Israeli right wants more settlements in the lands that Israel occupied in 1967, more restrictions on left-wing NGOs, more efforts to limit "liberal" institutions like the courts and the media. It claims not to care about the world's opinion—and to be fair, much of the world does not have one. Israel's emerging allies in Africa and Latin America see a vibrant high-tech sector and useful military co-operation. In July Mr Netanyahu welcomed Narendra Modi to Jerusalem, the first-ever visit by an Indian prime minister. Though only Egypt and Jordan have recognised Israel, other Arab states, particularly in the Gulf, now have quiet alliances with their one-time foe.

Despite Ben-Gurion's maxim, the celebrations in London and Jerusalem will be a reminder that Israel still craves moral affirmation. The then Lord Balfour saw Israel in emotional terms, a state owed to the Jews because of "age-old traditions and present needs." That sentiment still looms large.

Palestinians, for their part, call his letter the first of many betrayals by the world. Last year Mahmoud Abbas, the Palestinian president, threatened to sue Britain unless it recognised Palestine and apologised for the declaration. He has spent much of this decade trying to win international recognition; in a sense, he has become an unlikely heir to Mr Weizmann's brand of Zionism. Palestine won observer status at the UN in 2012, and most countries in the world now recognise it as a state. Yet it is no closer to independence than it was in 1967.

Mr Abbas's corrupt, sclerotic government has spent much of the past decade feuding not with Israel but with its own people. Perhaps the Balfour Declaration has a lesson for the Palestinians as well: Britain did not create Israel—and nor will another foreign power create Palestine. If there is to be an end to a century of conflict, it will have to come from within. ■

Also in this section

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Interest rates

What goes down…

Rates are due to rise. The economy may be more vulnerable than it seems

IN A meeting room on a cold autumn day, the governor of the Bank of England settled into a witness chair to give evidence to a group of MPs. Worries were mounting about the economy. GDP growth was slowing and households were highly indebted. Nonetheless the Bank of England began raising interest rates. The governor told everyone to relax. Concerns about a "Christmas debt crisis" caused by higher rates were overblown, he said: "People have exaggerated the vulnerability of the economy to likely changes in policy."

That was in 2003, when Mervyn King was the bank's governor. For the first time since then, and under a different boss, Mark Carney, the bank is expected to start raising interest rates once again, after a long period of inactivity (see chart). Inflation is 3%, well above the bank's 2% target. GDP grew by 0.4% in the third quarter, above expectations. As in the early 2000s, members of the bank's monetary-policy committee (MPC) are coming round to the view that tighter monetary policy will have a benign effect on the economy. Are they right?

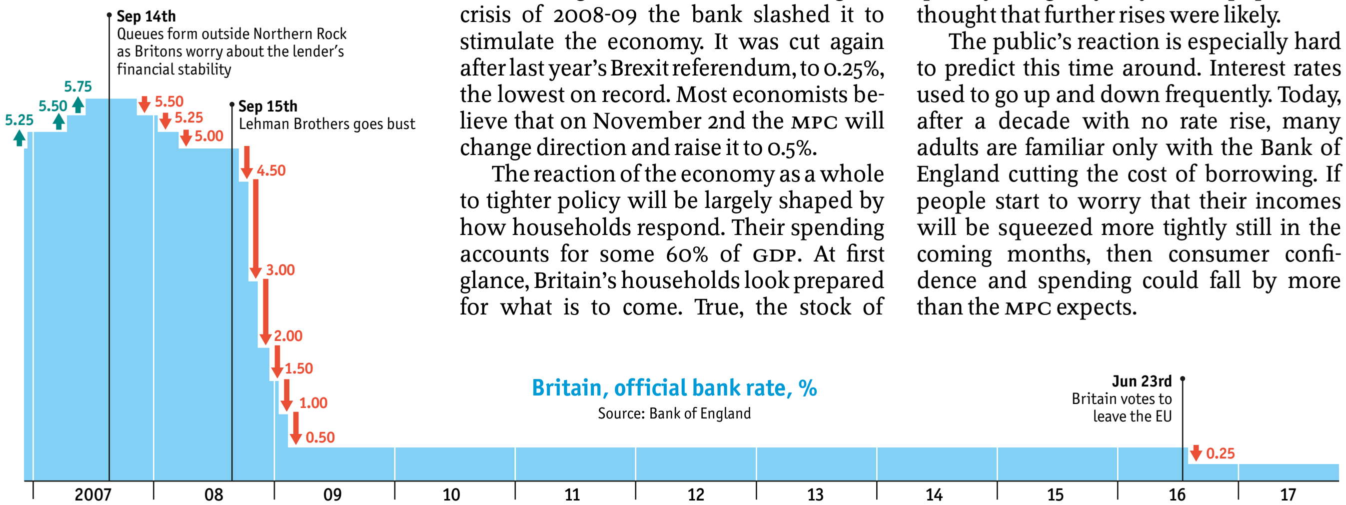
By raising or cutting the benchmark interest rate, the MPC influences the rate at which high-street banks can borrow—and, in turn, the borrowing costs faced by households and firms. In the post-war period it averaged around 6%. Yet during the crisis of 2008-09 the bank slashed it to stimulate the economy. It was cut again after last year's Brexit referendum, to 0.25%, the lowest on record. Most economists believe that on November 2nd the MPC will change direction and raise it to 0.5%.

The reaction of the economy as a whole to tighter policy will be largely shaped by how households respond. Their spending accounts for some 60% of GDP. At first glance, Britain's households look prepared for what is to come. True, the stock of household debt (mortgages plus consumer credit) is nearing 140% of income, which is high by historical standards. Higher interest rates would result in higher payments for those with debts. They would have less money left over for everyday expenses.

However, many Britons would also earn more interest on their savings, which are worth around 120% of income. That would give them more spending power. A rise of 0.25 percentage points in the base rate, passed on fully to savers and borrowers, would cost less than 0.1% of incomes. No big deal.

Yet such a calculation understates the probable impact of higher interest rates. For one thing, the circumstances are unusual. The bank's "inflation-attitudes survey" suggests that when it has tightened monetary policy in the past, the public has inferred that further rises are on the way. The bank has tried before, and failed, to forestall such a reaction. The last time the MPC raised rates, it stressed that "no immediate judgment was being made about the future path of rates." No matter: subsequently, a big majority of the population thought that further rises were likely.

The public's reaction is especially hard to predict this time around. Interest rates used to go up and down frequently. Today, after a decade with no rate rise, many adults are familiar only with the Bank of England cutting the cost of borrowing. If people start to worry that their incomes will be squeezed more tightly still in the coming months, then consumer confidence and spending could fall by more than the MPC expects. ▸▸



Britain, official bank rate, %

Source: Bank of England

The effects of higher interest rates will also be unevenly felt across households. Some have plenty of savings, others have big debts. Few have both. Data on the distribution of assets and liabilities are poor. What evidence there is, however, makes for uncomfortable reading.

One worry concerns those who would benefit from higher interest on their savings. Income-bearing financial assets are unequally distributed. Such inequality also runs along generational lines. What will the wealthy do with the extra income from their savings? People with large pots are by definition squirrellers, not splurgers. Retirees have a recent additional incentive to save any windfall. The inheritance-tax regime is becoming increasingly generous: by 2020 a couple will be able to leave £1m ($1.3m) tax-free to their children, if it includes their house, up from £650,000 last year. All this suggests that the boost to savings from higher interest rates is unlikely to translate into much extra spending.

Owe dear

On the other side of the equation, households with heavy debts may struggle with higher rates. Britain's pile of mortgage debt is concentrated among far fewer households than it was a decade ago. Prospective buyers have to stretch to get a foot on the housing ladder. Since 2012 the average mortgage for a first-time buyer has equalled 3.4 times their income, up from 2.6 times at the turn of the millennium.

Many have locked in low rates on these mortgages with fixed-rate products. Such deals typically last for between two and five years, however, not the 30 years that is common in America. And of all outstanding mortgages, roughly 40% are on variable rates. Our analysis suggests that, because mortgages have become so hefty, a given interest-rate rise would ultimately result in a bigger squeeze on recent homebuyers' income than at any other time on record.

Poorer Britons could also suffer. Lately the rate of personal insolvencies has risen, in part because of tough welfare policy and falling real household incomes. Those whose incomes have been squeezed often rely on short-term loans to tide them over. If the cost of repayment rises, more might struggle. Indeed, a survey in the bank's latest inflation report found that, after a hypothetical decline in real incomes, "households who would reduce real spending the most tended to have fewer savings and be more concerned about their debt."

Whatever happens next week, rates will remain low, meaning that monetary policy will continue to favour borrowers over savers. But in shifting the balance, the bank must tread carefully. It has signalled that interest rates will rise only at a snail's pace—perhaps 0.25 percentage points every year. A more rapid increase could prove to be an unwelcome jolt. ■

Brexit and transition

Imperfect panacea

Agreeing on a transition deal may be harder than the government thinks

BRITAIN is running out of time to finish negotiations before it is due to leave the European Union on March 29th 2019. Theresa May insisted in Parliament this week that the recent EU summit had made important progress. Yet the start of talks on a framework for future trade may not happen until after December. Hence a favourite idea for averting a "cliff-edge" Brexit: transition. This week Britain's five biggest business lobbies demanded the government seek early agreement on a transitional deal to form a bridge between Brexit and a new trading arrangement.

Mrs May has conceded this in principle, although she still insists on calling it an "implementation" period. This is not just semantic. She upset businesses this week by suggesting that, unless a trade deal is done by next autumn, there may be nothing to implement. In practice, the need for transition is clear to all, which is why it is covered in the EU's own negotiating guidelines. Yet the work on it that has now started will quickly hit problems that may cause delays. And timing matters. Philip Hammond, the chancellor, has noted that the value to business of a transition plan will diminish the longer it takes to agree.

A first issue concerns what rules to follow during transition. Mrs May has promised that businesses will not have to adjust twice to Brexit, which implies keeping current arrangements for now. The EU will insist that any transition prolong the *acquis* (ie, all existing laws) and the jurisdiction of the European Court of Justice (ECJ), but without British participation in EU institutions. Jean-Claude Piris, a former EU legal adviser, calls this a "full monty" transition, and suggests it will be the only version on offer. Yet it leaves questions. Will Britain be subject to future laws that it has no say in making? Could it temporarily retain a judge on the ECJ? What about annual EU budget decisions (including on Britain's budget rebate) that are taken without any British vote? Or the controversial annual carve-up of fishing quotas?

At least it was made in Sunderland

More important may be legal issues. Some lawyers, including Mr Piris, reckon that transition can be agreed under Article 50 of the EU treaty, which governs the Brexit divorce. Yet the EU guidelines refer only to what is legally possible. Must transition be strictly time-limited to conform with withdrawal under Article 50—and what happens if it becomes necessary to roll it forward? If there is no agreement on even the framework for a future trade deal, can transition be legally workable at all, on the basis that under the article it needs to be a bridge to something?

There are also concerns about the EU's treaties with third countries, including free-trade deals. Simply rolling these over when Britain is no longer formally a member may not be easy. Already third countries have objected to plans to divide up import quotas between Britain and the EU. And legal doubts exist also on the British side, since the withdrawal bill now going through Parliament will repeal the 1972 European Communities Act. Catherine Barnard, a Cambridge law professor who is a member of the UK in a Changing Europe academic network, points to uncertainty over the supremacy of EU law, created under section two of that act.

Might there be another route to transition? One idea is temporary membership of the European Economic Area (EEA), which includes Norway and Iceland. But this may not be easy to negotiate, and it would strain Mrs May's promise to avoid two adjustments. Paul Daly, another Cambridge legal academic, believes the only legally watertight transition is to extend Article 50's two-year deadline for Brexit. This can be done by unanimous agreement. Yet extension of EU membership beyond March 2019, which would preclude trade talks with third countries, might not be politically sellable in Britain.

For Brexiteers have a legitimate concern that transition could turn into a long-term prison which in effect keeps Britain in the club as a rule-taker, not a rule-maker. The EEA was originally conceived as a transitional arrangement, after all. And many suspect that Brexit will be betrayed. This week it emerged that a Tory MP (and party whip) had written to universities asking for details of how they taught students about Brexit. The search for enemies of the people who might thwart the voters' choice in June 2016 continues. ■

Anxious elites

Prêt à partir

The prospect of Brexit is giving high-flying foreigners itchy feet

"JUST left Frankfurt. Great meetings, great weather, really enjoyed it. Good, because I'll be spending a lot more time there. #Brexit". This tweet on October 19th from Lloyd Blankfein, the chief executive of Goldman Sachs, prompted a flurry of speculation about the investment bank's plans. Industries that rely heavily on low-paid migrants have already voiced their worries about the departure of Europeans, warning of strawberries rotting in fields, unpicked. But concerns are growing about the flight of highly skilled workers in well-paid jobs at firms like Mr Blankfein's.

According to a survey of European workers in Britain published in August by KPMG, one of the "Big Four" accounting firms, among those pulling in between £100,001 ($130,000) and £200,000 a year, 12% were planning to leave, compared with just 6% of those earning between £15,001 and £20,000. Those with postgraduate degrees were twice as likely to be drawing up exit plans as those with only a secondary-school education.

Filling the most senior jobs in certain industries, notably financial services, computing and engineering, has become harder since the vote for Brexit, says Tom Hadley of the Recruitment & Employment Confederation, a professional body for recruiters. Skills shortages in Britain mean that companies in these fields have always looked abroad. But talented foreigners are increasingly unwilling to apply for such roles, he says. Some are turning down positions they had previously accepted. He reckons the problem is particularly acute in senior jobs because older, more experienced workers often have a family in tow. They are less willing to make an international move, with all the disruption that involves, given the possibility that their job might be moved out of London in the next couple of years.

Some such moves have already begun. The Frankfurt International School, which charges fees of up to €22,120 ($26,120) a year, is reaping the rewards. Among its new pupils are the offspring of people from countries such as Singapore whose jobs were slated to go to Britain but have been moved since the Brexit vote, as well as those whose existing positions have already been shifted. Parents are discussing admissions up to three years in advance, anticipating that this trend will continue, says Paul Fochtman, the head teacher.

There are hints in the property market that people are watching to see how Brexit evolves. Knight Frank, an upmarket estate agent, says that rentals are outperforming sales in prime London properties. That is partly due to recent changes to stamp duty, a tax on buying property, but it may also reflect a desire for flexibility. Renewed lettings are up by 10% compared with this time last year; rolling over a contract means tenants can, if necessary, move out more quickly than if they start a new one.

Inquiries for corporate relocation services are down by 5-7% compared with last year, says Matthew Salvidge of Savills, another estate agent. But the budget for individual moves has increased by about 12%. He reckons this is because firms are importing senior figures to plan for Brexit.

Even those who can keep their jobs may see less potential for progression in future. Noemie Bouhana, a French senior researcher at University College London, completed a €3m project paid for by the EU earlier this year. She was encouraged to apply for further funding from Brussels but was later given to understand that British-led projects would not be considered from next spring. "Your career is based on you being the principal investigator," she says. That may persuade academics to up sticks.

London has long been seen as the best place for those pulsing with ambition to make a career. These people are no longer sure it is, says Marcin Czyza, the founder of Expatexit, a database of foreign professionals who want to leave Britain. Whatever the terms of Brexit, this impression may be hard to dispel. ■

Donald Trump on crime

Not good!

The president misinterprets some worrying crime statistics

BRITONS are becoming wearily familiar with President Donald Trump's commentary on their troubles with *jihad*. In June he mocked London's mayor for telling citizens there was "no reason to be alarmed" by a greater police presence following an attack at London Bridge. In September he claimed, without evidence, that the plotters of a failed bombing on the Tube had been "in the sights of Scotland Yard". On October 20th he fired off his latest tweet. "Just out report: 'United Kingdom crime rises 13% annually amid spread of Radical Islamic terror.' Not good, we must keep America safe!"

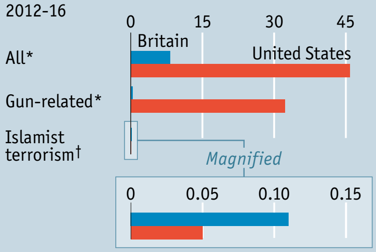
The official report in question includes two measures of crime. One, a tally recorded by police, indeed shows a jump of 13% in the 12 months to June 2017. The other, a survey of 35,000 adults, finds a decrease of 9%. The survey is the more reliable indicator of overall crime rates, according to the report's authors, because many victims fail to report minor offences to the police. Police records are the better measure of rare and violent crimes. Yet almost none of the 13% increase—which includes jumps in stalking, robberies and sex offences—has anything to do with terrorism.

What is true is that jihadist attacks have made a difference to the most harmful crimes. Homicides grew by 14% in the 12-month period; the 35 victims of a bombing in Manchester and two terrorist knife-attacks in London represented 5% of the total. Police recorded 294 attempted murders at those three events, a quarter of the total. The head of MI5, Britain's domestic security service, says that the terrorist threat has never been higher. Among western European countries, only France and Belgium arrested more terrorists per head of population last year. America has produced 129 Islamic State fighters to Britain's 850, according to the Soufan Group, an intelligence outfit.

Mr Trump is right to want to "keep America safe" from such influences, even if he muddled his figures. Yet his approach is hardly achieving that. "Do you notice we are not having a gun debate right now? That's because they used knives and a truck!" he tweeted after the London Bridge attack. True enough. But whereas in the past five years 11 jihadists have launched fatal attacks in America, killing 82 of their 86 victims with bullets, during the same period nine jihadists in Britain, without access to guns, killed only 37, according to the Global Terrorism Database at the University of Maryland. America's overall homicide rate is five times Britain's. British crime statistics may well contain lessons for America, but not the ones Mr Trump claims.

Panic on the streets of London

Average annual homicides per million people 2012-16



Sources: ONS; FBI; World Bank; Global Terrorism Database

*Britain data for five years to March 31st 2016 †For five years to June 30th 2017

Bagehot | Corbyn's comrades

The centenary of the Russian revolution is a good time to reflect on Labour's leadership

THE Labour Party has an admirable record of realism when it comes to the Russian revolution and the regime that it spawned. From 1918 onwards Labour refused to work with the Communist Party and banned its members from belonging to it. Clement Attlee helped to construct NATO as a bulwark against Soviet expansion and described Russian communism as the "illegitimate child of Karl Marx and Catherine the Great". Nye Bevan, one of Attlee's ministers, accused the Russians of establishing "a whole series of Trojan horses in every nation of the Western economy". Harold Wilson proclaimed that the Labour Party owed more to Methodism than to Marxism.

Yet today's Labour Party high-command contains several people who are more starry-eyed than gimlet-eyed when it comes to the Russian revolution. Jeremy Corbyn, Labour's leader, has remained remarkably silent on revolutionary Russia given the amount of praise he has lathered on Venezuela and Cuba, much of it in the pages of the *Morning Star*, a newspaper once partially funded by the Soviet Union. The same cannot be said of Seumas Milne, his head of strategy and a man who, according to a statement from Mr Corbyn's people on his appointment, "shares Jeremy's worldview almost to the letter…they sing from the same hymn sheet." Mr Milne got his start in journalism at *Straight Left*, a magazine that took the "Tankie" side in the argument between Eurocommunists, who were critical of the Soviet regime, and traditionalists, or Tankies, who were critical of the criticism. He then moved to the *Guardian* by way of *The Economist* and was a reliable warrior for the hard left. "For all its brutalities and failures," he once wrote, "communism in the Soviet Union, eastern Europe and elsewhere delivered rapid industrialisation, mass education, job security and huge advances in social and gender equality."

John McDonnell, Labour's shadow chancellor, has claimed that his worldview has been shaped by "the fundamental Marxist writers of Marx, Lenin and Trotsky", according to an interview unearthed by the *New Statesman*. He has also doffed his cap to two troubling Marxist ideas. One is Antonio Gramsci's notion of "the long march through the institutions": you work within existing institutions in order to convert them to the revolutionary cause. The other is Leon Trotsky's notion of a "transitional programme": you make demands that you know are unachievable, in order to stir up more discontent with the system.

One of Mr Corbyn's key supporters in the trade-union movement, Andrew Murray, makes both Mr Milne and Mr McDonnell look like right-wing deviationists. He is chief of staff to Len McCluskey, the head of Unite, Britain's most powerful union, and was seconded by the Labour Party headquarters during the recent election campaign. A long-standing member of the Communist Party before joining Labour last year, Mr Murray had a reputation as not just a Tankie but a super-Tankie, because of his unswerving support for the Soviet Union and Uncle Joe. He once wrote an article for the *Morning Star* which, while lamenting Stalin's "harsh measures", quoted Nikita Khrushchev's statement that "against imperialists, we are all Stalinists". On November 4th Mr Murray is due to join Tosh McDonald, the boss of the ASLEF trade union, at a celebration of the Russian centenary.

Does any of this really matter? The Soviet Union died in the late 1980s. International communism has either mutated into autocratic capitalism, as in China, or retreated into a few dysfunctional enclaves, as in Venezuela, North Korea and Cuba. The history of Labour is littered with people who flirted with hard-left ideas only to mellow on coming to power. Denis Healey, one of the Labour Party's great chancellors, was a Tankie as an undergraduate at Mr Milne's old Oxford college, Balliol.

Alas, it does matter, and for three reasons. The first is that it provides a measure of just how much conventional wisdom has changed in the past few years. Positions once regarded as cranky or even forbidden are becoming mainstream. The financial crisis shattered people's faith in the wealth-creating power of capitalism and the crisis-fighting power of technocrats. A survey by Legatum, a think-tank, found that people feel far more positive about socialism than about capitalism. The Iraq war and the election of Donald Trump have supercharged anti-Americanism. Just as striking as the rise of the comrades is the fall of the likes of Tony Blair, who vigorously supported the Washington consensus in economics and American-led intervention in foreign policy.

More powerful than guns

The second reason why it matters is that ideas have consequences, particularly ideas that you have spent your entire adult life repeating. Healey was in his 20s when he flirted with the far left. The comrades are now in their 60s. Mr McDonnell has carefully worked-out plans for nationalising key industries and extending trade-union powers. Mr Corbyn has spent his life campaigning against NATO and American foreign policy. Before becoming leader of Labour he was chairman of Stop the War, a group founded by Mr Murray and others, which has been less assiduous in opposing Vladimir Putin's wars than wars in general.

The biggest reason why it matters is what it says about the Labour leadership's mindset. The gravest intellectual malady on the left is its habit of making judgments on the basis of people's intentions rather than their results. This finds its purest form in the idea that the failures of the Russian revolution can be justified, or partially excused, by the nobleness of the intentions of the people who launched it. This not only applies the wrong metric to judging progress (Adam Smith's great insight was that economic progress usually proceeds regardless of the intentions of businesspeople). It prepares the way for the pursuit of traitors when noble intentions fail to produce noble results. The Labour Party was on safer ground when it spoke the language of priorities, rather than the language of millenarianism. ■

The UN in conflict zones

Looking the other way

JUBA AND KINSHASA

The persecution of the Rohingya is the latest atrocity the UN has failed to stop

SINCE the end of August, more than half of the 1m Rohingyas in the state of Rakhine in Myanmar have fled across the border to Bangladesh. The flight of the Muslim minority group is the quickest mass departure of people from any country since the genocide in Rwanda in 1994. Rohingyas are still pouring into makeshift camps, bringing with them stories of how villages were incinerated, children shot dead, women raped and babies tossed into canals. If the exodus continues few of them will be left in Myanmar.

The *Tatmadaw*, Myanmar's army, is chiefly responsible for the ethnic cleansing. It is aided and abetted by local Rakhine politicians, while the government of Aung San Suu Kyi has done little to stop the violence. But the UN is at fault, too. Despite having 19 agencies in Myanmar, and several offices and plenty of staff in Rakhine state, it has failed to stop the catastrophe or warn of its coming.

Inside the UN, some officials argue that those in charge of the mission downplayed the treatment of Rohingyas to win the co-operation of Myanmar's authorities in order to build schools, sanitise dirty water and develop a civil service—"capacity-building" in UN-speak. The special rapporteur for human rights in Myanmar, Tomas Quintana, says he was discouraged from visiting Rakhine state by the head of the mission, Renata Lok-Dessallien. The Canadian denies this, but has been recalled to the UN headquarters in New York.

A UN mission, whether a multi-agency presence as in Myanmar or one of its 15 peacekeeping operations, can be a thankless task. Those in charge are constrained by local and international politics. Yet they could do much better. Myanmar is far from the first example of a dysfunctional mission. The UN has repeatedly dawdled in response to atrocities. António Guterres, secretary-general since January 2016, wants to reform how operations are run. The plight of the Rohingya shows how much work he has to do.

Cosying up to the bad guys

The failings in Myanmar are reminiscent of those of the UN's mission in Sri Lanka at the end of the civil war in 2009 between the government and the Tamil Tigers, a guerrilla group. An internal review led by Charles Petrie, a former UN official, concluded there had been "systemic failure". Mr Petrie accused the members of the Sri Lankan mission of appeasing the government in Colombo, so that they could promote their development work and receive international aid. Standing up for human rights was often deemed too difficult.

In Myanmar, instead of confronting the government on behalf of the Rohingya, the UN championed a policy of development for all in Rakhine state. That ignored how the delivery of services would inevitably be channelled through, and controlled by, those in power, namely Buddhist Rakhine politicians, the enemies of Rohingyas. A report commissioned by the mission in Myanmar in 2015 pointed out that such an approach would be "more likely to reinforce discrimination than change it".

The Petrie report chronicled how the Sri Lankan mission recorded all the civilian deaths attributed to the Tamil Tigers, but understated the numbers of civilians killed or wounded by the army—again, to keep the government sweet. This pattern was also apparent in Rwanda in 1994 and in the United Nations-African Union Mission in Darfur (UNAMID), one of the UN's largest-ever peacekeeping operations, established in 2007. In 2013 Aicha Elbasri, the spokeswoman for the mission, resigned, handing in a list of 16 cases where UNAMID had "concealed" assaults on civilians and even UN peacekeepers.

Ban Ki-moon, Mr Guterres's predecessor, commissioned another UN review, which upheld five of the complaints. Ms ElBasri, Moroccan by birth, argues that the deceptions were carried out to avoid offending the Sudanese government of Omar al-Bashir, adding that Africans in the mission were keen to defend one of their own. Mr Ban said that the "tendency to un- ▸▸

derreport" had left him "deeply troubled". But no one was held accountable, and nobody had to resign. The whistleblower, however, forfeited her job.

Missions need the consent of the host governments to operate; the UN cannot invade. But too often agencies and blue helmets (as in the headgear worn by peacekeepers) are lackeys of autocrats, forming "abusive" relationships with those in power, according to Richard Gowan of Columbia University. This undermines the UN's claim to moral authority.

The operation in the Democratic Republic of Congo (DRC) is a case in point. The UN has deployed peacekeepers there since 1999, and MONUSCO, the French acronym by which the mission is known, now has about 16,000 troops, and costs more than $1bn a year.

Since 2016, the UN has failed to prevent violence that has forced over 1m people to flee their homes. Troops get away with defining their operating boundaries conservatively. Perversely, they are rewarded for not using their kit, as they are reimbursed for equipment returned in good condition. Meanwhile MONUSCO cannot easily get rid of underperforming civilian staff, partly because of pressure from trade unions but also because of the complex way in which UN headquarters imposes its choice of recruits on the mission.

Standing idle

Another $1bn-per-year mission, UNMISS, has done almost nothing to prevent the descent into civil war and famine since South Sudan gained independence from Sudan in 2011. The 12,500 peacekeepers have a mandate to protect civilians, but have failed to do so. In August 2016 aid workers were raped, beaten and robbed by South Sudanese government troops just minutes away from the main UN compound in Juba, the capital. Despite desperate phone and text messages from the victims, the 2,000 or so troops never stirred. "[The blue helmets] are supposed to protect civilians," admits a UN official in South Sudan. "But they don't. Something is upside down. It's not working."

Fired up, not ready to go

One reason for the failure is that the mission asks permission from the government before it sends out troops, fearing that otherwise politicians will obstruct the delivery of food and medicine to the starving and the sick even more than they already do. But since it is often the government carrying out the massacres, permission is often refused or delayed.

The UN argues that, despite the manifest failings of these missions, it is better to have them than not. The mere presence of its troops can sometimes deter attacks, and even if blue helmets are reluctant to go out and help civilians, at least the civilians can huddle in and around its bases for protection, as in South Sudan.

The UN has no mandate to impose its will independently on a country. All peacekeeping missions are authorised by the Security Council, and subject to approval by the General Assembly, giving China and Russia ample room to minimise the scope of missions in the interests of their clients and allies.

Such was the case in Sudan. China has considerable economic interests here, and it struggled for years to prevent any outside intervention in Darfur. Eventually, in 2007, it did concede to sending in UNAMID, but only after ensuring that the mission could cause Mr Bashir as little inconvenience as possible. The offer of Western troops was kept to an absolute minimum, denying UNAMID the sort of kit and operational efficiency that might have made a difference.

Another reason why, when the call goes out from New York, peacekeeping generally attracts troops from poor countries (see chart), is because the pay is relatively high. But they are typically risk averse. Some forces commit crimes. Another whistleblower, Anders Kompass, exposed allegations of sexual abuse of young children by troops in the Central African Republic in 2015.

Rather than take on the difficult task of improving peacekeeping operations, Mr Ban tried to encourage reporting of abuses of human rights. That way, the theory went, countries could avoid the crimes which would lead to the intervention of troops in the first place. His main initiative, "Human Rights Up Front", required all staff to take responsibility for reporting abuses. But in Myanmar this policy has failed at first contact with the enemy.

Remaking the peace

Mr Guterres has a chance to do much better. For example, he could increase the annual budget for the human-rights office ($190m), which is dwarfed by the $12bn spent on the UN Development Programme (UNDP). He could have heads of mission report to him, not to UNDP, so as to reduce the risk that human-rights abuses are ignored by officials who rely on local politicians' support for their pet projects.

Mr Guterres has said he wants the UN to do more before the blue helmets have to wade in. In recent years it has tried to mediate between factions in several countries. Sometimes it has staved off all-out war, thus avoiding the need for peacekeepers. Kofi Annan, a former secretary-general, rescued Kenya from a descent into further violence after disputed elections in 2007, for example; a team helped to stabilise Guinea after a coup in the west African state in 2008; and the UN also brokered a deal in Madagascar in 2011.

Building on these successes, Mr Guterres has called for a "surge in diplomacy for peace", and has set up a "High-Level Advisory Board on Mediation", which includes such luminaries as Michelle Bachelet, the president of Chile, and Justin Welby, the Archbishop of Canterbury.

Jaw-jaw is, of course, better than war-war. But as the failure in Myanmar shows, the UN still has a lot to learn about keeping the peace. ■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Chinese business

New era, old contradiction

HONG KONG AND SHANGHAI

Fears that Xi Jinping is bad for private enterprise are overblown

FOR a moment it seemed China was reverting to Maoist economic management. On the sidelines of the Communist Party congress this month, an official told Xi Jinping that her village distillery sells *baijiu*, a potent spirit, for 99 yuan ($15) a bottle. Mr Xi, China's most powerful leader since Mao, remarked that this seemed a bit dear. The chastened official thanked him and pledged to follow his guidance. But Mr Xi gestured her to stop. "This is a market decision," he chuckled. "Don't cut the price to 30 yuan just because I said so." The audience, perhaps relieved that Mr Xi had no intention of dictating the price of booze, broke into laughter.

This rare spot of levity at the dreary five-yearly congress was telling. The occasion cemented Mr Xi's unrivalled position at China's apex. For companies, the question is what he will do with it. His vision can seem ominous. In a speech laying out his plans, he made it clear that the party is all-powerful.

On his watch the party has already reasserted control over state-owned enterprises (SOEs) and sought influence in private ones. It has called on entrepreneurs to be patriotic. And regulators have cowed swashbuckling businessmen, from Wang Jianlin, a property mogul formerly China's richest man, to Wu Xiaohui, an insurance magnate who fancied himself the next Warren Buffett.

It might seem as if Mr Xi is turning the screws on private enterprise. But "socialism with Chinese characteristics" has long had a contradiction at its heart. Across much of the economy, Communist officials preside over rumbustious capitalism. Mr Xi's pledge of a "new era" probably means more of the same rather than a relapse into central planning.

Take the clampdown on moguls. Regulators have chosen four of China's most acquisitive companies for extra scrutiny: Anbang, an insurance firm; HNA, an aviation-to-tourism group; Wanda, a property developer; and Fosun, an industrial conglomerate. As a result, their frenetic overseas investments have slowed sharply this year. Wanda has sold many hotel assets. Anbang's founder has been detained.

Yet this is not the assault on entrepreneurs that some make it out to be. Of the 2,130 people on the Hurun rich list, a guide to China's ultra-wealthy, just five fell foul of the law last year (see chart on next page). By comparison, Mr Xi's anti-corruption campaign has ensnared nearly 10% of the party's 205-member central committee in five years.

Restrictions on the four high-flying companies are best seen as a by-product of stricter financial regulation, says Joe Ngai of McKinsey, a consultancy. Belatedly, officials have taken a hard line on risky funding, especially for overseas acquisitions. At the same time, the fortunes of tycoons with businesses geared to the domestic market—in tech, property or manufacturing—have soared. Wealth on the Hurun list has more than doubled under Mr Xi.

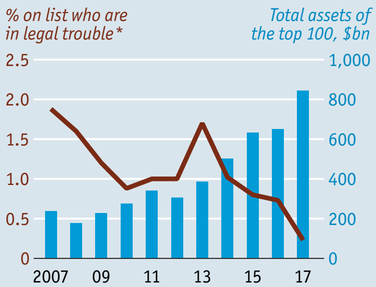
Another concern is tightened control of the technology sector. The *Wall Street Journal* reported this month that internet regulators might take 1% stakes in social-media giants, including Youku, Alibaba's YouTube-like platform, and Weibo, China's answer to Twitter. But the government already has a good handle on its tech superstars. None can get far in China if it angers the party or turns down data requests from state security. And they already serve up party-pleasing products. Some are lighthearted, like Tencent's game for WeChat, its ubiquitous mobile app, letting users compete in "applauding" Mr Xi's speech by tapping their phone screens. Others look more sinister, such as techniques to monitor users, which can help authorities keep tabs on citizens.

The notion that Mr Xi is stifling innovation is belied by a flourishing of enterprise. Only America has more, and more valuable, startups. Media focused on the party instruction for entrepreneurs to be patriotic, but the directive mostly spelled out how the government can support them. Gary Liu, president of the China Financial Reform Institute, says the real message is that entrepreneurs are vital to the economy.

A final concern is Mr Xi's wish to strengthen the party's clout in the corporate world. Hundreds of listed SOEs have amended their articles of association since he took office, vowing to consult party committees on big decisions. The regulator which oversees tech companies last year ordered them to improve their "party building" activities. The party wants members to be placed in more important jobs. Tencent now employs some 7,000 party members, or 23% of its staff; it says that 60% of them are in key roles. ▶▶

No Commiserations

Hurun rich list of China's wealthiest



Sources: Hurun Report; *The Economist*

*In prison or detained

But this is not entirely new. After mass closures of SOEs in the 1990s, officials pressed private firms to set up party organisations. As far back as 1999 nearly a fifth of foreign-backed companies had one. There is scant evidence that party cells have tried to sway firms' big decisions. Companies may not like them but the cells do not hurt business. Industrial profits averaged nearly 10% of GDP during Mr Xi's first five-year term, the highest since China's economic reforms began four decades ago.

The party could yet use its cells as beachheads for more control. Regulation of tech firms may get more intrusive. Feeling vulnerable, many of China's wealthiest entrepreneurs hold foreign passports. But the party knows that a healthy economy needs a vibrant private sector. Perhaps the biggest risk is that, even if Mr Xi means well, the accumulation of so much power in one leader can itself have a chilling effect. A few days after his *baijiu* remark, the distiller announced that it would sell a new blend at 30 yuan a bottle. ■

Cambodia's trade unions

Stitched up

PHNOM PENH

Textile workers find an unlikely ally against government repression

AT THE Gladpeer Garments Factory outside Phnom Penh, Cambodia's capital, seamstresses, dyers and embroiderers huddle over rows of work stations. It is a hard slog. But at least they can count on labour representatives to ensure they get a proper break. About four-fifths of the factory's 4,800 employees belong to a union, reports Albert Tan, the general manager. Many in his position distrust organised labour. Mr Tan sounds positively proud. So is H&M, a giant Swedish fashion chain that is Gladpeer's biggest customer. Like other Western brands that cater to increasingly ethical consumers, the Swedes are therefore nervously watching Cambodia's autocratic government squeeze workers ahead of a general election next year.

With annual revenues of $5bn, the Cambodian apparel industry is dwarfed by those of Bangladesh or Vietnam. But it has been growing fast. In a country of 16m, it already employs around 700,000 people and accounts for four-fifths of exports. It supplies international brands with everything from chic T-shirts to racy nightwear.

Between 2007 and 2014 the government kept monthly wages at $45. It has gradually let them rise to $153 since then, but only after angry textile workers took to the streets. They will go up again in January, to $170. But with rising living costs, labour groups reckon it ought to be $224.

Such demands worry the government, fearful of losing fleet-footed apparel-makers to even cheaper destinations like Myanmar or Ethiopia. Adding to the tense atmosphere is Cambodia's looming election. The prime minister, Hun Sen, in power since 1985, is all but guaranteed to win after another nasty campaign of repression. But many Cambodians—and foreign bosses—fear a repeat of the protests seven years ago, which turned bloody after a sham poll and a measly wage rise.

This time the government decided to quash dissent pre-emptively. In the past 18 months it has rammed through new laws to stifle independent labour movements. It has become harder to register unions, and only those approved by the government can represent their members in the most important disputes. Another proposed law would see labour cases handled by newly created labour courts, rather than special councils as happens now. The councillors are government appointees, but have earned respect for their efforts to ground rulings in law; unions and activists prefer them to judges and prosecutors, who are regarded as less independent and more arbitrary.

All this hits garment workers hard; theirs is the country's biggest industry, and heavily unionised. It also troubles international apparel firms. "The government is taking all the predictability out of the business," says Sarah Hopkins, a manager in Cambodia for H&M. Rival brands such as Gap, H&M and Zara (owned by Spain's Inditex) have jointly lobbied the government to relax its tightening grip of labour. Most say they are trying to improve conditions at suppliers' factories through strict standards and unannounced inspections. Some employers provide workers with health care, free eye checks, even libraries.

Not everyone is as scrupulous. The manager of a Cambodian knitwear factory confesses that its Hong-Kongese owner just wants business "to go smooth". And Mr Hun Sen has turned more anti-Western after an old video emerged in which the opposition leader says he took American advice on how best to run a party (he awaits trial on treason charges).

Activists point out that, if the fashion titans wanted to help in a big way, they should cut out the middlemen by acquiring the sewing mills and turning them into subsidiaries. But such investments are unappealing to modern firms, which focus on design rather than production. In the meantime, no one will add capacity until after the election, reckons Ken Loo, head of the Garment Manufacturers Association in Cambodia, an industry body. Undermining workers' rights, Mr Hun Sen may find, is no longer the best way to woo foreign business. ■

Discount grocers

The broccoli heresy

HERTEN

Aldi and Lidl want to grow fast while ignoring the internet almost entirely

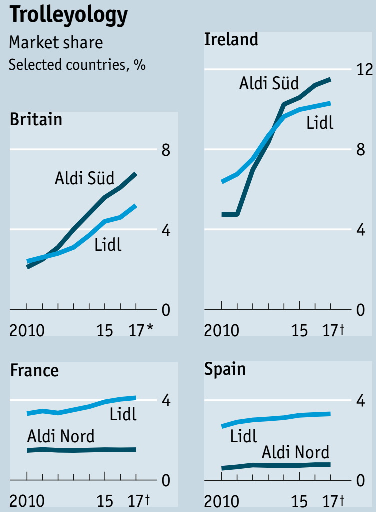
THE aisles are wide, the lights bright and shelves low. Most obviously, however, the apples shine and the broccoli beckons. For those used to the cramped, dimly lit Aldi stores of yore, all expense spared, the new supermarket in Herten, Germany, is almost shocking.

Opened in April this is the prototype for a vast new renovation and expansion programme across Europe, Britain and America. It is the discount giant's big bet on the future of shopping, all the more daring as the money is going almost entirely on bricks and mortar. Defying the conventional wisdom that customers want both in-store and online shopping ("omnichannel" in the jargon) Aldi wants to conquer the retail world by ignoring the internet. As too, to a ▸▸

Trolleyology

Market share

Selected countries, %



Sources: Kantar Worldpanel; PlanetRetail RNG

*To October 8th
†Forecast

lesser extent, does its great German rival Lidl. Plenty of other grocers reckon this may be the miscalculation that eventually brings them down.

Founded in 1945 and 1973 respectively, Aldi (split into two legally separate companies, Aldi Nord and Aldi Süd) and Lidl have been eating up the competition, especially since the financial crash of 2008. In the cut-throat British market, Aldi (owned by Süd) increased its groceries share to 6.8%, from 6.2% just a year ago; Lidl's jumped from 4.6% to 5.2% (see chart on previous page). At home in Germany, Aldi Nord's market share has reached 12.9%, and Lidl's 8.9%.

However, Aldi acknowledges that it must change to keep growing at this pace. Kay Rueschoff, Aldi Nord's director of marketing, concedes that low prices, the discounters' hallmark, are no longer enough. To lure middle-class shoppers, Aldi has to focus on quality, too—hence the shiny store in Herten. In all, Aldi Nord is spending €5.2bn ($6.1bn) on revamping its 4,800 stores in Europe (excluding Britain and Ireland) and opening hundreds of new ones. Besides ambient interiors, there is more fruit, veg and wine.

In Britain, Aldi Süd is unveiling about 70 new stores a year, often in impeccably middle-class areas that were once the preserve of posher British rivals such as Sainsbury's. Aldi plans to open 900 swanky new stores in America, putting it third in the country by store count, behind Walmart and Kroger. (Lidl has just begun operating in America, and aims to have 100 stores within the year.)

Mr Rueschoff bristles at any suggestion that Aldi is changing too much. The new stores still sell only about 1,400 items, as opposed to the 50,000 or so on many rivals' shelves, enabling big economies of scale. At Lidl, a new generation of senior managers last year began to upgrade their stores in a similar way. They resigned in February after their effort to expand Lidl's small online offering was deemed too radical a departure from the discounter's original, tight-fisted formula. But the idea that opening revamped stores as rapidly as possible is the best way to win market share, as well as make money, remains.

The discounters reason that whereas their conventional rivals, such as Sainsbury's, might be able to win some customers online, they will not make much money out of it. Take Britain, one of the most advanced places in the world for e-commerce. Britons buy 7.3% of their groceries online, up from 6.7% a year ago, second only to South Koreans. Tesco, Sainsbury's and others have spent hundreds of millions of pounds on sophisticated internet operations. Yet, as Bryan Roberts, an analyst at TCC Global, a consultancy, argues, these stores are merely "cannibalising themselves", driving most of their shoppers from their most profitable channel (the store) to the least profitable (online).

Operating margins in the supermarket business are notoriously low, but even lower online, says Mr Roberts—about 3% versus 0.5% or less. Fleets of vans and drivers are expensive, but, argues Walter Blackwood, a consultant, supermarkets dare not charge cost price (or more) for the service as customers expect it to be virtually free. He attributes this in part to the baleful effect of the online behemoth Amazon, which does not seek to profit from the actual delivery of goods, thus creating the conviction that deliveries should be free. Customers expect the same from everybody else.

For the moment, Aldi's decision to spend its money on physical stores is working. In less developed e-commerce markets, like America, they may have even more of an advantage. But the proportion of people shopping online can only go one way, so the strategy carries risks. Supermarkets are learning to make online sales more profitable, through "click and collect" schemes, for example, or raising the minimum transaction value for deliveries. A decisive clash of competing retail philosophies looms. To the victor, arugula. To the loser, turnips. ■

Airlines

Dogfight

CHICAGO

Avianca's boss is up against striking pilots and warring shareholders

HERNÁN RINCÓN has big plans for Avianca. He has run the Colombian airline since leaving the top job at Microsoft's Latin American business last year. Now he wants to turn the world's second-oldest carrier into a "digital company that flies planes"—using technology to improve customer experience and operations—and rival Chile's LATAM, the regional leader. And he hopes soon to seal a strategic partnership with United Airlines, America's fourth-biggest by passenger numbers.

However, progress towards these goals has stalled. A month-long strike by pilots demanding better pay has disrupted journeys of 375,000 passengers. Complicating life further for Mr Rincón is a court battle between two shareholders: Germán Efromovich, a Bolivian businessman, and Roberto Kriete, a tycoon from El Salvador. A dispute over how to run the airline turned nasty after Mr Efromovich announced the United tie-up in January. Mr Kriete sued both airlines, Mr Efromovich, his brother José and Synergy (the company through which they control Avianca) in New York. He says the deal violates fiduciary duty and shareholders' agreement, and aims to prop up other Efromovich businesses.

According to the lawsuit, Mr Efromovich borrowed money from a hedge fund to aid concerns hit by recession in Brazil, pledging Avianca shares as collateral (he owns 78% of voting shares). Mr Kriete says this led to a series of excesses: an order of 100 Airbus jets, double Avianca's needs, to relieve Mr Efromovich from other obligations to the planemaker; unlicensed use of the Avianca brand by his two smaller carriers; and approval by Avianca's board of a loan to thrice-defaulting Synergy.

Avianca counter-sued in March accusing Mr Kriete of leaking company secrets and trying to scupper the United deal—to force Avianca into a sale, or Synergy into divesting its holdings. (The shareholder pact allows Mr Kriete to sell his holding at a premium but he refuses to at what he says is today's depressed price.)

Mr Rincón sees "no merit whatsoever" in Mr Kriete's case against Avianca. Months of due diligence confirmed United as its ideal partner: their routes in the Americas are complimentary and both belong to Star Alliance. But the deal can only happen if the shareholder brawl ends. Mr Rincón hopes for a favourable ruling at a hearing next month. He cannot count on the tussling tycoons to settle. ■

MBA programmes

Degrees of concern

Reports of the MBA's demise are exaggerated

THE MBA is both revered and reviled. To boosters it has advanced the science of management and helped firms, and countries, to grow. Detractors say it offers little of practical value and instils in students a sense of infallibility that can sink companies, and knock economies sideways. The critics are currently the louder of the two, claiming that particularly the full-time, campus-based MBAs have reached saturation point, with too many mediocre courses chasing too few candidates. The *Financial Times* recently likened them to "the Grand Tour of business education in an age of Airbnb".

There is a widespread feeling that full-time MBAs are on their last legs, concedes Sangeet Chowfla, the president of the Graduate Management Admission Council (GMAC), a business-school association. Decline is allegedly hastened by competing qualifications, such as the Masters in Management. MiMs have much the same syllabus as MBAs, but unlike them, take students without management experience straight from undergraduate degrees. They often cost half as much and do not make participants interrupt their careers to study. Such degrees have long been popular at European business schools. Now Americans are following suit.

Non-MBAs now attract 35% of people who sit the GMAT, the de facto business-school entrance exam, up from 30% five years ago. MBAs' share has dipped proportionately. When King's College London launches a business school in November, it will offer specialised Masters courses but no MBAs. Stephen Bach, its dean, says that employers like to recruit younger students because they are more flexible and "culturally attuned".

But look across the world and MBA programmes are thriving. The "popular myth" of their demise is just that, says Mr Chowfla. Rapid growth in the overall business-education market has offset MBAs' declining share. Global applications to MBA programmes in the 2016/17 academic year grew by 6%, according to GMAC. In Asia, they rose by 13%; 132,000 students now apply to Asian schools, nearly as many as to American ones. Applications in Europe increased by 3%. American courses that enroll more than 200 MBA students—which dominate *The Economist*'s ranking of MBA programmes (see box)—report a 4% rise.

Demand has, it is true, fallen at smaller American schools. Those with fewer than 200 students saw applications drop by 6% this year. These schools enroll around half of all students in America. But they face distinct pressures. One is Donald Trump. In a survey by Carrington Crisp, a consultancy, around 40% of potential applicants said that the new president had discouraged them from studying in the country (just 3% said he made them more likely to study there). His anti-immigrant administration's plans to tighten the rules for graduate work visas may have something to do with this. "International students are feeling left behind," explains one who opted to study in France over America.

Dislike of Trumpism will not deter applicants from the finest American establishments. Few institutions anywhere can match the cachet of Harvard, Wharton or Kellogg, which charge a premium as a result. Second-tier American programmes are nearly as expensive, but nothing like as prestigious. Foreign students may opt for cheaper courses in countries with brighter job prospects. That bodes well for non-American MBAs. ▸▸

Make America great again

American business schools dominate *The Economist*'s 2017 Which MBA? ranking, taking 16 of the top 20 places. Northwestern University's Kellogg School of Management returns to the top spot for the first time since 2004. Kellogg students praise its facilities and collaborative culture. Their career opportunities are among the best, thanks in part to one of the largest alumni networks in the world; 97% of students find a job within three months of graduation, pocketing a 72% pay bump. All of the top ten slots in the ranking are now occupied by large, prestigious American schools, for which students are happy to pay extra. Their average tuition fee is $134,600, and has risen quickly in recent years. Employers, too, are willing to shell out for the best students. Their average basic salary was $127,300, a 70% increase on their pre-MBA pay cheques. But life, like rankings, isn't just about money. So we weight data according to what students tell us is important. The four categories covered are: opening new career opportunities (35%), personal development and educational experience (35%), better salary (20%) and networking potential (10%).

Which MBA? *The Economist* ranking of full-time MBA programmes

Rank 2017 *(2016)*	Business school	Country	Average salary of new graduates, $	Increase on pre-MBA salary, %	Graduates in jobs within 3 months, %	Average GMAT score of students*	Average work experience of students, years	Total tuition fee, $	Programme duration, months
1 ▲ *(2)*	**Northwestern** (Kellogg)	US	123,998	72	97	728	5	132,924	21
2 ▼ *(1)*	**Chicago** (Booth)	US	126,937	71	98	726	5	133,080	21
3 ▲ *(4)*	**Harvard**	US	134,071	64	94	729	4	144,000	21
4 ▲ *(12)*	**Pennsylvania** (Wharton)	US	130,375	29	98	730	5	153,160	20
5 ◄ *(5)*	**Stanford**	US	140,553	63	90	737	4	137,736	21
6 ▲ *(14)*	**UCLA Anderson**	US	118,150	93	92	715	5	118,580	22
7 ◄ *(7)*	**California at Berkeley**	US	122,488	81	91	717	5	119,478	21
8 ▼ *(6)*	**Dartmouth** (Tuck)	US	123,934	84	98	717	5	137,820	21
9 ▲ *(11)*	**Columbia**	US	129,379	72	97	718	5	137,584	20
10 ▼ *(3)*	**Virginia** (Darden)	US	122,806	89	93	712	5	131,840	21
11 ▲ *(15)*	**Yale**	US	119,146	102	93	725	5	133,300	21
12 ▲ *(21)*	**Michigan** (Ross)	US	119,959	84	98	708	5	128,700	20
13 ▲ *(18)*	**Duke** (Fuqua)	US	121,283	99	94	696	6	143,734	22
14 ▲ *(19)*	**New York** (Stern)	US	120,924	108	94	710	5	133,176	21
15 ▼ *(9)*	**HEC Paris**	France	120,425	147	91	691	6	67,400	16
16 ▼ *(10)*	**Queensland**	Australia	111,044	17	93	na	9	50,548	24
17 ▼ *(8)*	**IESE**	Spain	95,841	81	94	687	6	90,507	19
18 ▲ *(20)*	**Warwick**	Britain	64,405	44	100	653	8	52,804	12
19 ▼ *(17)*	**MIT** (Sloan)	US	126,316	71	95	724	5	142,624	21
20 ▲ *(40)*	**Florida** (Hough)	US	95,539	78	93	685	5	60,260	20

For full ranking and methodology go to **Economist.com/whichmba**

*De facto MBA entrance exam, out of a possible 800

One partial exception is Britain. British schools lure students from the European Union, in part because they enjoy an automatic right to work at London's big banks and professional-services firms. Brexit would change that. But British courses are at least getting cheaper for non-Brits. The collapse in the pound since the Brexit vote in June 2016 has cut the cost to Europeans of attending London Business School by €14,000 ($16,000), for instance. That may help explain why three in four British schools report a rise in applications this year, according to GMAC. If Britain crashes out of the EU the pound could weaken again, making courses look cheaper still. By then, however, the discount may not be sufficient to attract anyone. ■

The future of journalism

Funnel vision

NEW YORK

The first in a three-part series on journalism's future examines how leading American newspapers got readers to pay for news in the internet era

SOMETIMES it feels like the 1970s in the *New York Times* and *Washington Post* newsrooms: reporters battling each other to break news about scandals that threaten to envelop the White House and the presidency of Donald Trump. Only now their scoops come not in the morning edition but in a tweet or iPhone alert near the end of the day.

It is like old times in another way: both newspapers are getting readers to pay, offsetting advertising revenue relinquished to the internet. After years of giving away scoops for nothing online, and cutting staff, the *Times* and *Post* are focusing on subscriptions—mostly digital ones—which now rake in more money than ads do.

Their experiences offer lessons for the industry in America, although only a handful of newspapers have a chance at matching their success. A subscription-first approach relies on tapping a national and international market of hundreds of millions of educated English-language readers and converting a fraction of those into paying customers. With enough digital subscribers—Mark Thompson, chief executive of the *New York Times*, believes his newspaper can get to 10m, from 2m today—the subscriptions-first model could (in theory) generate more profits than business models dependent on print advertising used to.

Such optimism is hard to summon after two decades of accelerating decline. In that period American newspapers lost nearly 40% of their daily circulation, which fell to 35m last year, estimates the Pew Research Centre. Annual ad revenues have shrunk by 63%, or $30bn, just in the past ten years (see chart on next page). Newsrooms have shed 40% of reporters and editors since 2006. High returns on equity turned into single digits, losses or bankruptcy.

Like Detroit carmakers before the arrival of the Japanese, in pre-internet days newspapers flush with profits from a captive market grew lazy and complacent. Some big-city papers, like the *Philadelphia Inquirer* or the *Baltimore Sun*, splurged on foreign bureaus and fluffy suburban sections whether or not readers wanted them; classified ads alone covered these costs many times over. Now such newspapers are struggling to remain relevant to diminished readerships. A tier below, hundreds of local ones are dying or turning into advertiser sheets; newspaper chains, some managed by investment funds, have snapped up many of them, maintaining high profits by sacking journalists.

From the ashes of newsprint

The *Times* and *Post* have been buffeted by the same forces. But now each is in turnaround. The *Times* has doubled its digital-only subscribers in less than two years; the *Post* has managed the feat in ten months, and now has more than 1m. Both have staunched losses. Revenue at the *Times* had fallen by more than 20% in three years to less than $1.6bn in 2009; this year they are on pace to climb back above $1.6bn, led by digital subscriptions. (Return on equity still fell, to 3% last year from 37% in 2001.)

The *Post* had also been losing millions before Jeff Bezos, boss of Amazon, bought it in 2013. The newspaper is now privately held and does not disclose revenues and profits, but Fred Ryan, the publisher, says both are growing and the newspaper is on track for its most profitable year in a decade. The *Wall Street Journal* added more than 300,000 digital subscriptions in the year to June, but a sharp fall in advertising crimped revenues by 6% at Dow Jones, the division of News Corp, Rupert Murdoch's media empire, that houses the newspaper.

How have they done it? Early attempts by newspapers to put up digital "paywalls" floundered, and met with derision from critics and competitors vaunting the internet's ability to generate huge audiences for free content. How could anyone hope to attract paying digital customers when they could go elsewhere online for free?

The *Times* hit upon the answer in 2011, when it introduced a metered paywall, something the *Financial Times* was also trying. Visitors to the website could read a few free articles a month, after which they would be asked to pay. This approach is now standard across journalism (including at this newspaper), but it was controversial at the time. At News Corp Mr Murdoch erected a hard paywall at all his newspapers in the belief that giving away his product online would cripple the more profitable print editions. Those suffered anyway, and he later dropped the paywall at the *Sun*, a tabloid, and has allowed some flexibility at the *Journal*. Softer paywalls have created funnels to suck in customers.

On a whiteboard in Mr Thompson's office at the *Times* is a diagram to illustrate the approach. At the top, where the funnel is widest, are all those who visit its digital site. (In September 104m people in America did so, according to comScore.) At the narrow end are its 2m paying digital-only subscribers (plus 1m print subscribers). Mr Thompson's main preoccupation is to tweak the "geometry of the funnel" to shift more people from free to paid. At the *Post*, ▸▸

Past ...

Representatives from SCI Philippines speak to a Japanese audience in Tokyo at one of Noah Ark Coin's presale events in September of 2017.

A new digital currency to strengthen Japan — Philippines economic links

Noah Ark Coin (NAC) is initially aimed at linking Japanese users to a growing network of NAC services in the Philippines and around the world, and at streamlining OFW (overseas Filipino worker) remittances from Japan and globally.

IN 2009, the mysterious group or individual known as Satoshi Nakamoto released open source software for the world's first decentralized cryptocurrency (so named because it is generated through cryptography) — bitcoin — during the height of the global financial crisis. It was essentially created to promote greater transparency in the international exchange of goods and services through a decentralized monetary system.

Today, over 2,000 types of cryptocurrency exist. Transactions are recorded on a public ledger called a "blockchain" that guarantees the security and reliability of the system, and the increasingly popular use of these currencies is dramatically changing the flow of goods and money among companies and individuals on a worldwide scale.

Of these, only one has been created specifically to focus on strengthening economic ties between Japan and the Philippines. Dubbed the "Noah Ark Coin" or "NAC", this new cryptocurrency addresses a wide range of issues related to both countries. From its use in foreign remittances to the Philippines from Japan (and eventually, other countries) to its upcoming implementation in an entire Philippine city, NAC is poised to have a wide usage base immediately upon its availability.

In the case of the Philippines and Japan, Noah Ark Coin will soon become available for use by Japanese and Filipino nationals alike.

One ideal use-case for Noah Ark Coin is for OFWs (overseas Filipino workers) transferring funds from their country of employment back to the Philippines. The amount of funds transferred annually is huge and growing. For example, the OFW remittance flow from Japan to the Philippines just in the first half of 2017 was worth U.S. $830 million, with 10 percent growth year-on-year.

In fact in 2016, total OFW remittances back to the Philippines were equivalent to U.S. $26 billion — about 10 percent of the country's GDP.

Today, OFWs must often pay relatively high bank transfer fees to send their regular contributions to relatives and friends.

The Noah Ark Coin directly addresses this issue. Ark Systems Technology has been contracted in the Philippines to assist Noah Ark Coin to establish a service partnership between SATOSHI CITADEL INDUSTRIES (SCI), one of the largest blockchain companies in the Philippines, and NIPPON PAY, one of Japan's largest fintech companies.

Eventually, all users of NAC will be able to go to a NIPPON PAY member store in Japan, simply hold their NAC wallets over NIPPON PAY terminals and easily convert Japanese yen to NAC to readily store in their electronic wallets.

This will allow the families and friends of OFWs and other NAC users to receive NAC almost instantaneously in their own electronic wallets in the Philippines. Recipients of NAC can change their remittances to Philippine Pesos and withdraw them in cash in over 1,000 affiliate banks, convenience stores and remittance centers around the country. Moreover, payment can also be made directly to pay bills for telecommunications, electricity, school tuitions, health insurance, and other expenses directly from the electronic wallets.

In the Philippines, where it is reported that up to 86 percent of the population has no bank deposits, this new system would be a huge leap forward to allowing millions greater financial independence.

The implementation of NAC in Japan and the Philippines is merely part of the first phase of roll out. Eventually, this process will be expanded to nearly all countries.

In the meantime, Ark Systems continues to develop the global infrastructure for NAC. In the first half of 2017, Noah Ark Coin — with the support of Ark Systems Technologies — has entered into agreements with various Philippine real estate developers to create a network of Noah Ark Coin properties.

The first of these properties will be a 5-hectare mixed-use resort inside the world-famous Dakak Beach Resort in Zamboanga del Norte, Mindanao. When finished, it will provide access to pristine white-sand beaches, a world-class golf course and a modern theme park complete with roller coaster rides and a nightly parade.

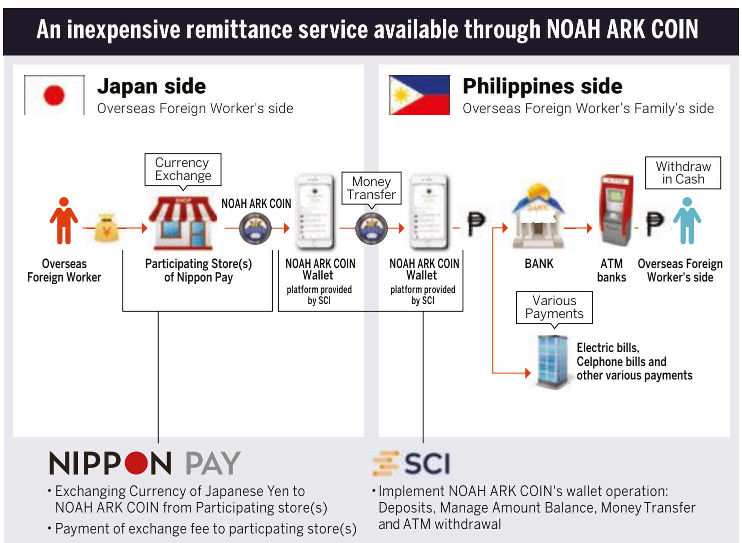
Dubbed the first "Noah Resort", NAC users will be able to use the facilities of both the Noah Resort and Dakak Beach Resort at discounted rates, using the cryptocurrency in all areas. NAC users will also have first access to the Noah Resort's long-term lease program, in which private villas will be leased out on a first-come first-serve basis.

The resort is strategically located in the southern Philippines, and only a short flight away from Cebu City, the popular tourist destination for Japanese and Korean visitors. That NAC chose to locate its first resort in the Philippines in Mindanao was not a chance decision: it precisely chose the destination as a commitment to less-developed, yet equally safe, part of the archipelago.

NAC has also entered into a development contract for a future cryptocurrency-friendly city to be called "Noah City". Noah City will be located within a reclaimed land project right in Manila Bay.

The entire project is planned to encompass 419 hectares, created in conjunction with the City of Manila, a Dutch dredging partner and one of the Philippines' fastest growing real estate developers. Within Noah City, NAC will be freely useable across retailers, service providers and food and beverage outlets.

NAC is currently available for pre-sale in Japan only, and will officially launch to the public in the first quarter of 2018. NAC will be available in major cryptocurrency exchanges soon after the public launch. •



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World Eye Reports

Mr Ryan is also busy funnelling.

The job of funnel mathematician did not exist at newspapers six years ago. Now it is one of the most important functions a digital site has. The *Times* and *Post* conduct numerous tests of different ways to trigger the paywall, for instance if a visitor returns to the same columnist. It is A/B testing like at a technology company, Mr Ryan says, except it is more like "A to Z testing". The *Post* has settled on three site visits a month before hitting the paywall, which means 85% of visitors will not encounter it. The other 15% are asked to subscribe at the introductory rate of 99 cents for the first four weeks.

Both newspapers sift through data about what visitors do just before stumping up. The *Post* looks at the "month zero" of a reader's pre-subscription activity on the site. Mr Ryan credits the effort, which began a year ago, with helping to convert more visitors to subscribers this year.

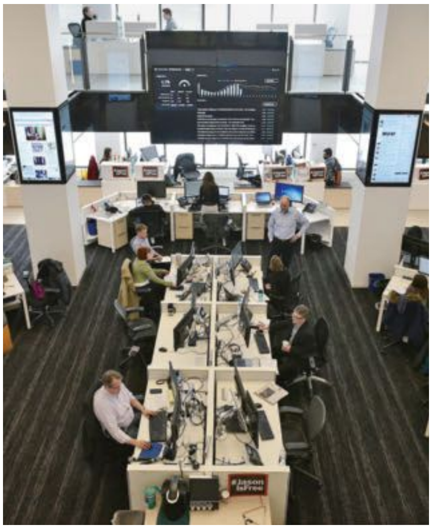
Another factor has helped the two papers: Mr Trump. Since his election they have revived an old rivalry, vying for sensational scoops, sometimes several in a day. Mr Trump's attacks on both newspapers—"the failing New York Times", "more fake news from the Amazon Washington Post"—have almost certainly helped their bottom lines. His presidency has created an urgency around news that has made old-fashioned journalism more in vogue than it has been probably since Watergate. Fake news shared on social media has reinforced a feeling that real news costs money.

Trump bump

The newspapers' bosses agree Mr Trump has been good for business, but add they were ready for the moment. As Mr Bezos is fond of saying, "you can't shrink your way to profitability". He invested in the *Post* after buying it, hiring technologists to improve its digital presence. He has also added reporters (the *Post* now has 750 newsroom employees and counting). Marty Baron, editor of the *Post*, added a rapid-response investigative team of eight people this year. Dean Baquet, executive editor of the *Times*, has expanded the Washington bureau twice since the election. (The *Times* paid for new reporters in part by cutting dozens of other editorial jobs.)

The subscription-first approach justifies adding reporters. By increasing the quality of the product, newspapers hope to lure subscribers. But it is not clear others can replicate that virtuous circle so easily. Many regional papers are nurturing digital subscribers—they all have their funnels now, too—but are doing so on a much smaller scale. They will have to come up with other ways to make money to survive. "They have to do everything," says Jay Rosen, a professor of journalism at New York University.

By "everything" media experts like Mr Rosen mean ending a reliance on two traditional sources of revenue: ads and subscriptions. At regional papers, unlike the national ones, prospects for both are limited by the size of the metropolitan market. Savings from printing fewer copies are small—printing and distribution costs are mostly fixed—so they must either cut staff or find other ways to make money. This may include staging trade fairs, offering memberships with perks, even e-commerce partnerships. Such sidelines help to ward off staff cuts; to be a community hub, newspapers must also cover communities effectively. They may forgo costly (and wasteful) foreign and national bureaus. But to attract local readers, they must provide relevant coverage of city halls, courthouses, police precincts or schools.

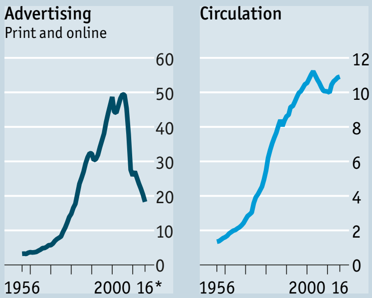


... is present

Take the *Star Tribune* in Minneapolis, a privately owned newspaper which has managed to keep the newsroom humming along. Almost annually Mike Klingensmith, the publisher, and a few of his senior executives meet with their counterparts at the *Dallas Morning News*, *Boston Globe* and one or two other independently owned newspapers. They sign non-disclosure agreements and then share ideas about how to make money. In the past year Mr Klingensmith has adopted three of them, adding several million dollars in revenue: organising an advertiser fair to attract new clients; putting on a consumer travel show; and starting a glossy quarterly print magazine.

Turning a line

United States, newspaper revenue, $bn



Source: Pew Research Centre *Estimate

The *Star Tribune* now sells digital subscriptions (nearly 50,000) and adverts; delivers a thick Sunday paper full of features (which accounts for 54% of print ad revenue); and is expanding the Saturday print edition. It conducts in-depth investigations that wins awards, including the Pulitzer Prize in 2013, and makes podcasts and daily videos. Several reporters cover city hall. In the past year an additional one was dispatched to Washington. Mr Klingensmith and Rene Sanchez, the editor, believe quality is key; nearly 20% of the budget goes to the newsroom, which has kept a headcount of 245 for seven years.

That gives the *Star Tribune*'s funnel mathematician a product to sell. Patrick Johnston, a digital executive poached from Target, the retail store, and his boss Jim Bernard, a former executive at Marketwatch, a business-news website, explain how a local newspaper's funnel vision is different. They are, like the big papers, interested in the visitors who they call "intenders", people whose browsing behaviour suggests they may be ready to subscribe. But whereas many visitors to the *Times* and *Post* are potential intenders, the *Star Tribune* can dismiss about 50% of its online traffic—the "grazers" from outside Minnesota who clicked a link—and focus on the other half. Reducing friction is vital; they have got 25% more intenders to subscribe since installing PayPal as a payment option.

Hold the presses

The downside to the ease of online subscriptions is the ease of cancelling them. Newspapers guard their rates of digital churn closely because they are so high—despite an all-out effort the *Star Tribune* keeps only one in two subscribers after 14 months (the *Times* and *Post* numbers are better, executives there say, without giving figures). A subscriber's early days are essential. Keeping a visitor engaged with the site is similar to getting a "guest" on Target's website to put another item in their basket, Mr Johnston says. It also means competing with ever more rivals for people's attention: bigger fish like the *Times* and *Post*, but also Netflix, Spotify or Candy Crush.

The virtue of digital subscriptions is that they build a deeper relationship between readers and newspapers than when distribution meant throwing broadsheets onto doorsteps. Newspapers nowadays know a lot more about their customers' tastes. That lets them tailor the experience to readers individually, with the aim of keeping them around longer. It can be, as Mr Thompson says, an annuity for the newspaper. But the newspaper has to be worth the cover price. ■

Schumpeter | Apple Capital LLC

Hey Siri. Should the world's biggest firm shrink its finance arm before it goes bananas?

IT IS fashionable to say that tech firms will conquer the financial services industry. Yet in the case of Apple, it seems that the opposite is happening and finance is taking over tech by stealth. Since the death of Steve Jobs, its co-founder, in 2011, the world's biggest firm by market value has sold hundreds of millions of phones with bionic chips and know-it-all digital assistants. But it has also grown a financial operation that is already, on some measures, roughly half the size of Goldman Sachs.

Apple does not organise its financial activities into one subsidiary, but Schumpeter has lumped them together. The result—call it "Apple Capital"—has $262bn of assets, $108bn of debt, and has traded $1.6trn of securities since 2011. It appears to be run fairly cautiously and is part of a thriving firm, but it still deserves scrutiny. Companies have a history of being hurt by their financial arms; think General Electric (GE) or General Motors (GM).

Apple Capital has lots of responsibilities but three stand out. It invests the firm's mountain of surplus profits, mainly in "highly rated" instruments (this task seems to fall to Braeburn Capital, a subsidiary in Nevada, which uses some external fund managers). Apple Capital also uses derivatives in order to protect the firm against currency and interest-rate gyrations. And it manages America's fifth-biggest corporate-debt pile by issuing Apple bonds as part of an elaborate strategy to limit tax bills.

Apple Capital has become important to its parent. Since Jobs died, its assets have risen by 221%, twice as fast as the company's sales, reflecting Apple's huge build-up of profits. Its investments are worth 32% of Apple's market value, and its profits (investment income, plus gains on derivatives, less interest costs) have been 7% of Apple's pre-tax profits so far this year. It is also sizeable compared with other financial firms. Consider four measures: assets, debt, credit exposure and profits. Depending on the yardstick, Apple Capital is 30-85% as big as Goldman Sachs. It is 22-42% as large as GE Capital was at its peak in 2007, just before things went down the tubes during the subprime crisis.

Apple Capital is different from these firms in important ways. It does not take deposits and has much lower leverage. In their prime Goldman and GE Capital were run by hard-charging financiers, and made lots of loans. By contrast, Apple Capital does not make loans, and is not meant to be a profit centre in its own right. Nonetheless, it has become riskier, in three ways.

First, Apple Capital is investing in racier assets, which involves taking credit risk. In 2011 a majority of its assets were "risk-free": cash or government bonds. Today 68% are invested in other kinds of securities, mainly corporate bonds, which Apple says are generally investment grade. The shift may explain why Apple's annual interest rate earned on its portfolio (2%) is now higher than that of the four other Silicon Valley firms with money mountains, Microsoft, Alphabet, Cisco and Oracle. In total, they still have 66% of their portfolios squirrelled away in risk-free assets.

Second, Apple's derivatives book has got much bigger. Since 2011 its notional size—the face value of its contracts—has risen by 425%, to $124bn. This is still much smaller than big banks' positions, but is the third-largest book of any non-financial firm in America, after GE and Ford. For every dollar of foreign sales, Apple has 89 cents of derivatives, compared with 57 cents for the other four tech giants. At points these derivatives have yielded big rewards. In 2015 they contributed $4bn, or 6% of Apple's profits. But they have dangers, too. Apple says that its "value-at-risk" (VAR), a statistical measure of the maximum likely loss in an average day, is $434m. That is huge: similar to the combined VAR of the world's top ten investment banks. In theory losses on derivatives would be offset by gains in the value of Apple's underlying business. But the sheer size of these positions gives pause for thought.

The last area of higher risk is Apple's divided geography. Its foreign operation swims in cash while its domestic one drowns in debt. Profits made abroad are kept in foreign subsidiaries. That way Apple does not pay the 35% levy America charges when earnings are repatriated. Some 94% of Apple Capital's assets are "offshore" and cannot be tapped for ordinary purposes. The domestic business must do the hard work of paying for dividends and buy-backs. Its profits are not big enough to cover these, so it borrows. Domestic net debts have risen to $92bn, or five times domestic gross operating profits. Each year Apple must issue $30bn of bonds (including refinancing), similar to the average of Wall Street's five largest firms.

Apple's core business is so profitable that it is—almost—inconceivable that a blow-up at Apple Capital could lead to it needing taxpayer or central-bank support, as was the case for GM and GE. Still, it is easy to imagine how Apple Capital could hurt its parent. A market shock could lead to losses on its portfolios. A two-percentage-point rise in interest rates would result in a loss of $10bn. If bond markets dried up, Apple might struggle to issue so much debt and have to bring home funds, incurring a big tax bill. It might also become tricky to run such a big derivatives portfolio.

Don't upset the Apple cart

Apple Capital has grown in a forgiving period for financial markets. That won't last. Over time, the risk of mission creep will rise, as will the temptation to invest in riskier assets. On the current trajectory, by 2022 its assets will reach $400bn and debts $250bn. By then financial regulators, who do not supervise Apple, will be grinding their teeth at night.

According to a former manager who left in 2012, Apple's financial gurus were careful because "nobody wanted that 3am call from Steve Jobs". But Jobs isn't there any more. In any case, a fear of rebuke is not enough. If the tax laws change Tim Cook, Apple's boss should wind down the structure that the firm has created. But even if the rules don't Apple Capital should be shrunk. Tech firms should seek to disrupt finance, not be seduced by it. ■

Also in this section

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American Express

Shuffle and deal

NEW YORK

Competition in the credit-card business will only intensify

HE IS leaving with the share price rising and the announcement, on October 18th, of earnings that were largely well received. Better still, Kenneth Chenault, American Express's chief executive for 16 years, accomplished a feat rare in the upper reaches of American finance: to stand down without an obvious helping shove. No grandstanding senators hounded him out (see Wells Fargo). No boardroom coup hastened the end (Citigroup). The financial crisis left him untouched (take your pick). His successor, Stephen Squeri, promoted from within and apparently groomed for the job, takes over in February.

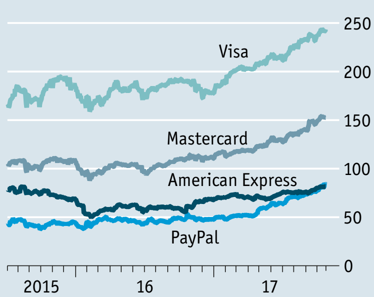
For all that, Mr Chenault's long tenure has not been an unequivocal triumph. Though generating strong returns on assets and equity, American Express has continued its slide within the fast-changing and competitive payments industry. According to Nilson, an industry bible, in 1974 the amount of money for purchases channelled through American Express was equivalent to 50% of what went through MasterCard and 70% of what went through Visa. By 2016, those ratios had shrunk to 30% and 14%.

American Express has grown nonetheless, as credit-card usage has surged. But the best days may be over. Its share price, revenues and profits all peaked in 2014. Buried in the details of its latest earnings release are hints that raise questions about how strong its numbers are, and suggestions that its strategy—which increasingly relies on lending to replace diminishing transaction fees—may be heading into more turbulent conditions.

Cutting the cards

Competitive pressure looms on all sides. MasterCard's market capitalisation is twice that of American Express; Visa's, three times as big. PayPal, spun off from eBay in 2015 and run by a former American Express executive, has a tiny fraction of Amex's revenues and profits but on the eve of the earnings announcement passed it in market value (see chart). Its sales and profits have grown much faster, and it was born online.

Card players
Market value, $bn



Source: Thomson Reuters

Rather than a card, PayPal provides a payments platform for individuals, on smartphones or computers, using accounts at their bank or tied to American Express, Visa or MasterCard. In the process it collects a fee. It also offers systems such as Venmo (intended for payments between individuals but sometimes used by small businesses, too), Braintree, a financial link used by Uber and Airbnb, and Xoom, a remittance service.

Competition abroad is just as keen. American Express entered Asia early and once had an enviable position there, but its presence has faded. In 2007 it sold (to Standard Chartered) a private bank created almost a century ago that had languished from inattention. Japan's JCB has issued almost as many cards (but still accounts for far less in transactions). China's UnionPay boasts the world's biggest transaction volume, eight times that of American Express, and 55% of cards issued globally.

These conventional competitors may matter less than electronic networks such as Alibaba's Alipay and Tencent's Tenpay and a profusion of still little-known start-ups. The entire mechanics of payments are being rethought, with cards being replaced by QR codes, biometrics and more.

In this noisy hothouse, Mr Chenault deserves respect for keeping American Express healthy. It has supported its market share through deals with banks and other financial institutions that can now issue American Express cards (and generate fees by transacting through Amex's systems). In the past decade the number of businesses accepting its cards has doubled. But these victories have come at a cost. Twenty-five years ago American Express collected a 3.2% fee on every transaction, according to Sanford Bernstein, an investment research ▸▸

firm. Now, it makes less than 1.8%. Competitive pressure will squeeze this further.

In the past, merchants were willing to pay for American Express transactions because its cardholders were well-off and willing to spend. But now large banks are going after these customers. JPMorgan Chase and Citigroup, both with card businesses headed by ex-Amexers, have issued cards that provide benefits broadly regarded as better than those from American Express. Soon Bank of America will follow. Banks have also taken aim at lucrative co-branding deals carrying exclusive rewards for customers. In 2015 American Express lost one such deal with Costco, a large retailer that accounted for 10% of its transaction volume, to Citigroup. Another, with JetBlue, an airline, went to Barclays.

To rely less on revenue from transaction fees, American Express has become more banklike, lending more. Net interest income made up 18% of revenues in 2012 and should bring in 28% in 2018, predicts Nomura/Instinet, a brokerage. That has looked good lately, because funds have been cheap and credit quality high, but the environment may be changing. Citigroup and JPMorgan Chase, among others, began expanding their consumer-loan portfolios in 2015. Now quality may be worsening. In the two most recent quarters, analysts were surprised by the size of American Express's provisions for credit losses. Other banks also increased provisions.

Credit is cyclical and it would be a surprise if this time were different. A new concern is electronic fraud, notwithstanding companies' efforts to thwart it. Still, the business that American Express joined 60 years ago will continue to grow, and American Express may well be a beneficiary. But others may be better placed. Mr Chenault's tenure may thus be remembered merely as a pause before the end of an era. ■

Buttonwood | Sauce for a Brussels goose

Billions depend on the choice of a discount rate

DIVORCES are rarely easy. In the 16 months since Britain voted to leave the EU in a referendum, the negotiations have made little progress. One of the trickiest aspects is the amount that Britain should pay to meet its existing spending commitments for EU programmes.

This is not analogous to dividing up the bill in a restaurant, and deciding who had the lobster and who stuck to the mixed green salad. Take the cost of EU officials' pensions. The tricky bit in calculating it is that pensions are long-term commitments; a bureaucrat who starts work in Brussels today might still be collecting a pension 70 years from now. Working out the cost is fiendishly complicated, requiring estimates of how much wages will rise (if the pension is linked to salary) and how long employees will live. Then the sum of future benefits has to be discounted at some rate to work out the current cost; the higher the discount rate, the lower the presumed expense.

The EU doesn't pre-fund pensions for its officials; it pays them as they fall due. So the calculations don't need to involve any assumptions about investment returns. But the cost estimate needed for Britain to pay its "fair share" will depend on what discount rate gets used. And that could be the subject of a big dispute.

In its annual accounts, the EU calculates a pension liability of €67.2bn ($79.3bn). This is based on a discount rate of 1.7% in nominal terms and 0.3% in real terms (after inflation). This cost has jumped from around €35bn in 2011 because the discount rate has fallen sharply. This rate has not been plucked out of thin air; it is based on the interest rates paid on EU government debt. An agreement to pay a pension is, after all, a debt like any other. So it may seem that there is little to argue about; Britain should simply cough

up its share of €67.2bn.

However, when it comes to calculating the contributions of employees, the EU uses a completely different approach. As a Eurostat document shows*, the discount rate in these numbers is a 22-year average of real government-bond yields. This includes the period from 1995 to 2000, when real rates were often 4% or higher. The result is a nominal discount rate of 4.8% and a real rate of 3.1%.

Up until 2012, the EU used a 12-year average of bond yields. But it is steadily moving to a 30-year average by 2021, which means that those high real yields from the late 1990s will stay in the numbers for longer. The remarkable result is that while the discount rate in the balance-sheet calculations has been falling, the discount rate used for the contribution of officials rose in 2016. The good news for employees is that they were required to contribute 0.5% less of their salaries than would otherwise have been the case.

Had the EU used the discount rate it applied to its balance-sheet to calculate the size of contributions, its officials would have had to stump up a lot more—resulting in significant cuts in take-home pay. So it is understandable that it has softened the blow. But Britain is surely at liberty to argue that what is sauce for EU bureaucrats ought to be sauce for British taxpayers as well. Bruegel, a think-tank in Brussels, concluded that, if this more generous discount rate were used, the British pensions bill would fall by between a third and more than half. In cash, that could be €2.5bn-4bn.

All Britain has to do, then, is argue this case. But EU negotiators might ask how Britain calculates the pension liability for its own public servants. Unfortunately, the accounts of the England and Wales teachers' pension scheme show a real discount rate of just 0.24%. That would undermine the logic of the British argument.

Another approach might be for Britain simply to pay its share of the pensions bill every year; after all, that is what the EU does at the moment. Then Britain would not be "punished" by the use of a historically low discount rate. But the snag would be that Britain could still be paying out for some bureaucrats in the 2070s, creating the kind of festering sore that the country's tabloids will complain about for decades (and demand that some future government repudiates).

Perhaps some cunning British civil servant has found a way of escaping this dilemma. When Buttonwood contacted the Department for Exiting the EU (DEXEU), he was told it was a matter for the Treasury; the Treasury said it was a matter for DEXEU. There was no news on whether either department planned to hold its Christmas party in a brewery.

* "Pension Scheme of EU Officials (PSEO): Actuarial assumptions used in the 2017 assessment". June 2017.

Economist.com/blogs/buttonwood

Indian finance

The round-trip rupee trick

MUMBAI

Banks in India will finance their own bail-out, apparently

ONE of the perks of owning a bank is the ability to tap it when you need money. The Indian government, which has majority stakes in 21 lenders, is no exception. As it happens, it needs to finance a bail-out of the banks it owns, most of which are in trouble. So under a cunning plan unveiled on October 24th, the ailing banks will lend the government 1.35trn rupees ($21bn), about a third of their combined market value. The government will reinvest this money in bank shares, thus ensuring they no longer need a bail-out.

Steadying a tottering financial system is never a graceful exercise, as American and European authorities discovered after the financial crisis. India's lenders withstood the meltdown of 2007-08 well, but then embarked on an ill-advised lending spree, backing lots of infrastructure projects that got snarled in bureaucracy. Bad loans piled up. State-owned lenders, which account for around two-thirds of the sector, now have "stressed" loans of 10.5trn rupees, about a fifth of their book.

Banks have been reluctant to acknowledge that money they have lent is unlikely to be repaid, in part because that would trigger a loss, which in turn depletes the bank's equity (the money shareholders invest). State-owned banks already have equity levels close to regulatory minimums, so they have preferred to pretend that even their ropiest borrowers will pay them back in full. At the very least, they don't have the capacity to extend new loans. Predictably, bank-credit growth has slumped, recently nearing record lows. That is one reason why year-on-year GDP growth slowed to 5.7% in the second quarter, from well over 7% a year ago.

Despite the roundabout method of recapitalisation, getting money into the banking system is good policy. Bankers are being encouraged to use a new bankruptcy code to deal with bust borrowers; having fresh equity makes it easier for them to acknowledge past mistakes and move on.

Details of the bail-out scheme are pending, but may resemble a rescue plan in the 1990s, whereby banks financed "recapitalisation bonds" issued by the government. The proceeds were used to subscribe to banks' rights issues. (Banks will have to raise 580bn rupees themselves, perhaps by selling non-core assets, and receive a further 180bn rupees from government coffers left over from a previous scheme.) One attraction is that the money the government will have to borrow, roughly 1% of GDP, will not be reflected in its deficit, saving the finance ministry's blushes.

The prospect of fresh funds sent most state-owned banks' share prices soaring by well over 25%. Unlike recent Indian bank-rescue schemes, the package is large enough to make a difference. It should allow banks to lend again, if they can find willing borrowers. Indian businesses have plenty of spare capacity and many are still over-indebted. Some are still dealing with the effects of a sudden "demonetisation" of the economy last November, which has dented output. The complex implementation of a new goods-and-services tax in July has also frayed corporate confidence.

The government also says its banks will be run more efficiently, to prevent further incontinent lending. There is reason to doubt that. Reform of their corporate governance is long overdue; and letting the private sector take over the reins at public banks remains taboo. Still, repair of the balance-sheets is at last under way. ■

Pillars to be reinforced

Monte dei Paschi di Siena

Getting up again

MILAN

Italy's fourth-biggest bank returns to the stockmarket

A TELEVISION advertisement for Monte dei Paschi di Siena begins with a toddler tumbling and a gymnast stumbling. "Falling is the first thing we learn," declares the voice-over. "The second is getting up again." Italy's fourth-biggest bank and the world's oldest, which was bailed out by the Italian government in July, has had several bruising falls over the years. On October 25th it returned to the stockmarket after a ten-month hiatus—the latest stage of its plan to get back on its feet. The shares closed higher on the day, at €4.55 ($5.37), but still far below the €6.49 the government paid.

Trading was suspended last December, after a failed private-sector attempt to save the bank through a share issue. The government said it would get involved. In July the European Commission approved a €8.1bn "precautionary recapitalisation". European rules say banks receiving such aid must be solvent, the capital injection must not distort competition and the capital shortfall must be identified by a stress test, such as the one Monte dei Paschi failed in July 2016. Shareholders and junior bondholders must share the pain.

Therefore, alongside the injection of €3.9bn by the government, €4.3bn-worth of subordinated bonds are being converted to equity. Much of this is held by retail investors, many of whom may have thought they were buying a safe investment. Some of these can choose to swap their new shares for senior bonds. The exchange will run from October 30th to November 17th. If, as expected, they all make the swap, the government's stake will rise from 52% to 68%, at an additional cost of €1.5bn. By 2021 Monte dei Paschi must return to the private sector.

The plan also disposes of €28.6bn-worth, at gross value, of non-performing loans, of which most are being offloaded into a separate vehicle and securitised. Atlante 2, a private bank-rescue fund, will buy most of the mezzanine and junior tranches for €1.6bn; the senior debt will be sold on the market, partly backed by a state-guarantee scheme.

The scheme is rounded off by the bank's restructuring. This includes simplifying and digitising retail banking, strengthening the wealth-management business and improving credit-risk management. The number of branches will be cut from 2,000 to 1,400; 350 have already closed. Monte dei Paschi's headcount of ▸▸

25,500 will be reduced by 5,500; 1,800 staff have already departed.

In August Marco Morelli, the bank's boss, sent an e-mail to all staff asking for ideas. He received 1,000 replies. He then spent two weeks touring the country, meeting staff in several cities. At each encounter Mr Morelli projected onto a screen three of the most critical e-mailed responses. The message he sought to transmit: no more alibis.

Things may be looking up. Pavilion, an investment services firm, suggests that new regulation and accounting rules will make life harder for Italian banks dealing with bad loans, but cyclical factors will offset this. In August net non-performing loans fell to €65.3bn, down from €86.8bn in December, according to Italy's banking association. UniCredit, the country's biggest lender, announced preliminary third-quarter earnings on October 24th: pre-tax profits rose by 45%, year on year, helped by the sale of Pioneer, a fund manager.

But the Sienese lender has a lot of work to do. Its gross non-performing exposure ratio is projected to fall from 34.5% in December 2016 to 12.9% within five years. That is a little below last December's Italian average, but still much higher than the European average of 5.1%. Meanwhile, new inquiries are under way into two of the bank's former managers for allegedly obstructing supervisors. Getting up again may be a struggle. ■

Age and inequality

The generation gain

Millennials are doing better than the baby-boomers did at their age. But the gap is closing

ALL men are created equal, but they do not stay that way for long. That is one message of a report this month by the OECD, a club of 35 mostly rich democracies. Many studies show how income gaps have evolved over time or between countries. The OECD's report looks instead at how inequality evolves with age.

As people build their careers, or don't, their incomes tend to diverge. This inequality peaks when a generation reaches its late 50s. But it tends to fall thereafter, as people draw redistributive public pensions and quit the rat race, a contest that tends to give more unto every one that hath. Old age, the OECD notes, is a "leveller".

Will it remain so? Retirement, after all, flattens incomes not by redistributing from rich seniors to poor, but by transferring money to old people from younger, working taxpayers. There will be fewer of them around in the future for every retired person, reducing the role of redistributive public pensions.

One logical response to the diminishing number of workers per pensioner is to raise the retirement age. But that will exacerbate old-age inequality, if mildly. Longer careers will give richer workers more time to compound their advantages. And when retirement eventually arrives, the poor, who die earlier, will have less time to enjoy their pensions.

Today's youngsters may resent having to provide for more pensioners, not least because they feel that older generations have it easier than them. The OECD provides qualified support for this complaint. Baby-boomers (mostly born in the 1950s) have accumulated far more wealth (property, shares and other savings) than Generation X (mostly in the 1970s) and millennials (the 1980s and after).

But that is partly because they have had more time to do so. Comparing generations at a similar stage of life paints a different picture. Today's young adults have a significantly higher disposable income than previous generations had at the same age. OECD citizens now in their early 30s have 7% more than members of Generation X had at that age and over 40% more than boomers enjoyed when they were similarly short in the tooth (see chart). Youngsters may sigh with impatience when an old codger tells them how life was tougher "when I was your age". But it was.

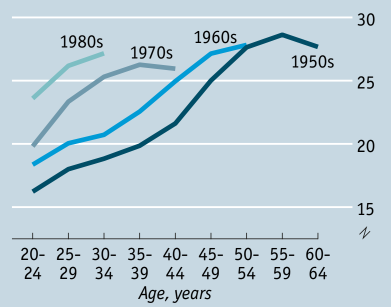
This millennial privilege is, however, smaller in America, which tends to set the tone for the generation wars. (Indeed Americans in their early 30s are slightly worse off than the preceding generation was at a similar age.) The gap also appears to close as the later generations get older. Gen-Xers were far more comfortable in their 30s than the people born a decade or two before them. But now they are in their 40s, their incomes have stopped rising, whereas their seniors enjoyed strong gains at the same age.

This may reflect the lingering influence of the global financial crisis. But if this trajectory persists, a time may soon come when old folk sigh with impatience as youngsters tell them how much easier life was "when you were my age".

Generation gap

OECD average disposable income

2017 $'000 at PPP*, by birth decade



Source: OECD; *The Economist* *Purchasing-power parity

Robo-advisers

Silicon speculators

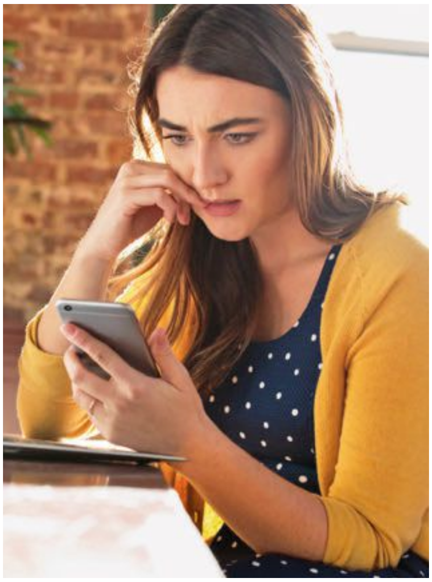
Automated investment companies are getting big or getting bought

EXCHANGE-TRADED funds (ETFs) were supposed to make investing easy. Instead of spending hours researching individual stocks and bonds or paying an expert fund manager, investors could simply buy a few ETFs. But now there are too many to choose from. BlackRock offers 346 in America alone. Some investors need help allocating their money between different funds. Many companies now offer "automated wealth managers" (AWMs) that perform this service.

AWMs have been around for less than ten years, but they have proliferated, offering different services in different countries. Often, they are called "robo-advisers", but this term can be misleading. Some offer clients detailed advice about how to save. For example, Wealthfront, an American AWM, predicts the cost of sending a student to a given college, taking into account increases in tuition fees and likely financial aid. It then suggests how parents can save in a tax-efficient way. Other AWMs are simpler. Wealthify, based in Cardiff, rejects the term "robo-adviser" because it does not provide advice. It merely allocates clients' funds based on how much they wish to invest, when they expect to need the money and the degree of risk they will accept.

Nonetheless, AWMs have a few things in common. They typically invest in low-cost ETFs and charge very low fees. Annual charges are usually only a fraction of a percentage point of an investor's total savings, plus any fees levied by the ETFs.

AWMs target cash-conscious investors who cannot afford or do not wish to pay a human adviser. Millennials are considered good customers because they are used to doing things online and are starting to earn money. But generally they do not have a lot of it. Individual savers tend to have small portfolios. At Betterment, the largest independent American AWM measured by assets under management, the average client



Nail-biting decisions

▸ had $27,400 in June 2017. At Wealthfront, its rival, the average client had $40,900.

Their business model leaves AWMS with a problem. To make a profit despite low fees, they must attract lots of client money. Michael Wong, an analyst at Morningstar, an investment research firm, estimates that, depending on its model, an AWM would need between $16bn and $40bn to cover its costs. No independent AWMS have reached profitability, though some are close. Betterment says it has $11bn under management.

But for most AWMS, profitability remains distant. Only a few manage over $1bn or have more than 100,000 clients. To get more clients, many are tying up with established wealth managers. On October 5th Aviva, a British insurer, said it would buy a majority stake in Wealthify. Michelle Pearce, Wealthify's co-founder and chief investment officer, noted that Aviva has 15m customers in Britain, who can use her firm's services through Aviva's portal.

To stay independent, AWMS need to get big quickly, in part by seeking customers established firms neglect. Similarly, acquired AWMS often pitch their products to people their parent firms would not otherwise serve. These customers tend to have little wealth and to be new investors. There are dangers in this: they may place too much faith in AWMS' more optimistic projections of future riches. Wealthfront even allows its customers to borrow against the value of their savings, on the basis that its funds will provide better returns than its interest rates of 3.5-4.75%. Like their human counterparts, robos may have a tendency to oversell their investing prowess.

Correction: In "How green is my value?" (October 21st) we said that employees of the World Bank are "in open rebellion against their boss". This is a misleading statement based on a letter from the staff association written in 2016. Sorry.

Tax cuts and wages

Corporations are people, too

WASHINGTON, DC

Will cuts in American corporate tax boost Americans' wages?

THE president's tax promise has always been clear: he will reduce the amount middle-earners, but not rich Americans, must pay. Yet every time Donald Trump releases a plan, analysts say it does almost the opposite. The Tax Policy Centre, a think-tank, recently filled in the blanks in the latest Republican tax proposals and concluded that more than half of its giveaways would go to the top 1% of earners. Their incomes would rise by an average of $130,000; middle-earners would get just $660. The White House maintains that tax reform will deliver a much heftier boost to workers' pay packets. Who is right?

The disagreement boils down to who benefits when taxes on corporations fall. The Tax Policy Centre says it is mainly rich investors. But in a report released on October 16th, Mr Trump's Council of Economic Advisers (CEA) claimed that cutting the corporate-tax rate from 35% to 20%, as Republicans propose, would eventually boost annual wages by a staggering $4,000-9,000 for the average household.

The claim has sparked a debate among economists that is as ill-tempered as it is geeky. Left-leaning economists are incredulous. Writing in the *Wall Street Journal*, Jason Furman, who led the CEA under Barack Obama, pointed out that if the report is right, wage increases would total about three to six times the cost of the tax cut. Larry Summers, a former treasury secretary, wrote that if a student submitted the CEA paper, he "would be hard pressed to give it a passing grade".

Conservative economists, such as Gregory Mankiw of Harvard University and Casey Mulligan of the University of Chicago, have responded with a barrage of algebra and diagrams. They note that taxes, because they distort incentives, can cost the economy more than they raise in revenues. Economists call the extra cost "deadweight loss". Once it is reclaimed, tax cuts could benefit workers and firms by more than they cost the Treasury. For instance, investment might rise after corporate taxes fall, sparking competition for workers and pushing wages up. What's more, standard theory says that, in a small economy integrated with global markets, workers will pay for taxes on capital, because firms can up sticks when levies rise.

Paul Krugman and Brad DeLong, two left-wing economists, have fired back their own Greek and graphs, laced with snark. But Messrs Mankiw and Mulligan showed that the CEA's prediction is at least logically possible. That does not mean it is reasonable. There are three reasons to doubt it.

First, to calculate its figures, the White House relied on two studies, neither from a peer-reviewed journal, of how wages have varied with corporate-tax rates internationally and across American states. A recent review of such papers, by Jane Gravelle of the Congressional Research Service, found both to be statistically flawed. In any case, Mihir Desai of Harvard Business School, who co-wrote one of them, says that the CEA misinterpreted his work. If you assumed the corporate tax creates a deadweight loss worth ten times the revenue it raises, you might justify the CEA's numbers, he says. But that is implausible. (As *The Economist* went to press, the CEA was preparing a second report using other methods to justify the figures.)

Second, the American economy is plainly not small. This makes capital less flighty. And although it may have become more mobile because of globalisation, many investment opportunities in America—in Silicon Valley, say—are hard to replicate elsewhere. This also makes a high corporate-tax rate less likely to send investment abroad.

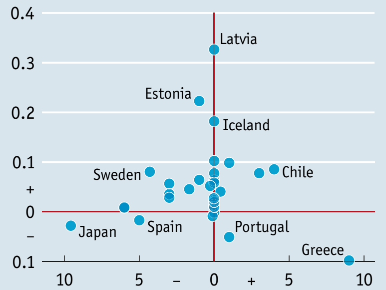
Third, the White House's analysis ignores other features of the Republican tax plan, like a proposal to switch to a "territorial" corporate-tax system. Because this would stop taxing the foreign profits of American firms, it might actually encourage investment abroad. And if, as is likely, the tax cut is financed by borrowing, it is likely to push up interest rates and the dollar. That would create an economic drag.

The White House has rushed to include the CEA's paper in its argument for tax cuts. Yet the estimate is more than a little optimistic. There is no clear relationship between recent corporate-tax cuts and wage growth in rich countries (see chart). Even the Tax Foundation, a think-tank that looks favourably on corporate-tax cuts, predicts a much smaller wage boost. Should Republicans get their way, Americans can expect a pay rise—just not a bumper one. ■

Labour and capital

OECD countries, 2011-16

Change in real wages, %*

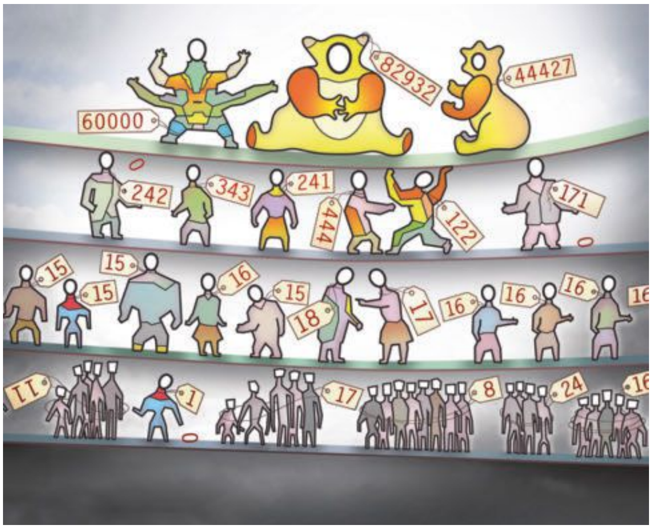


Change in corporate-tax rates, percentage points

Source: OECD *Based on 2016 $ at purchasing-power parity

Free exchange | Too tight to mention

Firms should make more information about salaries public



SWEDES discuss their incomes with a frankness that would horrify Britons or Americans. They have little reason to be coy; in Sweden you can learn a stranger's salary simply by ringing the tax authorities and asking. Pay transparency can be a potent weapon against persistent inequities. When hackers published e-mails from executives at Sony Pictures, a film studio, the world learned that some of Hollywood's most bankable female stars earned less than their male co-stars. The revelation has since helped women in the industry drive harder bargains. Yet outside Nordic countries transparency faces fierce resistance. Donald Trump recently cancelled a rule set by Barack Obama requiring large firms to provide more pay data to anti-discrimination regulators. Even those less temperamentally averse to sunlight than Mr Trump balk at what can seem an intrusion into a private matter. That is a shame. Despite the discomfort that transparency can cause, it would be better to publish more information.

There is a straightforward economic argument for making pay public. A salary is a price—that of an individual worker's labour—and markets work best when prices are known. Public pay data should help people make better decisions about which skills to acquire and where to work. Yet experiments with transparency are motivated only rarely by a love of market efficiency, and more often by worry about inequality. In the early 1990s, it was outrage at soaring executive salaries which led American regulators to demand more disclosure of CEOs' pay. Such transparency does not always work as intended. Compensation exploded in the 1990s, as firms worried that markets would interpret skimpy pay-packets as an indicator of the quality of executive hires.

Despite this, bosses tend to oppose transparency, for understandable reasons. Firms have an easier time in pay negotiations when they know more about salaries than workers do. What is more, shining a light on pay gaps can poison morale, as some workers learn that they earn substantially less than their peers. A study of employees at the University of California, for instance, found that when workers were given access to a database listing the salary of every public employee, job satisfaction among those on relatively low wages fell. In industries in which competition for talented workers is intense, the pernicious effects on morale of unequal pay create an incentive to split the high-wage parts of the business from the rest. Research published in 2016 concluded that diverging pay between firms (as opposed to within them) could account for most of the increase in American inequality in recent decades. That divergence in turn resulted from increased segregation of workers into high- and low-wage firms.

Yet transparency increases dissatisfaction not because it introduces information where there was none before, but because it corrects misperceptions. Surveys routinely find that workers overestimate their performance and pay relative to their peers'. This is true across economies as well as within firms. In 2001, tax records in Norway were put online, allowing anyone to see easily what other Norwegians had earned and paid in tax. Reported happiness among the rich rose significantly, while the well-being of poorer people fell as they learned their true position on the economic ladder. Better information changes behaviour. Low-paid workers at the University of California became more likely to seek new jobs after salary data became public. In Norway the poor became more likely to support redistribution.

Transparency might threaten the function of capitalist economies if people were implacably opposed to pay gaps, but they are not. A study published in 2015 of factory workers in India, for instance, found that unequal pay worsened morale and led to reduced effort when workers could not see others' contributions, but not when productivity differences were easily observable.

Yet in the modern economy, individual contributions are often devilishly hard to assess. Simple theory suggests that workers are paid according to their productivity. Were they to earn more, their employers would lose money; were they to earn less, other firms could profit by hiring away underpaid employees. But although it is easy enough to see how many shirts a textile worker stitches in an hour, it is much harder to evaluate the contribution of one member of a team that has spent years developing new software. When it is difficult to observe important parts of a job, economists believe that trying to link pay closely to narrow measures of performance can be misguided. Workers inevitably neglect murky but critical tasks in favour of those the boss can easily quantify. In the knowledge economy, therefore, the relationship between pay and productivity is often loose.

Pay gaps are often nonetheless justified. Workers with scarce and valuable skills can easily threaten to leave, and can therefore bargain for higher pay. Those fat pay-packets serve the economy by encouraging young workers to develop skills that are in short supply—provided, of course, that they know how much they can expect to earn. But the difficulty in observing productivity allows factors to influence pay, such as office politics, discrimination or a simple tendency to silence the squeakiest wheels with grease.

Open-plan offices

Not every country will opt for radical transparency. Even Nordic governments continue to tweak their policies: in 2014 Norway banned anonymous searching of its tax database, so citizens could see who had nosed around their finances. But increased openness about pay could improve both the fairness and the functioning of the economy. When pay is public, it is not the justifiable inequities that create the most discomfort, but those firms cannot defend. ■

Studies cited in this article can be found at economist.com/transparency2017

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Electric cars

Proof by induction

It is now practical to replenish electric vehicles' batteries through thin air

A WISE driver keeps an eye on the fuel gauge, to make timely stops at filling stations. For drivers of electric cars, though, those stations are few and far between. The infrastructure needed for refilling batteries has yet to be developed, and the technology which that infrastructure will use is still up for grabs. Most electric cars are fitted with plugs. But plugs and their associated cables and charging points bring problems. The cables are trip hazards. The charging points add to street clutter. And the copper wire involved is an invitation to thieves. Many engineers would therefore like to develop a second way of charging electric vehicles—one that is wireless and can thus be buried underground.

Electrical induction, the underlying principle behind wireless charging, was discovered by Michael Faraday in 1831, and is widely used in things such as electric motors and generators. Faraday observed that moving a conductor through a magnetic field induced a current in that conductor. Subsequent investigations showed that this also works if the conductor is stationary and the magnetic field is moving. Since electric currents generate magnetic fields, and if the current alternates so does the field, an alternating current creates a field that is continuously moving. This means that running such a current through a conductor will induce a similar current in another, nearby, conductor. That induced current can then be used for whatever purpose an engineer chooses.

In the case of vehicle charging, the first conductor is a length of copper wire. This is coiled around a piece of ferrite (a substance made of oxides of iron and other metals) that amplifies the magnetic field generated. The whole thing is housed in a flat case to create a pad that is easily buried. When a vehicle equipped with a suitable "pickup" coil stops or parks above this device, and alternating current is fed into the pad, a similar current is induced in the pickup. This is then converted into direct current by a rectifier, and is used to top up the vehicle's battery. The principle is thus pretty simple. But only in recent years has it become practical to use in vehicles.

Leading the recharge

For wireless charging to work, a car must necessarily be fitted with a pickup. At the moment, this is a do-it-yourself business. Evatran, a Virginian firm, for example, sells kits of pickup and pad for between $2,500 and $4,000, installation included. According to Rebecca Hough, the firm's boss, about 11% of the input power is lost during wireless charging with Evatran's equipment. But plugging in a cord charger, she says, involves similar losses. The absence in cord charging of the air gap involved in wireless charging means cord charging requires a special (and power-draining) transformer to protect against surges.

Evatran is not alone in the DIY induction business. HEVO, a company based in New York, will install a pickup for $3,000. HEVO also wants to take charging out of the home garage, by building networks of pads in cities. These, it intends, will be reserved and rented by drivers using their mobile phones.

If wireless charging is to become more than a bespoke curiosity, though, vehicle manufacturers will have to get involved as well. This is starting to happen. Evatran says that, next year, at least two carmakers will start fitting its pickups to their products as they are being assembled. WiTricity, a firm in Massachusetts that, like Evatran, designs both pickups and pads, has licensed its pickup design to Toyota, and also to two car-components companies, TDK of Japan and Delphi of Britain. Other carmakers, including Audi, BMW, Daimler, Ford, Jaguar, Mercedes-Benz and Volvo, are likewise expected to launch remote-charging-ready vehicles soon.

Nor are cars the only vehicles for which wireless charging beckons. Also next year, WAVE, a firm in Utah, plans to install a much more powerful version of the technology at the port of Los Angeles, for a monster vehicle (its tyres are higher than a tall man) which grabs, moves and stacks loaded containers. This will bypass one of the port's more arcane practices since, at the moment, the International Longshore and Warehouse Union permits only electricians to plug in the cords of electric vehicles at the port, which makes operating such vehicles there remarkably expensive.

And wireless charging is especially promising for buses, says Andrew Daga, the boss of Momentum Dynamics, a firm in Pennsylvania that sells more of its charging units for buses than for cars. A big obstacle to the uptake of electric buses is the need to take them out of service for part of the day to recharge them. If, thanks to wireless ▸▸

charging, such a bus can sip enough power en route to keep it chugging along until it can be given a charge overnight, it can at last, he says, compete with the diesel sort.

One place where this is already happening is Milton Keynes, a town northwest of London. The Line 7 route in this town is serviced by electric buses that pause for two to four minutes over charging pads at each end of the line. Both pads have four buried coils, which can transfer power at a rate of 120 kilowatts. (By comparison, Evatran's latest single-coil charger for cars provides 7.2 kilowatts.) That is enough for the buses to remain in service for 16 hours a day.

The equipment used in Milton Keynes, which is made by IPT Technology, a German firm, costs about £100,000 ($130,000) a pad. But the buses' operator, EFIS, calculates that one of their vehicles costs 50 cents a kilometre less to run than a diesel one, thanks to savings on fuel and engine repair. Collectively, Line 7's eight electric buses drive 700,000km a year. According to John Miles, EFIS's boss, the firm expects to start servicing a second route in Milton Keynes soon, adding two more charging pads and 11 electric buses to the town's public-transport network. Wirelessly charged buses also run in Mannheim, Germany, in Utrecht, in the Netherlands, and in the Italian cities of Genoa and Turin, as well as in Salt Lake City and the Californian cities of Lancaster, Long Beach, Monterey, Palmdale and Walnut Creek. Los Angeles is expected to join the list next year.

A moving experience

All of these efforts, though, still depend on a vehicle stopping when it needs to recharge. In that sense, wireless charging is no different from the plug-in variety. But things do not have to be that way. For induction to work, the vehicle does not need to be stationary. The next step will be charging vehicles on the move. Preliminary trials have started.

One such is at a 100-metre electrified test track in Versailles, near Paris. This test, run by VEDECOM, a government transport-research institute, should be finished next year, but initial results are promising. The batteries of two minivans travelling simultaneously along the track at more than 100kph can successfully absorb 20 kilowatts each. Qualcomm, the firm that makes the equipment being tested, known as Halo, says it has already licensed the technology involved to 13 car-parts firms. One market the firm thinks promising is electrifying taxi ranks. As Graeme Davison, who is in charge of marketing Halo, observes, "no taxi driver on God's earth" will keep getting out of his cab to swap charging flexes as the queue at the rank creeps forward.

Israel is also interested in charging vehicles on the move. Shay Soffer, the chief scientist at the country's transport ministry, has overseen the electrification of a short stretch of road in Tel Aviv, where tests will begin next year. He does not think electrifying roadways will be unworkably expensive. Oren Ezer of ElectRoad, the firm that converted the road in question, reckons a small crew, working three night shifts, could convert a kilometre of tarmac in this way. A lead vehicle would cut trenching into the existing surface and sweep up debris. A second, piled with electrical kit, would follow, with workers tucking the equipment into place in the trench as it travelled. A third would then fill the trench with fresh asphalt.

Whether such on-the-fly charging actually will be practical is moot. But the stationary sort looks set for take-off. Though plugs in cars are unlikely to vanish, the power of induction seems here to stay. ■

Fishing and sperm whales

Getting their own back

JUNEAU, ALASKA

After years being hunted by fishermen, whales have now become the hunters

NO GOOD deed, cynics say, goes unpunished. That is certainly the view of longline fishermen in southern Alaska. The good deed in question is the end of commercial whaling, courtesy of a moratorium agreed, in 1982, by the countries once involved in that trade. Most of the species that have benefited from the moratorium are baleen whales. These feed by filtering small organisms such as krill from the water, using hairy plates (made of tissue called baleen) as sieves. Some whales, though, have teeth, and hunt larger prey, such as fish and squid. The largest of these is the sperm whale, once a prize target for whalers because of the oil contained in an organ that it uses for echolocation.

How badly sperm whales were hit by whaling is hard to know, but their population is certainly recovering. America's National Oceanic and Atmospheric Agency (NOAA) estimates that, since the moratorium went into effect in 1986, their population has grown at about 4% a year. And Alaskan fishermen are suffering as a result. Over the past 20 years, fishermen of the Gulf of Alaska fleet, sailing from ports such as Juneau, have reported sperm whales stripping their lines of black cod as they haul them in. What started as an occasional nuisance now has a serious effect on a fishery that is worth $100m a year.

A recent study by researchers at NOAA suggests a line attacked by a sperm whale loses about a quarter of its catch. Another investigation, by the Southeast Alaska Sperm Whale Avoidance Project (SEASWAP) estimates the loss at between five and 16 kilograms for every 100 hooks a line is carrying. Boats bait thousands of hooks per fishing set and black cod currently fetch about $14 a kilogram, so whale predation is costing fishermen a lot of money.

Whale population growth is an obvious culprit, but some think the story may be more complicated. In 1995, only nine years after the moratorium came into force, the management of the Alaskan black-cod fishery was changed from a free-for-all that lasted ten days a year to a quota system in which boats had an 8½ month season to catch their allotment. Before the change, predation from lines was negligible. The presumption is that the lines were in the water for such a short period that whales did not have time to learn their value as a food source.

What to do about all this is tricky. No one wants to return to the free-for-all, but attempts to deter whales by playing noises at them have failed. The animals just treat those noises as dinner gongs. And trying to outrun a whale, once it has latched onto a boat in the expectation of an easy meal, is futile, for whales are strong swimmers. ▸▸

The bad, old days

Researchers at SEASWAP are working to find new ways to avoid the whales. They have successfully created monitoring systems to pinpoint whale-free waters in which boats can safely deploy their lines. They are also experimenting with acoustic decoy buoys that broadcast recordings of boats, in order to lure whales away from the real ones. Early results indicate that these buoys can summon whales from a distance of up to ten nautical miles.

Another approach is to change fishing methods. This year the North Pacific Fishery Management Council, which regulates Alaska's fisherfolk, approved a novel way to fish for black cod—the use of pots similar to those employed to catch crabs and lobsters. These, experience suggests, greatly reduce whales' depredations. But their use is controversial. They require bigger boats than hooked lines, and are costly. Converting a vessel to pot-fishing costs between $100,000 and $300,000. So far, less than 7% of the Gulf of Alaska fleet has adopted the new method, and owners of smaller vessels fear getting squeezed out.

Those owners would retain title to their quotas, though, so the upshot might be fewer, larger vessels fishing on behalf of consortia, rather than the rugged individualism of today. If that serves to keep the whales at bay, it may be worth it. ■

The history of navigation

Computing disc

A study of an ancient navigational instrument

THESE pictures are of the plate of a mariner's astrolabe, the earliest known, which was raised in 2014 from a wreck off the coast of Oman. The complete instrument would also have had a rotating pointer, called an alidade, mounted on a pin running through the central hole. The plate itself is 17.5cm in diameter, but less than 2mm thick, and has recently been examined by scanning with a laser beam, by Mark Williams of the University of Warwick, in Britain. Dr Williams used the laser to create a high-resolution, three-dimensional "point cloud" of individual spots on the plate's surface. This reveals detail invisible to conventional photography. The blue picture, showing the reverse side of the plate from the natural-light picture, is a result of such a scan.

Esmeralda, the vessel the astrolabe came from, was part of Vasco da Gama's second expedition to India. Between 1497 and 1499 da Gama had led the first fleet to travel from Europe to India and back. He departed from Portugal again in 1502 and returned the following year, minus *Esmeralda*, which had been left behind with four other vessels to help maintain Portuguese influence in the area. *Esmeralda* subsequently sank in a storm while raiding Arab shipping.

Successful navigation requires a way of fixing latitude and longitude. The invention, in the 18th century, of the accurate, seaworthy timepieces needed to determine longitude is a famous story. (The race was won by John Harrison, a British carpenter.) Astrolabes, quadrants and the sextants that succeeded them, are just as important, though. By measuring the elevation above the horizon of the sun at noon (which the user would do with an astrolabe by suspending the instrument from a cord and pointing the alidade at the solar disc), they permit a ship's latitude to be calculated. Dr Williams's examination has revealed the marks, etched around the astrolabe's circumference at 5° intervals and indicated in the photograph, that allow solar elevations to be gauged.

Biotechnology

Covering the bases

Another step forward for gene editing

SINCE its discovery in 2012 CRISPR-Cas9, a gene-editing technique, has gone from strength to strength. This tool, developed from a bacterial defence system that cuts up the DNA of invading viruses, permits genetic material to be edited easily and precisely. It has transformed research in biology, and promises to have wide applications in agriculture and medicine.

But it is not ideal. One of its flaws is that its ability to replace genes works best in cells that are replicating, and thus have the correct molecular furniture in place to incorporate the new DNA being delivered. A second is that it starts by breaking the DNA strands so that new material can be inserted into the gap. That can have undesirable effects. A third is that it is not particularly good at correcting point mutations. These are errors which affect only one or two of the bases, known informally as genetic "letters", in a gene's DNA sequence. This flaw is especially problematic because tens of thousands of genetic diseases are results of such point mutations.

There may, though, be a way around these problems, particularly the third one. This is to alter specific bases without cutting the DNA strands they are in. A paper published this week describes means of doing so, namely programmable protein machines called base editors that rearrange the atoms of one base so that it becomes another. And another paper describes how to achieve a similar ultimate outcome—a change in the protein encoded by a gene—but in a way that does not involve DNA directly at all.

Base camp

Base editing was invented last year, by David Liu of Harvard University and his colleagues. DNA is composed of four sorts of bases, each attached to one of two molecular backbones that twist together to form the molecule's famous double helix. The bases are often referred to as A, C, G and T, the initials of their full chemical names, adenine, cytosine, guanine and thymine. The shapes of these molecules mean that a C on one strand of the double helix is always paired with a G on the opposite strand, and an A with a T. Dr Liu's base editor combined CRISPR-Cas9 with an enzyme called cytidine deaminase. It also employed a deactivated version of Cas9, meaning that enzyme binds to, but no longer cuts, DNA. The resulting molecular construction was able to find specific G-C base pairs in a cell ▸▸

and convert them to T-A.

One of this week's papers, published in *Nature*, describes how to extend the technique to convert A-T pairs into G-C ones, extending the range of genetic errors that can be corrected. Creating this second base editor was harder than the first because an equivalent to the cytidine deaminase used by Dr Liu, which would be needed to pull it off, does not exist in nature. Instead, one member of the group, Nicole Gaudelli of Harvard University, set about creating it.

The enzyme needed is an adenine deaminase that works on DNA. Versions of this enzyme do exist, but they act on RNA, a similar but not identical molecule. Dr Gaudelli, though, thought she could tweak an RNA-specific version for use on DNA.

To do so, she started with a bacterium called *Escherichia coli*, which is much beloved by biologists. The *E. coli* she used had defective antibiotic-resistance genes. Crucially, the mutations that had broken these genes could in principle be fixed with an adenine deaminase that worked on DNA. She therefore created a vast range of variants of the RNA version of the gene, hoping that some might instead work on DNA—and manifest that fact by saving bacteria that would otherwise die when they were exposed to antibiotics.

By picking the most promising variants, mutating them again, and repeating the process, she eventually arrived at an enzyme that could be attached to CRISPR-Cas9 in order to accomplish the conversion of A-T base pairs into G-C. And it works. The combined base-editing tools have the desired effect more than half the time. Using CRISPR-Cas9 alone for such point-mutation work is only 4% effective. Moreover, CRISPR-Cas9 often creates unwanted insertions or deletions of DNA. Base editing creates almost none.

Bases for progress

The second paper, published in *Science*, involves RNA more directly. One of RNA's most important jobs in a cell is carrying information from genes in the nucleus to the protein-making machinery in the cytoplasm, to tell that machinery what to make. In the paper Feng Zhang, of the Broad Institute, in Cambridge, Massachusetts, who was one of the pioneers of the CRISPR-Cas9 technique, describes a base editor made from Cas13, an enzyme that cuts RNA in the way that Cas9 cuts DNA, and a second enzyme that can reverse the effect of G-to-A mutations. Though Dr Zhang's editor works on RNA rather than DNA its effect, at least temporarily, is the same. By substituting one base for another it changes the composition—and therefore the activity—of a protein.

Though the papers are different, together they demonstrate a wider point, which is that the toolkit of genetic engineering is expanding quickly. In particular, variants of Cas9 are being tested to see if the CRISPR-Cas9 approach can be improved. And another enzyme, Cpf1, is growing rapidly in popularity as a substitute for Cas9 in conjunction with CRISPR.

The researchers who have developed base editing even dream of reaching into the epigenome. This is the system by which some genes are switched off by a chemical process called methylation. It is part of the mechanism that determines what type of cell a given cell is.

Until recently, epigenomic editing would have seemed a distant prospect. But the speed with which new gene-editing techniques are being invented suggests it would be risky to bet against it happening. For genetic engineering at the moment, the possibilities seem limitless. ■

Palaeontology

A black-and-white answer

Some dinosaurs wore bandit masks

IN RECENT years it has become clear that many, if not all, dinosaurs belonging to a group called the theropods had feathers. One line of these creatures gave rise to birds. But the rest, though they could not fly, nevertheless seem to have had patterns in their plumage, just as birds do. This can be seen from the distribution in their fossils of pigment particles called melanosomes. And a study led by Fiann Smithwick and Jakob Vinther at the University of Bristol, published this week in *Current Biology*, reports the discovery of remarkable markings on the face of one such theropod. *Sinosauropteryx*, it seems, wore bandit masks.

Sinosauropteryx (pictured alongside, with feathers clearly visible) was a metre-long animal that lived 126m years ago, during the Cretaceous period, in what is now China. To determine whether its plumage pattern might be deciphered, Dr Vinther flew there to examine the three best-preserved specimens, two of which are in Nanjing and one in Beijing. He teamed up with some colleagues to use a special camera to take high-resolution pictures of the plumage of these three specimens. When he and Mr Smithwick analysed the results by computer they found, to their surprise, a distinct stripe of dark feathers that ran across the animals' faces and around both of their eyes.

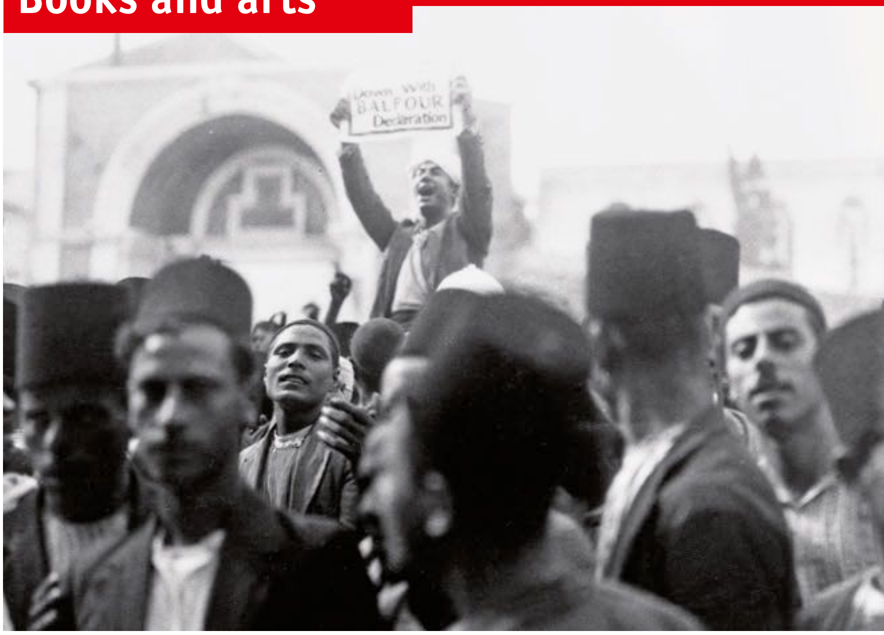
Bandit masks have never previously been seen in a dinosaur. They are, though, found in many modern species. Raccoons and ferrets have classic bandit masks. Bee-eaters, ospreys and kookaburras have similar eye-disguising patterns. And badgers and skunks also have dark eye-crossing stripes, though in their cases these run along the animals' snouts, rather than across their faces.

Researchers argue about the function of bandit masks, and they may, indeed, have more than one. Most animals have evolved an acute sensitivity to the eyes of others. Disguising eyes, as a real bandit mask does, would help stop prey spotting predatory peepers that were studying them just before their owner lunged for the kill. Conversely, a bandit mask might help potential prey avoid attracting the attention of would-be predators.

Glare reduction is another hypothesis. Just as athletes sometimes paint dark colours beneath their eyes to reduce the reflection of light from sweaty skin into their pupils, so a band of darkness near the eyes might improve an animal's vision. For badgers and skunks, though, the stripes are probably there to provide the opposite of inconspicuousness. They are actually warnings to potential predators, saying "don't mess with me or I will rip your leg off/spray you with something so horrible that nothing will go near you for weeks."

Which of these jobs the mask did for *Sinosauropteryx* remains a matter of speculation—though its gracile body suggests dismembering things was not its strong suit. But, whatever the particulars, the discovery Mr Smithwick and Dr Vinther have made is a nice example of convergent evolution, showing that what works today worked in the Cretaceous, too. ■

Beautiful plumage



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Israel and Palestine

1917 and all that

The Israelis and Palestinians are still haunted by their history

IN THE roster of new states established in the past century, the creation of Israel has been extraordinary. It is one of the Middle East's rare functioning democracies, with an intense public debate and a robust court system. It has absorbed destitute Jews from around the world and built a flourishing high-tech industry. All this in the face of wars and the intractable conflict with the Palestinians in its midst.

When, exactly, the Israeli-Palestinian conflict began is hard to say. Devout Jews have long lived in Palestine, and the first Zionists arrived in the late 19th century. But many historians point to November 2nd 1917 as the starting point. On that day the British government vowed to use its "best endeavours" to create a "national home" for the Jewish people in Palestine, which it would soon take from the Ottomans.

That vague yet fateful promise, contained in a letter from Arthur Balfour, Britain's foreign secretary, to Lord Rothschild, a leader of the British Jewish community, ran to just 67 words. But the Balfour declaration, as it became known, "combined considerations of imperial planning, wartime propaganda, biblical resonances and a colonial mindset, as well as evident sympathy for the Zionist idea," writes Ian Black in "Enemies and Neighbours", his wonderful new history of Palestine and Israel from 1917 to 2017.

If Israelis see the Balfour declaration as leading to the birth of Israel some 30 turbulent years later, Palestinians regard it as a great betrayal. Balfour wrote that nothing should be done to prejudice the "civil and religious rights" of Palestine's "existing non-Jewish communities", which then represented about 90% of the population. But he did not mention the Arabs by name, nor did he consult them.

Enemies and Neighbours: Arabs and Jews in Palestine and Israel, 1917-2017. By Ian Black. *Atlantic Monthly Press; 608 pages; $30. Allen Lane; £25*

Their outrage has hardly diminished with time. The declaration "is the root cause of our destitution, dispossession and the ongoing occupation," the Palestinian mission to Britain told a parliamentary committee in April. Mark Regev, the current Israeli ambassador to Britain, recently pointed to the Palestinians' rejection of partition, in 1937 and again in 1947, as proof that "their statelessness was self-inflicted". He contends that the Palestinians "chose intransigence over independence in 1967, 2000, 2008 and 2014".

So entrenched have the views of each side become that, as Mr Black puts it, "history is an extension of the battleground on which Israelis and Palestinians still fight." The former Middle East editor for the *Guardian*, a British newspaper, Mr Black, for his part, plays it pretty straight, offering a well-rounded tour of the past century.

The book excels when describing the moral price the Jews have paid to form, protect and expand their new country. The fighting that erupted after the creation of Israel in 1947 caused 700,000 Arabs to flee or be driven from their homes. Most were not allowed to return. The Palestinians took to calling this the *Nakba*, or catastrophe. The stunning victory in the war of 1967, in which Israel launched a pre-emptive attack to prevent encirclement by advancing Arab armies, was bittersweet. It helped secure the permanence of Israel and the unification of Jerusalem under Israeli rule. But by taking control of the biblical heartland and a large population of Palestinians living on it, it also established a permanent occupation that erodes Israeli democracy. The patchwork of authorities in the occupied lands (part autonomous under Palestinian rule and part frontier for Jewish settlers), as well as the security barrier that keeps Palestinians in the West Bank out of Israel, invites comparisons to apartheid.

Even before the two Palestinian uprisings, of 1987 and 2000, Israeli military rule was hardly gentle. By the mid-1980s, Mr Black writes, about 250,000 Palestinians, or 10% of the population of the occupied territories, had experienced detention or interrogation. Some Israelis had qualms. "In order to enforce order in the *kasbah* we must be brutally violent against people who are innocent of any crime…and this weakens me and strengthens them," one Israeli soldier stationed in Nablus told the author during the first *intifada*.

Even the perpetrators of the most heinous attacks seek legitimacy in history. Take the abduction and murder of the Israeli athletes at the Munich Olympics in 1972. The Palestinian planners called it Operation Ikrit and Biram, after two villages in Galilee that were taken by Israel in 1948. The attack was carried out by a group ▸▸

called Black September, a reference to the period in 1970 when Jordan drove thousands of guerrillas from the Palestine Liberation Organisation out of the country. The Jordanians were troubled by the Palestinians' violent ambition, as demonstrated by their attack on the American embassy in Amman in 1968—on the 51st anniversary of the Balfour declaration.

Mr Black sprinkles his book with fascinating nuggets. Shimon Peres, then an MP, proposed tearing down the 16th-century Ottoman walls surrounding the Old City of Jerusalem after Israel's victory in 1967. (Wiser heads prevailed.) Ariel Sharon, then a general, recounted how in the 1970s the army infiltrated its own phoney terrorists into Gaza, then chased them with helicopters and search parties until real terrorists made contact with them. But the book may leave some readers wanting more—about European diplomacy during the first world war; or about the Arab families who sold their land to Zionists.

Plenty of other books fill the gaps. For its clarity and balance, though, Mr Black's work stands tall in a field that is likely to continue growing. As he notes, by 2017 "the prospect of an equitable two-state solution being agreed voluntarily by both sides was extremely dim." Mr Netanyahu's government, perhaps the most right-wing in Israel's history, seems uninterested in real Palestinian statehood. The Palestinians, long divided, are unable to make tough decisions. As Israel celebrates the centenary of the Balfour declaration, Palestinians plan to mark it with protests—as they have done every year since 1918. ■

A history of hauntings

The ghosts of centuries past

The Ghost: A Cultural History. By Susan Owens. *Tate Publishing; 288 pages; £19.99 and $29.95*

KINGS, queens, horses, dogs, crows. A "whirling heap of hay". A wronged lover, an old friend, a stillborn child, an atmospheric light. As Susan Owens highlights in her new cultural history of ghosts, phantasms and spirits have assumed many guises and taken up numerous causes over the millennia. In the medieval period restless souls inhabited whatever shape they thought might get them noticed. One fashion was for a shroud tied at the top of the head in a topknot, and later a loose sheet (for ease of mobility). Some sought revenge or intervened on the side of the oppressed. Others offered moral lessons, or simply popped by for a friendly chat.

Though often dismissed as superstitious piffle, ghosts have proved surprisingly durable. The living have long spied the dead—and sought new explanations for doing so. In the 15th century people thought they were the souls of those suffering in purgatory, appearing to ask for intercession and a quick passage to heaven. When the English Reformation did away with purgatory, ghosts were still spotted, "apparently unaware that they had been declared doctrinal impossibilities". So these visions became, instead, the work of Satan: "diabolical illusions" designed to deceive those with melancholy dispositions. Works like "Hamlet" were careful to incorporate both interpretations.

The ghost remained in rude health through the Enlightenment. In the spirit of the Royal Society's motto, *Nullius in verba*—take nobody's word for it—men such as John Aubrey travelled around Britain compiling and classifying accounts of supernatural phenomena under the discipline of "Hermetick Philosophy". Materialist thinkers like Hobbes—who argued that ghosts "are in *no place*; that is to say, that are *no where*; that is to say, that seeming to be *somewhat*, are *nothing*"—were met with fierce opposition. Joseph Glanvill, author of a hugely popular volume of ghost stories, deployed the terminology of Francis Bacon to argue that ghosts can be observed and perceived, thus must be real.

In the 18th and 19th centuries, Ms Owens, an art historian, notes that "ghosts began to exert an irresistible magnetism" for poets, painters and novelists, resulting in the birth of the "graveyard school" and a proliferation of creepy gothic novels. She describes the collision of the ephemeral with the technological in the Victorian era, noting that "early photography was almost uncannily predisposed to the creation of ghostly images": if the light was affected during the long exposure period, or someone entered the frame briefly, it would result in a phantom image. Photographic plates, if not cleaned thoroughly, would bear a faint trace of the previous sitter. Some wily entrepreneurs turned this into an industry—"spirit photography"—all the while experimenting with the look and feel of their ghosts.

It is a shame that Ms Owens does not devote much space to the ghost in the present day. "Most Haunted", a reality-television series that aims to convince viewers of the spirits walking among us, would have made for a fascinating chapter. A discussion of the changing aesthetic of the ghost in the age of CGI would have been worthwhile, too. And Ms Owens's determined focus on Britain means that some of the best contemporary examples are ignored. There is no mention of "The Sixth Sense" (1999) by M. Night Shyamalan, an Indian-American, for example. The idea that the ghost is a uniquely British apparition does not quite ring true, either. They populated Mesopotamian religions and native American belief systems; their geographical spread is vast.

Nevertheless, Ms Owens's book is a lively guide to that most persistent of spooky figures—and to the obsession with mortality. Modern scientists continue to pour scorn on the idea, attributing sightings to carbon-monoxide poisoning and sleep paralysis. But the British are more confident about the existence of ghosts than they are of a divine creator, or heaven. This book shows why ghosts have survived amid scientific, political and religious revolutions. Best to keep a light on. ■

Muhammad Ali

A bruising account

Ali: A life. By Jonathan Eig. *Houghton Mifflin Harcourt; 630 pages; $30. Simon & Schuster; £25*

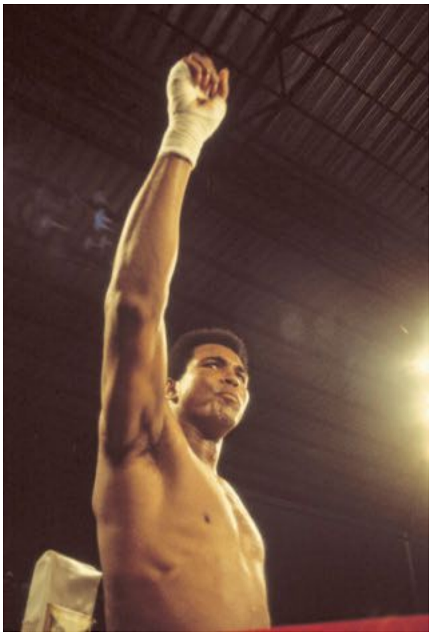
HE OFTEN claimed to be the greatest of all time, and he was right. Only a handful of athletes reach the pinnacle of their discipline. A couple of those have done so with a swagger that made them their sport's chief entertainer, too. Just one has thrown all of that away to do what was unpopular but principled.

When Muhammad Ali died on June 3rd last year he was remembered not only as boxing's most decorated and enthralling heavyweight, but also for his refusal to serve in the Vietnam war as a rebellion against white supremacy. Today, black athletes protest against the government in unison. Ali was alone. After his death Barack Obama, who kept a pair of his gloves in the White House, compared him to

Martin Luther King and Nelson Mandela.

Jonathan Eig's book is the first major biography since Ali's death, and it offers a bruising account of his life. It jabs at myths throughout. As a 12-year-old, Cassius Clay did take up boxing to avenge a stolen bike—but his parents also bought him a replacement scooter. As a young contender he had been fond of his birth name, which sounded gladiatorial. As an Olympic champion he proudly displayed his medal for years after winning it (and did not, as a later book claimed, hurl it into the Ohio river in anger about segregated restaurants). Forever boasting of his bravery, Ali was scared of flying, shy around girls when he was young—he fainted after trying to kiss one—and nervous before his fights. For all his wit and rhymes, his schoolmates thought him as "dumb as a box of rocks", and he was barely literate.

Mr Eig's portrait is of a man who professed to "do everything on instinct", inside the ring and out. His impulses grappled with each other throughout his life. Ali was ravenous for fame, but he did not have to be liked. He whipped white Americans into a fury and called his black opponents Uncle Toms. He had to be known, which is why he knocked on doors advertising his fights as a teenager and trained by sprinting beside the school bus. He lusted after money, too, and loved to run his hands through piles of his cash. In 1974 he happily accepted a $5m fee from Mobutu Sese Seko, Zaire's dictator, for the "Rumble in the Jungle", a televised fight held in the Zairean capital, Kinshasa, with the undefeated world heavyweight champion, George Foreman. He also became a sex addict. Ali was married four times and liked to play his wives off against each other, asking them to book hotel rooms for his romps. He was often caught with prostitutes on the day of a fight.



He had roots and wings

Yet he had his mother's generosity, turning up at hospitals and schools and dispensing charity to whoever asked for it. That largesse combined unfortunately with his sense of loyalty. A posse of hangers-on bled him dry, as did the Nation of Islam. It was through the creed of Elijah Muhammad, the Nation's leader, that Ali fulfilled his most powerful desire: to rebel. His father raised him on tales of the white man's cruelty, and now he had a way to strike back. White people could keep their segregation, because Elijah advocated a black land with black laws. That meant refusing to fight the Viet Cong, a decision that cost Ali a five-year jail sentence (which was overturned by the Supreme Court without being served) and three years of his career.

Defiance, in Mr Eig's telling, was Ali's defining feature and his tragic flaw. The author uses punching statistics, speech analysis and a bevy of interviews to illustrate Ali's deterioration in his late 30s, and his stubborn denial of it. By the end, the floating butterfly was "a punching bag with legs". He absorbed 200,000 hits across his career, taking eight times the hits that he landed on his opponent in his last title fight. This otherwise masterful biography leaves barely 30 pages for the final three decades of its subject's life, as he struggled with Parkinson's disease and mellowed in old age, even representing Uncle Sam in negotiations with Iran and Iraq. But Mr Eig gets inside the guard of an American hero who believed in personal liberty more than allegiance to a flag—who, in his own words, "wanted to be free". ■

Contemporary art

China syndrome

NEW YORK

How China's artists made sense of their country

HANGING from the ceiling of the magnificent rotunda that Frank Lloyd Wright created for the Guggenheim Museum in 1959 is an undulating black dragon. Twenty-six metres (85 feet) long, it is made almost entirely of the inner tubes of bicycles. Its head is a sculptural confection of broken cycles, its rear a writhing excrescence of black rubber loops. The visual etymology is obviously and satisfyingly Chinese. Then you notice hundreds of tiny black cars crawling all over its underbelly, like head lice on a schoolchild—symbolic of the moment when the country, in the headlong pursuit of economic growth, swerved from pedal power to petroleum.

This work, "Precipitous Parturition" by Chen Zhen, a Chinese-French conceptual artist, is at once fiercely visual, emotional and political. It is the most grandiose work in the Guggenheim's magnificent new exposition of art, by 71 artists and artists' collectives, that was made in or inspired by China between 1989 and 2008, when the eyes of the world turned to Beijing as it hosted the Olympic games.

The kick-off date of "Art and China after 1989: Theatre of the World" has global significance. It was the moment the Berlin Wall fell, ending the cold war, when the South African government was considering dismantling apartheid and the world wide web was about to be made public. The world felt full of promise. But for artists in China, 1989 meant something else.

The relative freedom of the late 1970s and early 1980s had brought Chinese artists into contact with Japanese contemporary art, and also Western artists, such as Robert Rauschenberg and Gilbert & George, who exhibited in Beijing. Chinese artists began learning about the multiple art movements that had arisen after the second world war, particularly in America and Europe, which in turn inspired a wave of new work culminating in a groundbreaking show at the China Art Gallery (now the National Art Museum of China) near Tiananmen Square in Beijing in February 1989.

This exhibition, loosely known as "China/Avant-Garde" (or, as others called it, "The Great Leap Somewhere"), was advertised with crudely printed posters that were tied to the museum railings and showed the global road symbol for "no U-turn". At the same time, a vigorous reform movement, initiated by students in Beijing and including many poets and artists, was gathering momentum. It ended with the military crackdown in June 1989, when the Chinese army sent in tanks to clear the square and arrest the protesters. Hundreds were killed. After that many Chinese artists went underground or left the country altogether.

Despite the political repression, life in China in the years after Tiananmen was chiefly characterised by the roiling economic activity that marked the country's scramble to turn itself into a global power. Traditional art forms, such as calligraphy and ink-painting, were too staid and narrow to capture this tumultuous new reality. ▸▸

So avant-garde artists turned to conceptual art, experimenting with a range of techniques and materials, such as video, performance and body art, to try and make sense of the world around them. It is no surprise that the focus of the Guggenheim show, too, should be conceptual art.

The exhibition proceeds broadly chronologically, from "China/Avant-Garde" onwards, with Zhang Peili, the granddaddy of Chinese video art, obsessively soaping and rinsing a live chicken in a bowl in sly mockery of a government diktat on cleanliness; shows like "Post-Sense Sensibility: Alien Bodies & Delusion", which Qiu Zhijie, one of the two artist-curators, hoped would "strike the senses" and "harass the mind"; Lu Jie's Long March Project, a vast curatorial experiment that tried to put on exhibitions and performances all along the route the Red Army took through the country in 1934-35; and Ai Weiwei's "Fairytale" project, which brought 1,001 ordinary Chinese citizens to Germany in 2007 and turned them loose on the quinquennial Documenta exhibition in Kassel.

"Art and China after 1989" is not for the faint-hearted, as evinced by "New Beijing", a satirical painting by Wang Xingwei that tries to convey the horror of Tiananmen (pictured). The show depicts shootings, contaminated blood, incarceration, obsessive scratching, drug dealing, butchering, two men burning a rat, infested jails, explosions and environmental depredation. Despite that, what comes through is the artists' humour, irony, self-reliance and natural suspicion—and, most of all, the moral and physical courage of those who would brave any hardship to pursue their vision and keep making art.

Some works are more visually arresting than others. Mr Qiu's massive imaginary map of recent history recalls Renaissance cartography as well as contemporary surveillance with its "No U-Turn Mountain", its "Canyon of Globalisation" and its "Sea with Somali Pirates". At the other end of the scale is "Sewing", a delicate video on handiwork by Lin Tianmiao, one of the few women in the show.

The Guggenheim's rotunda, with its lack of large, unfettered spaces, means that not every artist is represented here by his or her best work. There is no space, for example, for Xu Bing's magnificent "Book from the Sky". Cai Guo-Qiang's two firework pieces are but a minute taster of these magnificent displays, and Mr Ai's moving epitaph for the schoolchildren who died in the Sichuan earthquake in 2008 is here squeezed into a small corner rather than being given the space it needs (and which it had when it was shown at the Royal Academy in London in 2015).

Despite that, this is the most important exhibition of art about China to be put on in America in 20 years, not least because of the depth of its curatorial research and the sweep of ideas that underpins its narrative. The curators—Alexandra Munroe of the Guggenheim, Philip Tinari, director of the Ullens Centre for Contemporary Art in Beijing, and Hou Hanru, who heads the MAXXI Museum of Contemporary Art and Architecture in Rome—are probably the three most knowledgeable experts working in the field. Visitors would do well to read their exemplary essays in the exhibition catalogue before seeing the show. The ten-week accompanying documentary film programme, by Mr Ai and Wang Fen, is also not to be missed.

Makers and magicians

In choosing 1989 as their starting date, the curators make an important additional point about how art history has evolved across the globe in the past three decades. This was the year when the Pompidou Centre in Paris put on a show called "Magicians of the Earth", which brought together 50 artists from the developed world with 50 artists from countries as far afield as Cuba, Togo and Tibet.

It was the first serious attempt to question the 20th-century canon which held that modernism began in Paris before the second world war, and continued after 1945 in New York and nowhere else. "Magicians of the Earth", which is still discussed today, showed how artists from Japan, India and Brazil, among other places, looked, learned, exhibited, and in some cases even lived alongside one another to create what has become the global art world.

The view that there were many modernisms is now commonplace. China is part of this. It is impossible to look at the works in the Guggenheim show and not make the leap to other artists interested in the effects of globalisation. Mr Qiu's map makes you think of Grayson Perry's maps, Xu Tan's kitschy interiors of Tracey Emin, Huang Yong Ping's broken aeroplane of the Algerian Adel Abdessemed and Cao Fei's sizzling coloured metropolises of the work of Bodys Isek Kingelez from Congo, which was shown to such great effect in Paris earlier this year.

Exhibitions take a long time to bring together. One thing curators can never foresee is the public mood when a show is finally unveiled. "Art and China after 1989" will go on next year to the Guggenheim in Bilbao and then to the San Francisco Museum of Modern Art. No one who studies how the artists in "Art and China After 1989" responded to openly joining the global order, though, will miss the irony that the New York show opened at the very moment when the Chinese Communist Party's quinquennial congress in effect anointed Xi Jinping as China's most powerful leader since Mao Zedong. Nor will they have ignored the fact that, just as China itself has become more repressive, these Chinese artists encountered a different repression—this time in the United States—thanks to the combined ire of social media and the Kennel Club of America.

Three of the proposed art works—a video of two raging dogs on treadmills and another of two pigs copulating, as well as a live piece with insects, amphibians and reptiles preying on one another—had to be removed before the show opened after protests and threats from animal-rights activists. All that remains of "Theatre of the World", half of Mr Huang's two-part installation which gave the exhibition its subtitle, is the insects' cage—and a statement that the artist wrote by hand (on an Air France sickbag) in defence of the work. Culture should bring people together, and often it does. But not always. ■

The artistry of the ambulance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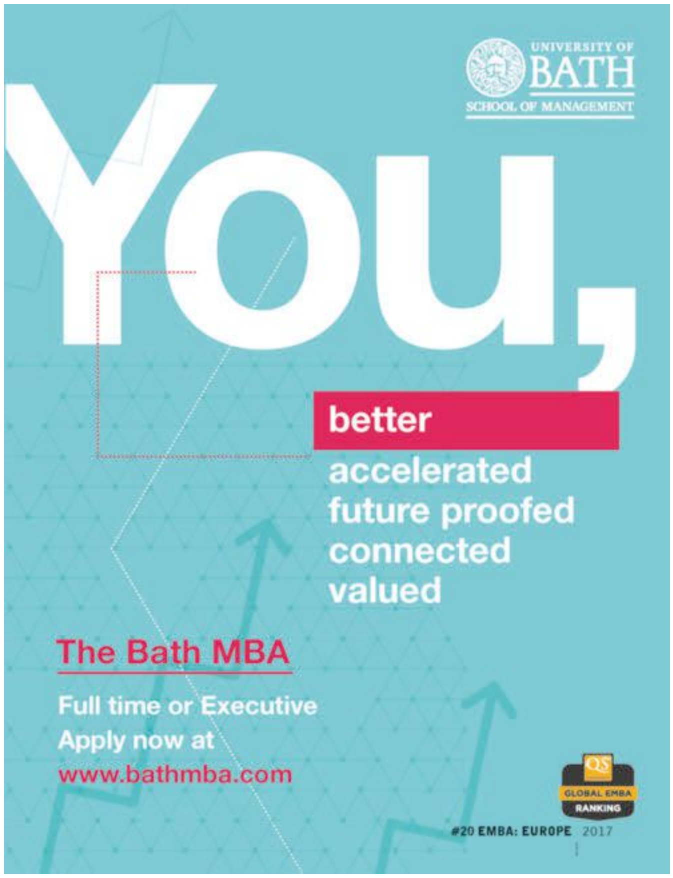
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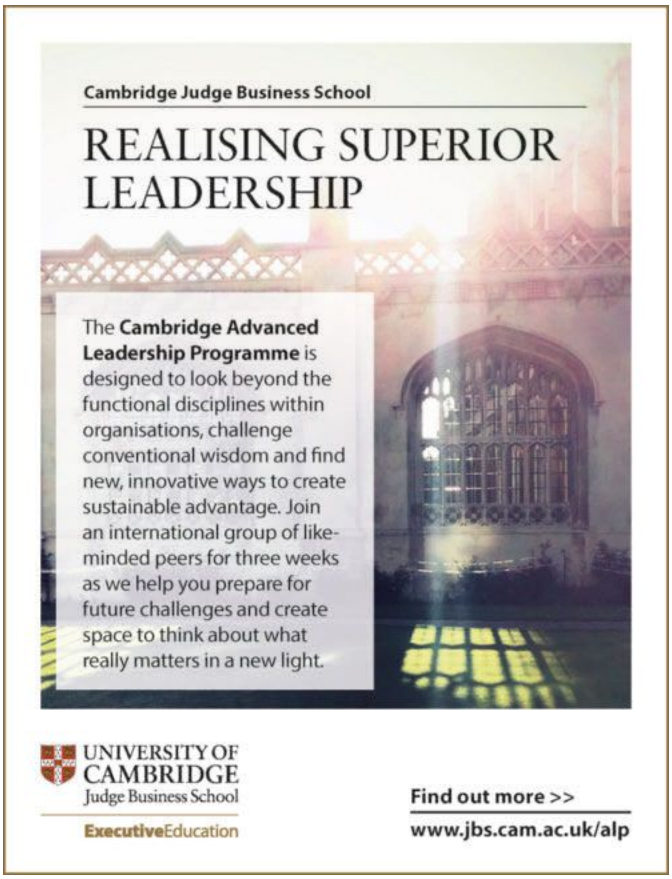
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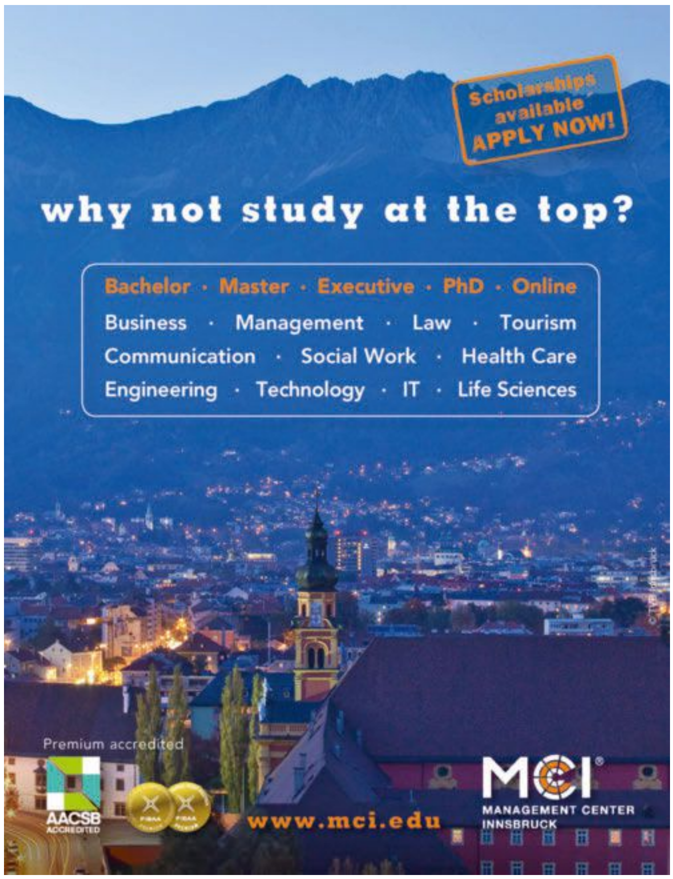
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United States	+2.2 Q2	+3.1	+2.2	+1.6 Sep	+2.2 Sep	+2.0	4.2 Sep	-460.9 Q2	-2.5	-3.4	2.41	-	-
China	+6.8 Q3	+7.0	+6.8	+6.6 Sep	+1.6 Sep	+1.7	4.0 Q2[§]	+155.3 Q3	+1.4	-3.9	3.78[§§]	6.64	6.78
Japan	+1.4 Q2	+2.5	+1.5	+5.3 Aug	+0.6 Aug	+0.5	2.8 Aug	+192.2 Aug	+3.6	-4.5	0.07	114	105
Britain	+1.5 Q3	+1.6	+1.5	+1.6 Aug	+3.0 Sep	+2.7	4.3 Jul[††]	-128.9 Q2	-3.6	-3.3	1.35	0.75	0.82
Canada	+3.7 Q2	+4.5	+2.8	+7.4 Jul	+1.6 Sep	+1.7	6.2 Sep	-45.0 Q2	-2.6	-2.0	2.07	1.28	1.34
Euro area	+2.3 Q2	+2.6	+2.1	+3.8 Aug	+1.5 Sep	+1.5	9.1 Aug	+376.4 Aug	+3.1	-1.3	0.48	0.85	0.92
Austria	+2.6 Q2	+0.4	+2.3	+4.0 Aug	+2.4 Sep	+2.1	5.6 Aug	+6.1 Q2	+2.1	-1.2	0.63	0.85	0.92
Belgium	+1.5 Q2	+1.7	+1.6	+5.0 Aug	+2.0 Sep	+2.1	7.3 Aug	-5.3 Jun	+0.6	-2.0	0.78	0.85	0.92
France	+1.8 Q2	+2.2	+1.7	+1.1 Aug	+1.0 Sep	+1.1	9.8 Aug	-26.0 Aug	-1.3	-3.0	0.88	0.85	0.92
Germany	+2.1 Q2	+2.5	+2.1	+4.5 Aug	+1.8 Sep	+1.7	3.6 Aug[‡]	+274.6 Aug	+8.0	+0.7	0.48	0.85	0.92
Greece	+0.7 Q2	+2.2	+1.0	+5.7 Aug	+1.0 Sep	+1.2	21.0 Jul	-1.3 Aug	-1.3	-1.4	5.58	0.85	0.92
Italy	+1.5 Q2	+1.4	+1.4	+5.7 Aug	+1.1 Sep	+1.3	11.2 Aug	+51.2 Aug	+2.5	-2.3	2.04	0.85	0.92
Netherlands	+3.3 Q2	+6.3	+2.7	+3.9 Aug	+1.5 Sep	+1.3	5.7 Sep	+76.0 Q2	+10.0	+0.6	0.58	0.85	0.92
Spain	+3.1 Q2	+3.5	+3.1	+2.2 Aug	+1.8 Sep	+2.0	17.1 Aug	+23.1 Jul	+1.4	-3.3	1.65	0.85	0.92
Czech Republic	+3.4 Q2	+10.3	+4.5	+5.8 Aug	+2.7 Sep	+2.4	2.9 Aug[‡]	+1.7 Q2	+0.9	-0.1	1.69	21.7	24.9
Denmark	+1.9 Q2	+2.8	+2.2	+2.1 Aug	+1.6 Sep	+1.0	4.4 Aug	+25.8 Aug	+8.2	-0.4	0.58	6.30	6.85
Norway	+0.2 Q2	+4.7	+1.8	+5.7 Aug	+1.6 Sep	+2.0	4.2 Jul[‡‡]	+16.6 Q2	+5.4	+4.2	1.70	8.02	8.28
Poland	+4.6 Q2	+4.5	+4.3	+4.3 Sep	+2.2 Sep	+1.9	6.8 Sep[§]	-1.3 Aug	-0.4	-2.0	3.43	3.59	3.97
Russia	+2.5 Q2	na	+1.8	+0.8 Sep	+3.0 Sep	+4.0	5.0 Sep[§]	+36.9 Q3	+2.5	-2.1	8.13	57.7	62.2
Sweden	+3.0 Q2	+5.2	+3.1	+7.3 Aug	+2.1 Sep	+1.9	6.2 Sep[§]	+22.5 Q2	+4.4	+0.9	0.88	8.22	8.95
Switzerland	+0.3 Q2	+1.1	+0.9	+2.9 Q2	+0.7 Sep	+0.5	3.1 Sep	+68.9 Q2	+9.9	+0.7	0.02	0.99	1.00
Turkey	+5.1 Q2	na	+4.9	+3.8 Aug	+11.2 Sep	+10.7	10.7 Jul[§]	-37.0 Aug	-4.5	-2.0	11.70	3.74	3.08
Australia	+1.8 Q2	+3.3	+2.4	+0.8 Q2	+1.8 Q3	+2.1	5.5 Sep	-21.8 Q2	-1.5	-1.7	2.76	1.30	1.31
Hong Kong	+3.8 Q2	+4.1	+3.1	+0.4 Q2	+1.5 Sep	+1.6	3.1 Sep[‡‡]	+15.0 Q2	+4.2	+0.9	1.88	7.80	7.76
India	+5.7 Q2	+4.1	+6.7	+4.3 Aug	+3.3 Sep	+3.5	5.0 2015	-29.2 Q2	-1.4	-3.5	6.81	65.0	66.8
Indonesia	+5.0 Q2	na	+5.2	+2.3 Aug	+3.7 Sep	+3.9	5.3 Q1[§]	-14.2 Q2	-1.7	-2.6	6.73	13,573	13,006
Malaysia	+5.8 Q2	na	+5.5	+6.8 Aug	+4.3 Sep	+3.9	3.4 Aug[§]	+8.1 Q2	+2.7	-3.0	4.01	4.24	4.16
Pakistan	+5.7 2017**	na	+5.7	+8.5 Aug	+3.9 Sep	+3.9	5.9 2015	-14.1 Q3	-4.5	-5.9	8.20[†††]	105	105
Philippines	+6.5 Q2	+7.0	+6.6	+2.7 Aug	+3.4 Sep	+3.2	5.6 Q3[§]	-0.8 Jun	+0.3	-2.7	4.75	51.7	48.3
Singapore	+4.6 Q3	+6.3	+2.9	+19.1 Aug	+0.4 Sep	+0.7	2.2 Q2	+59.0 Q2	+19.8	-1.0	2.28	1.36	1.39
South Korea	+3.6 Q3	+5.8	+2.8	+2.7 Aug	+2.1 Sep	+2.0	3.4 Sep[§]	+83.1 Aug	+5.6	+0.9	2.50	1,128	1,134
Taiwan	+2.1 Q2	+0.5	+2.2	+5.2 Sep	+0.5 Sep	+0.6	3.7 Sep	+70.7 Q2	+13.2	-0.1	1.06	30.3	31.6
Thailand	+3.7 Q2	+5.4	+3.5	+3.7 Aug	+0.9 Sep	+0.7	1.1 Aug[§]	+44.9 Q2	+11.6	-2.5	2.35	33.2	34.9
Argentina	+2.7 Q2	+2.8	+2.7	-2.5 Oct	+24.2 Sep	+25.2	8.7 Q2[§]	-19.7 Q2	-3.4	-6.2	5.01	17.4	15.2
Brazil	+0.3 Q2	+1.0	+0.7	+4.0 Aug	+2.5 Sep	+3.5	12.6 Aug[§]	-13.5 Aug	-0.8	-8.0	8.76	3.24	3.12
Chile	+0.9 Q2	+3.0	+1.3	+5.1 Aug	+1.4 Sep	+2.2	6.6 Aug[§‡‡]	-5.6 Q2	-1.7	-3.0	4.44	630	654
Colombia	+1.3 Q2	+3.0	+1.7	-3.1 Aug	+4.0 Sep	+4.3	9.1 Aug[§]	-12.4 Q2	-3.7	-3.3	6.61	2,985	2,946
Mexico	+1.8 Q2	+2.3	+2.2	-0.5 Aug	+6.3 Sep	+5.9	3.3 Sep	-17.6 Q2	-1.8	-1.9	7.26	19.1	18.5
Venezuela	-8.8 Q4~	-6.2	-9.3	+0.8 Sep	na	+720	7.3 Apr[§]	-17.8 Q3~	-1.2	-19.5	11.26	10.1	9.99
Egypt	+4.9 Q2	na	+4.1	+23.8 Aug	+31.6 Sep	+26.9	12.0 Q2[§]	-15.6 Q2	-6.6	-10.8	na	17.6	8.89
Israel	+4.0 Q2	+2.4	+3.6	+2.6 Jul	+0.1 Sep	+0.4	4.1 Aug	+10.7 Q2	+3.5	-2.5	1.82	3.51	3.85
Saudi Arabia	+1.7 2016	na	-0.5	na	-0.1 Sep	-0.3	5.6 2016	+7.6 Q2	+2.2	-7.5	3.68	3.75	3.75
South Africa	+1.1 Q2	+2.5	+0.7	+1.4 Aug	+5.1 Sep	+5.3	27.7 Q2[§]	-7.9 Q2	-2.9	-3.3	9.20	14.0	13.8

Source: Haver Analytics. *% change on previous quarter, annual rate. [†]*The Economist* poll or Economist Intelligence Unit estimate/forecast. [§]Not seasonally adjusted. [‡]New series. ~2014 **Year ending June. [††]Latest 3 months. [‡‡]3-month moving average. [§§]5-year yield. [†††]Dollar-denominated bonds.

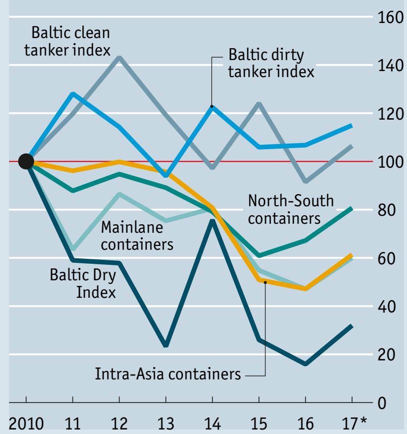
Markets

	Index Oct 25th	% change on one week	% change on Dec 30th 2016 in local currency	% change on Dec 30th 2016 in $ terms
United States (DJIA)	23,329.5	+0.7	+18.0	+18.0
China (SSEA)	3,557.3	+0.4	+9.5	+14.6
Japan (Nikkei 225)	21,707.6	+1.6	+13.6	+16.5
Britain (FTSE 100)	7,447.2	-1.3	+4.3	+11.8
Canada (S&P TSX)	15,854.8	+0.5	+3.7	+8.8
Euro area (FTSE Euro 100)	1,230.8	-0.6	+10.7	+23.9
Euro area (EURO STOXX 50)	3,591.5	-0.8	+9.1	+22.2
Austria (ATX)	3,363.4	-1.2	+28.5	+43.8
Belgium (Bel 20)	4,048.5	-0.7	+12.3	+25.7
France (CAC 40)	5,374.9	-0.2	+10.5	+23.8
Germany (DAX)*	12,953.4	-0.7	+12.8	+26.3
Greece (Athex Comp)	737.3	-2.7	+14.5	+28.3
Italy (FTSE/MIB)	22,446.4	+0.4	+16.7	+30.7
Netherlands (AEX)	541.3	-1.2	+12.0	+25.4
Spain (Madrid SE)	1,023.9	-1.1	+8.5	+21.5
Czech Republic (PX)	1,064.1	+1.0	+15.5	+36.3
Denmark (OMXCB)	938.4	-0.7	+17.5	+31.5
Hungary (BUX)	39,840.9	+1.9	+24.5	+38.8
Norway (OSEAX)	879.8	+1.4	+15.1	+23.4
Poland (WIG)	63,158.2	-2.0	+22.0	+41.9
Russia (RTS, $ terms)	1,118.1	-2.6	-3.0	-3.0
Sweden (OMXS30)	1,649.7	+0.3	+8.7	+20.1
Switzerland (SMI)	9,084.0	-2.4	+10.5	+13.4
Turkey (BIST)	108,354.8	+1.3	+38.7	+30.5
Australia (All Ord.)	5,972.7	+0.3	+4.4	+11.5
Hong Kong (Hang Seng)	28,302.9	-1.4	+28.6	+27.8
India (BSE)	33,042.5	+1.4	+24.1	+29.7
Indonesia (JSX)	6,025.4	+1.6	+13.8	+12.9
Malaysia (KLSE)	1,739.1	-0.6	+5.9	+12.2
Pakistan (KSE)	41,595.3	+2.1	-13.0	-13.8
Singapore (STI)	3,343.9	+0.4	+16.1	+23.2
South Korea (KOSPI)	2,492.5	+0.4	+23.0	+31.7
Taiwan (TWI)	10,750.6	+0.3	+16.2	+23.7
Thailand (SET)	1,708.8	+0.1	+10.8	+19.4
Argentina (MERV)	27,878.2	+6.4	+64.8	+49.7
Brazil (BVSP)	76,671.1	+0.1	+27.3	+27.8
Chile (IGPA)	27,566.8	-0.3	+33.0	+41.4
Colombia (IGBC)	10,956.5	-0.5	+8.4	+9.0
Mexico (IPC)	48,876.5	-2.1	+7.1	+15.7
Venezuela (IBC)	710.9	+26.9	-97.8	na
Egypt (EGX 30)	13,901.4	+2.3	+12.6	+15.7
Israel (TA-125)	1,309.9	-0.9	+2.6	+12.5
Saudi Arabia (Tadawul)	6,905.8	-0.5	-4.6	-4.5
South Africa (JSE AS)	58,123.1	-0.1	+14.7	+12.3

Maritime transport

Seaborne trade rose by 2.6% in 2016, or 260m tonnes, according to UNCTAD, and volumes are forecast to grow by 3.2% a year until 2022. The industry, which handles 80% of global trade by volume, has struggled with overcapacity in recent years, but improvement in the global economy has helped reverse the decline in freight rates. Despite five years of slowing capacity growth, supply still outstrips demand. In 2016 the container-shipping market's operating losses were $3.5bn. A wave of "mega-alliances" (three groups now control 77% of global capacity) may help cut the excess supply, but concerns of an oligopolistic market are rising, placing greater pressure on regulators to ensure competition.

Shipping costs, 2010=100



Sources: Clarksons Research; Thomson Reuters

*January to September average

Other markets

	Index Oct 25th	% change on one week	% change on Dec 30th 2016 in local currency	% change on Dec 30th 2016 in $ terms
United States (S&P 500)	2,557.2	-0.2	+14.2	+14.2
United States (NAScomp)	6,563.9	-0.9	+21.9	+21.9
China (SSEB, $ terms)	354.3	+1.5	+3.7	+3.7
Japan (Topix)	1,751.4	+1.6	+15.3	+18.3
Europe (FTSEurofirst 300)	1,522.1	-1.2	+6.6	+19.3
World, dev'd (MSCI)	2,023.5	-0.3	+15.5	+15.5
Emerging markets (MSCI)	1,114.1	-1.1	+29.2	+29.2
World, all (MSCI)	493.5	-0.4	+17.0	+17.0
World bonds (Citigroup)	934.9	-0.4	+5.8	+5.8
EMBI+ (JPMorgan)	835.3	-0.8	+8.2	+8.2
Hedge funds (HFRX)	1,262.1§	nil	+4.9	+4.9
Volatility, US (VIX)	11.2	+10.1	+14.0	(levels)
CDSs, Eur (iTRAXX)†	54.6	-0.7	-24.3	-15.2
CDSs, N Am (CDX)†	53.1	-1.2	-21.7	-21.7
Carbon trading (EU ETS) €	7.4	-3.5	+12.3	+25.8

Sources: IHS Markit; Thomson Reuters. *Total return index.
†Credit-default-swap spreads, basis points. §Oct 24th.

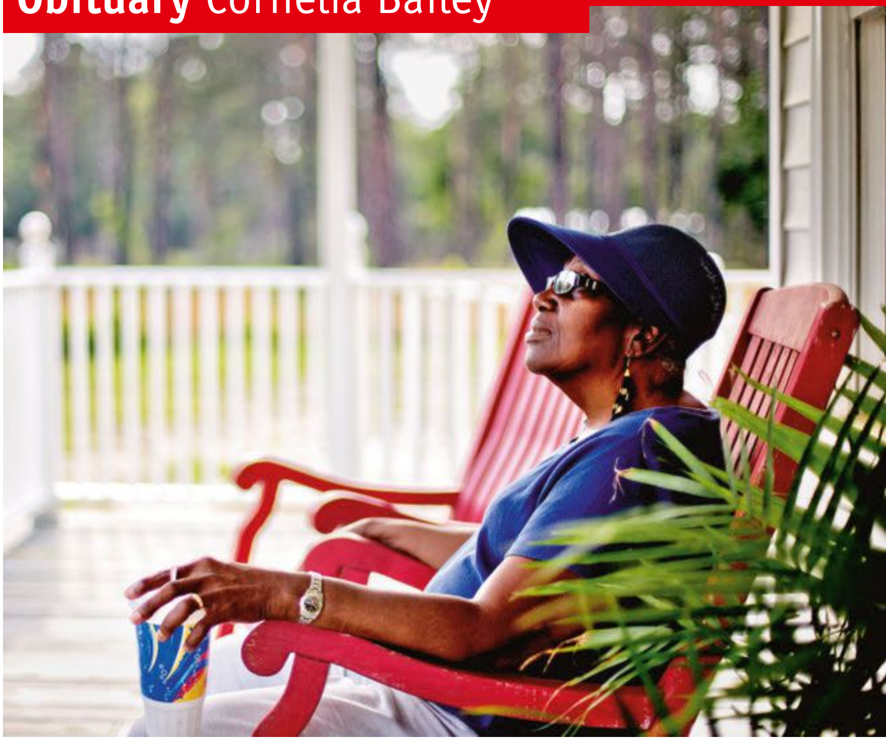
Indicators for more countries and additional series, go to: **Economist.com/indicators**

The Economist commodity-price index

2005=100

	Oct 17th	Oct 24th*	% change on one month	% change on one year
Dollar Index				
All Items	147.9	148.7	+1.6	+7.8
Food	150.5	150.5	-0.3	-4.3
Industrials				
All	145.2	146.8	+3.8	+24.5
Nfa†	129.1	131.1	-0.4	+3.4
Metals	152.1	153.6	+5.4	+34.6
Sterling Index				
All items	204.3	206.2	+4.0	-0.3
Euro Index				
All items	156.5	157.2	+1.7	-0.5
Gold				
$ per oz	1,282.6	1,275.0	-2.0	+0.2
West Texas Intermediate				
$ per barrel	51.9	52.5	+1.1	+5.9

Sources: Bloomberg; CME Group; Cotlook; Darmenn & Curl; FT; ICCO; ICO; ISO; Live Rice Index; LME; NZ Wool Services; Thompson Lloyd & Ewart; Thomson Reuters; Urner Barry; WSJ. *Provisional
†Non-food agriculturals.



Salt marsh and sweet potatoes

Cornelia Bailey, matriarch and guardian of Sapelo Island, Georgia, died on October 15th, aged 72

THEY had always grown red peas, so Cornelia Bailey thought nothing of it. She and her husband dropped the seed in the spring, Frank hoeing and she following. They planted on a growing moon, not a wasting one, and when the tide was coming in; if a pregnant woman could do the sowing, so much the better. They waited, too, until the pecan trees put out their blossom. It was safe then to plant what you liked. Nothing could fool the pecans.

Generally the peas were eaten up by the family, which included a crowd of adopted and foster children as well as her own. But one day a chef from Atlanta asked for some and paid her a cheque for them. Sapelo red peas, it turned out, were not only pretty to look at but a gourmet taste and rare. More customers came along, so she expanded the plot. She then thought she could make a business out of it, and that this might save her island.

For Sapelo was dying. Hog Hammock, where she lived, was the last community of Saltwater Geechee on the island, and the island the last undeveloped place in the chain of Sea Islands running down the coast of South Carolina and Georgia. The Geechee-Gullah people were direct descendants of African slaves brought over to work rice plantations in the 18th century; they had a hundred west African ways, as she did with her pea-planting. So many of the things she watched her father do—making long cast-nets, weaving baskets from sweet-grass, dancing arms-out like a circling buzzard while his friends beat the ground with sticks—had come from Africa. Much of the food she ate, the rice, okra, peanuts and vegetable stew, was African. And a whole African spirit-world surrounded her. "Hags" pinned her down in bed at night, dead relations called her name and tried to lure her into the woods, "root doctors" brewed up poisoned moonshine and could put a hex on neighbours, if you asked.

Her descent was from Bilali, a Muslim slave so imposing that he was the manager for a white plantation-owner. With her straight look and straight talk, she had inherited his forcefulness. The short form of Cornelia, "Nia", meant "she who has a purpose". Hers was to save Sapelo and, with it, everything that made up her life—the smell of the salt marsh, the taste of sweet potatoes dug out of hot ashes, the night chorus of crickets and frogs. In the 1950s developers "from off" began to descend on the island's miles of white beaches and forests of live oaks and palmetto, as they had on other islands. Any Geechee who farmed plots were slowly pushed out until Hog Hammock became their only refuge.

But buzzards were circling that place, too. In 1910 around 500 people lived there. By 2012 there were 50 or so. The two-room school she attended from 1951, in her best plaid dress, closed down. The Big Houses of white landowners went to the state and their land to a reserve, so jobs in "Massa fields" vanished. Meanwhile, those eager developers helped push property taxes sky-high. No wonder people left. When a baby was born on Sapelo, the afterbirth was always buried to tie it to the island. But Miss Katie, the last midwife who knew that piece of African magic, retired after delivering Greg Bailey, her fourth child, and no one followed. There was no more old-fashioned anything. Just a heavy loss.

Tourists could help, and she welcomed them, up to a point. She took over the old store and stocked it with cloth dolls and scuppernong jelly; she helped run Sapelo Days, when everyone dressed up nicely for the visitors, cooked their best foods and had their best manners. In the heart of Hog Hammock she and Frank built a six-bed inn "For Nature Lovers Only". But she did not want outsiders to stay too long. Her eyes watered to think of no more cotton, no more sawmills; her community just things in a museum, to be poked at and stared at.

A visit to west Africa reinforced her purpose. There, in thriving villages, she found the same okra and smoked fish in the market, the same ways of carrying bundles on heads, even the buzzard dance, that she knew from home. By a miracle, these things had survived in her own tiny outpost on the coast of the United States. In a village in Sierra Leone a woman dressed her in gold fabric and made her a paramount chief. It gave her the deepest glow in her life, and made her even more of a fighter. As long as Geechee ways were racing in her mind, she had to talk about them.

The funeral bell

Hog Hammock also had to be a working entity, just as it used to be. A real "make-do" society, where people's wealth was not money in the bank but a piece of land to pass on to their children. She would rather it was all-black, as it was back then; and if anyone thought that was racist, she did not give a hoot. Everybody was still kin, right from those Africans in the beginning.

Her hopes were set on the red-peas project and a second one, to bring back Purple Ribbon sugar cane. She imagined the wiregrass fields looking lush again, and jobs and people returning. Why not? At the age of three she had died, and was laid in a coffin, after getting a fever from eating unripe pears. The funeral bell had tolled for her from the First African Baptist church; Uncle Nero kept saying, "Bury the chile." But an aunt had rubbed her hard with garlic all over, and she came round. Despite everything, surely Sapelo could, too. ■