

The Economist

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It could happen





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On the cover

There are no good options to curb North Korea's missile-building. But blundering into war would be the worst: leader, page 7. Kim Jong Un does not yet have a missile that can strike America. But he's close, page 13. How a war on the Korean peninsula could start—and how it might end, page 14

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5 The world this week

Leaders

- 7 War with North Korea It could happen
- 8 America's president and the Republicans No deal
- 8 French reforms Keep your nerve
- 9 Politics in Pakistan Third time unlucky
- 10 Housing in Britain Rooms for improvement

Letters

- 11 On Qatar, travel, English, France, Ronald Reagan, the young old

Briefing

- 13 North Korea's missiles Testing, testing...
- 14 War in Korea Red lines and bad choices

Asia

- 17 Politics in Pakistan A Nawaz-shaped hole
- 18 Papua New Guinea votes Continuity, not stability
- 18 Politics in India BJP on a roll
- 19 The Philippines' drugs war Narco-consternation

China

- 21 The armed forces Shrinking and flexing
- 22 Waste management Anti-dumping

United States

- 23 The White House Though Mook is taken, Mook abides
- 24 Tax cuts Don't hold your breath
- 25 College admissions POTUS v Harvard
- 25 Maternal deaths A painful puzzle
- 26 Media matters Fox populi
- 27 Gangs and immigration A horrible MS
- 28 Lexington Jeff Flake

The Americas

- 29 Venezuela Democracy done in
- 30 Brazil Temer survives
- 30 Latin American media English patients
- 32 Bello Venezuela's fantasy voting

Middle East and Africa

- 33 Kenya's election The rematch
- 34 South Africa Hijacked buildings
- 35 Nigerian verbosity Get the gist?
- 35 Israeli entertainment Carrie on watching
- 36 Climate and the Nile Flood and famine

Europe

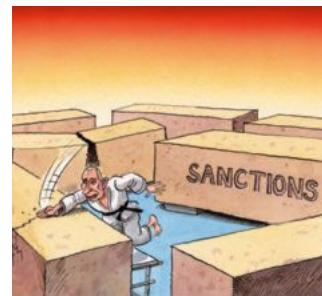
- 37 Sanctions on Russia The punishment continues
- 38 Russian relations with America Arming Ukraine
- 38 The migrants Poland likes Plugging the gap
- 39 Urban planning in France We'll always have Val d'Europe
- 40 Charlemagne Deutschland is dozing

Britain

- 41 Housing A nation of homebodies
- 42 Tories and construction March of the YIMBYs
- 43 Brexit planning The sucking sound
- 43 London investment Reach for the skyscraper
- 44 Bagehot A history lesson



Germany A placid election campaign has failed to acknowledge the hard choices facing Europe's leading economy: Charlemagne, page 40



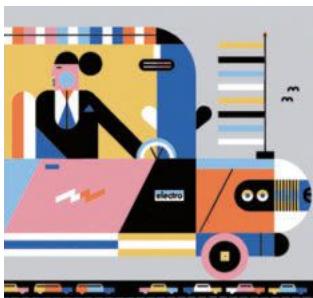
Russian sanctions Do they change Vladimir Putin's behaviour? Page 37. America may at last be willing to offer Ukraine weapons, page 38



Kenya Another tumultuous election, with a renewed fear of violence, page 33



PLA As the armed wing of China's Communist Party celebrates its 90th anniversary, one of Xi Jinping's biggest reforms enters a new phase, page 21



Road-pricing It has long been a good idea. Today it is becoming an urgent one, page 45



France The poor performance of the country's state-owned companies grows ever more stark, page 47. Emmanuel Macron has promised to nationalise France's biggest shipyard. He is entering dangerous waters: leader, page 8

International

- 45 Transport**
The price of jam

- Business**
- 47 Privatisation in France**
National treasures
- 48 Discovery and Scripps**
Fuzzy signal
- 49 Drug firms**
Pharma frenemies
- 49 Profiting from the Belt and Road**
Where the twain shall meet
- 50 European productivity**
Le long layoff
- 51 Schumpeter**
King Kong

Economics brief

- 52 Human capital**
The people's champion

Finance and economics

- 54 Phoenix economies**
Turnaround stories
- 55 Buttonwood**
National balance-sheets
- 56 Private equity**
Secondary education
- 57 Interest rates**
LIBOR pains
- 57 Bitcoin splits**
Knives and forks
- 58 DNA and insurance**
The gene is out of the bottle

Science and technology

- 59 Genetic engineering**
DNA and how to adjust it
- 60 Holograms**
Winging the blues
- 61 Paying for conservation**
A wild idea

- Books and arts**
- 62 Extinction**
Not what it used to be
- 64 Fiona Mozley's fiction**
Call of the wild
- 64 The aspirational class**
How to spend it
- 65 Johnson**
Game of tongues

Economic and financial indicators

Statistics on 42 economies, plus a closer look at purchasing managers' indexes

Obituary

- 70 Dr G. Yunupingu**
Singing the land



Species and extinction

The world is in the grip of the sixth mass extinction. It is also about to see a riot of new species, page 62

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Politics



In an extraordinary few days, even by the febrile standards of this **White House**, Donald Trump sacked Reince Priebus as chief of staff. His defenestration came after Anthony Scaramucci, the new head of communications, gave an expletive-laden account of why he thought Mr Priebus was behind a number of recent leaks. Mr Trump replaced Mr Priebus with John Kelly, who had run the Department of Homeland Security. His first move was to deploy his well-honed military discipline and fire Mr Scaramucci. He had held his job for ten days.

Preceding the White House drama, the push in the Senate to pass a “skinny” bill on **health-care reform** failed, when three Republicans, including John McCain, joined Democrats in voting against the measure.

Mr Trump signed a bill that imposes **sanctions on Russia** over its meddling in last year’s election, but which also limits the president’s power to tamper with Congress’s decision. He described the legislation as “seriously flawed”. Russia retaliated by vowing to expel 755 American diplomats.

The International Olympic Committee announced that it had agreed to a deal that will award the summer **Olympics** in 2028 to Los Angeles. The deal means that the Olympics in 2024 will be held in Paris, which Los Angeles was competing against to host that year. The 1984 Olympic games in Los Angeles are seen as the most successful ever, even though

the Soviet Union and many east European countries boycotted them.

The Senate confirmed Christopher Wray as the new director of the **FBI**.

Passing the buck

Andreas Georgiou, a former head of national statistics in **Greece**, was convicted of a “breach of duty” by an appeals court for sharing the full extent of the country’s budget deficit with the European statistics agency in 2009. Mr Georgiou was acquitted of the same charge last December. He has faced various accusations of swelling the deficit figures to benefit foreign creditors. His supporters say he is a scapegoat for the Greek debt crisis.

Turkey’s biggest trial following last year’s failed attempt to overthrow the government got under way. Nearly 490 suspects are accused of orchestrating the plot from an air base outside Ankara. Most face life in prison if found guilty. Seven defendants are being tried in absentia, including Fethullah Gulen, a cleric based in America who is accused of masterminding the coup attempt.

Relations between **France** and **Italy** were at a low ebb following France’s decision to nationalise the STX France shipyards, thus cancelling a deal with an Italian state-owned firm. The French and Italian economy ministers met and gave themselves until the end of September to resolve the row.

In trepidation

In **Kenya** the official in charge of electronic voting was found murdered ahead of elections on August 8th. A post-mortem report said he had been tortured. The murder raised fears of vote-rigging and post-election violence. In 2007, around 1,400 people were killed after a disputed election.

Hundreds of people were said to have fled Awamiya, a small town in eastern **Saudi Arabia**, following clashes between the security forces and alleged armed Shia militants.



China opened its first overseas military base, a port facility in **Djibouti**. From there, it will supply ships taking part in humanitarian and peace-keeping missions in Yemen and Somalia, it said.

A chaotic turn from democracy

Venezuela’s government claimed that 8m voters turned out to elect representatives to a constituent assembly, which will have near absolute power. A leaked official document reckoned only 3.7m turned out. Many of those who did vote feared losing government largesse if they did not. The voting machines were said to have been tampered with. The opposition boycotted the vote; ten people died in protests against it. America imposed sanctions on the country’s president, Nicolás Maduro.

The lower house of **Brazil’s** congress voted not to refer charges against the country’s president, Michel Temer, for trial by the supreme court. The chief prosecutor had alleged that Mr Temer agreed to use his influence with the antitrust authority on behalf of the boss of a meatpacking firm in return for bribes. Mr Temer denies wrongdoing.

Brazil began deploying troops in **Rio de Janeiro** to fight crime. They are to conduct operations against gangs that engage in drug-trafficking and looting cargo. More than 90 policemen have been killed in the state this year.

Keeping it in the family

Pakistan’s national assembly elected Shahid Khaqan Abbasi as prime minister following Nawaz Sharif’s resignation. Mr Sharif was disqualified from office by the Supreme Court

for failing to declare all sources of income. Mr Abbasi is not expected to last long in the job. Mr Sharif’s brother, Shahbaz Sharif, is to contest a by-election in September that will give him a seat in the parliament with the intent of becoming prime minister.

Rex Tillerson, America’s secretary of state, told **North Korea** “we’re not your enemy” after it conducted a second test of an intercontinental ballistic missile. But Mr Tillerson also warned the regime that it was “presenting an unacceptable threat” and America would respond. The latest missile landed in the sea 370km from Japan’s coast.

Islamic State claimed responsibility for an attack on a Shia mosque in the **Afghan** city of Herat which killed at least 33 people. It also said it had carried out an earlier assault on the Iraqi embassy in Kabul in which two people died.



After a six-week election campaign marred by violence and several days of coalition-building talks, the ruling People’s National Congress party was returned to power in **Papua New Guinea**.

The foreign ministers of **China** and **India** were due to meet to ease tensions over a stand-off in an area close to their shared border with **Bhutan**. In a lengthy statement, China accused India of sending troops 80 metres into its territory. Altercations over precise borders occasionally flare up in the “trijunction” region of the Himalayas. Troops usually do not carry weapons there, and have sometimes resorted to jostling each other to get the opposing side to retreat.

Business

Apple's total revenue climbed to \$45.4bn from April to June, up by 7% compared with the same three months last year. Net profit came in at \$8.7bn. The tech giant also shipped 15% more iPads in the quarter, the first rise in sales of the device in years, boosted by demand in American schools and colleges. But there was another drop in revenue from greater China, notably Hong Kong, a region where Apple is struggling against cheaper rivals. Still, its quarterly earnings delighted investors, helping to push the **Dow Jones Industrial Average** stockmarket index over 22,000 for the first time.

Closing down the get around
Meanwhile, Apple was criticised by some for removing unauthorised **virtual private network** apps from its online store in China in order to comply with censorship laws. VPNs are used to access content that falls foul of the censors. ExpressVPN, one of the biggest providers of the software, said it was disappointed, but Tim Cook, Apple's boss, argued that although he disagreed with China's position, the company had to obey Chinese law.

There is a new king in the semiconductor business. **Samsung** stole **Intel's** quarter-century title of world's biggest chipmaker when its semiconductor unit reported quarterly revenues of more than \$15bn, beating Intel's \$14.8bn. The South Korean titan has benefited from a surge in demand for the memory chips it produces for phones and household gadgets that connect to the internet. Intel's main business is still in computer processors.

Sony's semiconductor division also fared well in the latest quarter: sales were up by 41%. However, the main driver of Sony's increased profit was its PlayStation 4 games console. The Japanese conglomerate was floundering five years ago, dragged down by its consumer-electronics business,

but it has since restructured. Its share price has risen by a third since the start of the year.

Irene Rosenfeld, one of America's best-known female executives, decided to step down as CEO of Mondelez. The food conglomerate retains the snack brands of Kraft Foods, from which it was spun off in 2012, and counts Cadbury chocolate among its assets. But its reliance on legacy labels has made it harder to adapt to the appetite for healthier fare. The new CEO will be Dirk Van de Put, who currently leads McCain Foods, the world's biggest maker of frozen chips.

India's central bank sliced a quarter of a percentage point off its benchmark interest rate, to 6%. It was the first cut since October. Over the past few months inflationary pressures have receded in India, giving the Reserve Bank of India room to ease monetary policy.

A spring in its step

The **euro zone's** economy grew by 2.3% in the second quarter at an annualised rate, amid a wealth of surveys indicating a rebound in confidence and boom in manufacturing. The currency bloc's unemployment rate fell to an average 9.1% in June, the lowest

since February 2009 (though the rate for those aged 25 and under was 18.7%).

Discovery Communications struck a \$14.6bn deal to buy **Scripps Networks**. Discovery operates documentary-based channels, such as Animal Planet and TLC, that tend to attract male audiences, whereas Scripps broadcasts programming that appeals more broadly to women, such as the Food Network channel. The merged company will have a fifth of the ad-supported pay-TV viewership in America.

Fitch Ratings reported that the proportion of outstanding **American credit-card debt** that banks write off as a loss had risen to 3.3% in the second quarter, the highest level in four years. That is far below the 10% that was being written off in 2010, but unlike that time, mainstream issuers, and not just subprime lenders, are taking the hit today.

Shareholders in **HSBC** continued to reap the benefit of its dramatic turnaround. The bank reported a solid profit of \$3.9bn for the second quarter, as revenue grew in all three of its global businesses. As a result it increased its share buy-backs by \$2bn, bringing

the total amount it has promised to buy back over the past year to \$5.5bn.

Make or break



Tesla Motors publicly unveiled the **Model 3**, its first electric car aimed at cracking the mass market. Prices start at \$35,000, but rise considerably for a version that extends the vehicle's range in between charging. The first Model 3 rolled off the production line in July. Potential owners have paid a \$1,000 deposit to reserve one when deliveries start. Meanwhile, Tesla's plans to mass produce **lithium-ion battery** power at its Gigafactory in Nevada was about to get some competition. A recently founded German company, Terra E, said it would soon announce the site of a rival plant.

Other economic data and news can be found on pages 68-69



It could happen

There are no good options to curb Kim Jong Un's missile-building. But blundering into war would be the worst



IT IS odd that North Korea causes so much trouble. It is not exactly a superpower. Its economy is only a fiftieth as big as that of its democratic capitalist cousin, South Korea. Americans spend twice its total GDP on their pets. Yet Kim Jong Un's backward little dictatorship has grabbed the attention of the whole world, and even of America's president, with its nuclear brinkmanship. On July 28th it tested an intercontinental ballistic missile that could hit Los Angeles. Before long, it will be able to mount nuclear warheads on such missiles, as it already can on missiles aimed at South Korea and Japan. In charge of this terrifying arsenal is a man who was brought up as a demigod and cares nothing for human life—witness the innocents beaten to death with hammers in his gigantic gulag. Last week his foreign ministry vowed that if the regime's "supreme dignity" is threatened, it will "pre-emptively annihilate" the countries that threaten it, with all means "including the nuclear ones". Only a fool could fail to be alarmed.

What another Korean war might look like

Yet the most serious danger is not that one side will suddenly try to devastate the other. It is that both sides will miscalculate, and that a spiral of escalation will lead to a catastrophe that no one wants. Our briefing this week lays out, step by step, one way that America and North Korea might blunder into a nuclear war (see page 14). It also lists some of the likely consequences. These include: for North Korea, the destruction of its regime and the death of hundreds of thousands of people. For South Korea, the destruction of Seoul, a city of 10m within easy range of 1,000 of the North's conventional artillery pieces. For America, the possibility of a nuclear attack on one of its garrisons in East Asia, or even on an American city. And don't forget the danger of an armed confrontation between America and China, the North's neighbour and grudging ally. It seems distasteful to mention the economic effects of another Korean war, but they would of course be awful, too.

President Donald Trump has vowed to stop North Korea from perfecting a nuclear warhead that could threaten the American mainland, tweeting that "it won't happen!" Some pundits suggest shooting down future test missiles on the launchpad or, improbably, in the air. Others suggest using force to overthrow the regime or pre-emptive strikes to destroy Mr Kim's nuclear arsenal before he has a chance to use it.

Yet it is just this sort of military action that risks a ruinous escalation. Mr Kim's bombs and missile-launchers are scattered and well hidden. America's armed forces, for all their might, cannot reliably neutralise the North Korean nuclear threat before Mr Kim has a chance to retaliate. The task would be difficult even if the Pentagon had good intelligence about North Korea; it does not. The only justification for a pre-emptive strike would be to prevent an imminent nuclear attack on America or one of its allies.

Can Mr Kim be cajoled or bribed into giving up his nuclear

ambitions? It is worth trying, but has little chance of success. In 1994 President Bill Clinton secured a deal whereby Kim Jong Il (the current despot's father) agreed to stop producing the raw material for nuclear bombs in return for a huge injection of aid. Kim took the money and technical help, but immediately started cheating. Another deal in 2005 failed, for the same reason. The younger Kim, like his father, sees nuclear weapons as the only way to guarantee the survival of his regime. It is hard to imagine circumstances in which he would voluntarily give up what he calls his "treasured sword of justice".

If military action is reckless and diplomacy insufficient, the only remaining option is to deter and contain Mr Kim. Mr Trump should make clear—in a scripted speech, not a tweet or via his secretary of state—that America is not about to start a war, nuclear or conventional. However, he should reaffirm that a nuclear attack by North Korea on America or one of its allies will immediately be matched. Mr Kim cares about his own skin. He enjoys the life of a dissolute deity, living in a palace and with the power to kill or bed any of his subjects. If he were to unleash a nuclear weapon, he would lose his luxuries and his life. So would his cronies. That means they can be deterred.

To contain Mr Kim, America and its allies should apply pressure that cannot be misconstrued as a declaration of war. They should ramp up economic sanctions not only against the North Korean regime but also against the Chinese companies that trade with it or handle its money. America should formally extend its nuclear guarantee to South Korea and Japan, and boost the missile defences that protect both countries. This would help ensure that they do not build nuclear weapons of their own. America should convince the South Koreans, who will suffer greatly if war breaks out, that it will not act without consulting them. China is fed up with the Kim regime, but fears that if it were to collapse, a reunified Korea would mean American troops on China's border. Mr Trump's team should guarantee that this will not happen, and try to persuade China that in the long run it is better off with a united, prosperous neighbour than a poor, violent and unpredictable one.

Everyone stay calm

All the options for dealing with the North are bad. Although America should not recognise it as a legitimate nuclear power, it must base its policy on the reality that it is already an illegitimate one. Mr Kim may gamble that his nukes give him the freedom to behave more provocatively, perhaps sponsoring terrorism in the South. He may also sell weapons to other cruel regimes or terrorist groups. The world must do what it can to thwart such plots, though some will doubtless succeed.

It is worth recalling that America has been here before. When Stalin and Mao were building their first atom bombs, some in the West urged pre-emptive strikes to stop them. Happily, cooler heads prevailed. Since then, the logic of deterrence has ensured that these terrible weapons have never been used. Some day, perhaps by coup or popular uprising, North Koreans will be rid of their repulsive ruler, and the peninsula will reunite as a democracy, like Germany. Until then, the world must keep calm and contain Mr Kim. ■

America's president and the Republicans

No deal

Congressional Republicans should be braver about acting as a check on the president



THE pact between Republicans in Congress and the president always looked more than a bit Faustian. Many Republican lawmakers decided to cheerlead for a president who won the nomination by running against their party, in the expectation that he would then help them pass the laws they wanted. They were misinformed. The collapse of health-care legislation has shown that, despite his boasts, the president is hardly a master-dealmaker who can help Republicans get bills through Congress. The defenestration of Reince Priebus, Sean Spicer and the short-lived Anthony Scaramucci shows that he also has a habit of rewarding even his most loyal defenders with public humiliation. This pact is indeed like Faust's—but without the enjoyable moments of omnipotence before the reckoning falls due. It is past time for Republicans in Congress to strike a new one.

Medicine, law and philosophy

There are signs that this is happening. After the failure of health-care reform, blocked by a trio of independently minded Republican senators, some Republican legislators have offered to work with Democrats to shore up the Affordable Care Act. Incremental improvements to Obamacare are far more likely to succeed in making Americans healthier than scrapping it and starting afresh.

If Congress can avoid a government shutdown, by approving a budget in September, tax reform will be next on the agenda. Here, Democrats have signalled that they may be willing to work with Republicans on a bill to get rid of tax breaks while lowering rates and containing the budget deficit.

That is partly for show. However, there is bipartisan agree-

ment on the need to reduce the corporate-tax rate, which at 35% is among the highest in the rich world, though disagreement about how far the rate should come down. This is an area where a Congress that functioned properly would find a compromise on its own and send a bill to the president, rather than expecting the White House to cut a deal on its behalf. The aim of any bill should be a proper reform, rather than an unfunded tax cut, hard as that will be (see page 24). Regrettably, the Senate majority leader, Mitch McConnell, has so far rebuffed advances from the other side of the aisle.

Perhaps Mr McConnell is hoping that Mr Priebus's successor as chief-of-staff will bring some order to the Trump White House. A former general, John Kelly started well by using his first day to fire the bloviating Mr Scaramucci. Yet he must still cope with the man in the Oval Office who, throughout his business career, has made conflict and infighting a way of life. More likely is that the turbulence will continue and that an angry president will set Republicans in Congress the kind of unreasonable loyalty test he often imposes on his staff. That would be the moment when the Republican Party must show that it stands for more than winning elections.

If Jeff Sessions is sacked, or shunted aside from his job as attorney-general, it will be because the president wants someone in the job who has not recused himself from the investigation into Russian election-meddling, and therefore has the authority to fire Robert Mueller, the special counsel who heads it. Plenty of Republicans think there is no fire to go with the smoke that emanates from the White House each time some new meeting or e-mail exchange regarding Russia comes to light. Even so, they should recognise that in America the president must not be above the law; he cannot simply halt independent investigations that he does not like.

In Washington being bipartisan is risky and deeply unfashionable. But it is what the country urgently needs. ■

French reforms

Keep your nerve

Emmanuel Macron has promised to nationalise France's biggest shipyard. He is entering dangerous waters



THINK of it as a Macron micro-test: the first industrial intervention by the man French voters put into the Elysée Palace, although he had never held elected office. It involves France's biggest shipyard, at Saint-Nazaire, on the Atlantic. At the end of last month, rather than see the yard sold into Italian hands, the government of Emmanuel Macron pledged to nationalise it instead. A fervent supporter of the European Union and globalisation, Mr Macron is being accused of nationalism, protectionism and of trying to shore up his declining populari-

ty. It is not that bad—yet. But Mr Macron should be wary of being sucked into an industrial policy that sets back his central aim of making France and the EU more competitive.

Shipbuilding in Saint-Nazaire has a troubled past. François Hollande, Mr Macron's predecessor, oversaw a sale of a two-thirds share of the yard from a South Korean firm to an Italian pairing of Fincantieri, a shipbuilder, and an Italian investor. Together, they would have had a 54.6% stake; the rest would have been owned by the French government and a French investor. Mr Macron could have let the sale go ahead as planned. Instead, after a review, he has ripped the agreement up. He demanded a 50/50 split and, when the Italians refused, said he would exercise the state's right to buy the lot. ►

► The government insists that the nationalisation will be temporary—it simply wanted to shore up its negotiating position before its pre-emption rights lapsed. France would still like the deal with Fincantieri to go ahead, but it argues that the Saint-Nazaire yard is strategic, because it supplies the French navy and it employs several thousand workers. In addition, the government worries that trade secrets could leak to Fincantieri's industrial partner, a Chinese cruise-ship builder.

The Chinese argument sounds specious: it did not bother the defence establishment when Mr Hollande was in power. More convincing is the assertion that the French government should have a greater say over whether Fincantieri moves work from Saint-Nazaire in a downturn. But that, too, sits awkwardly with Mr Macron's belief in an integrated EU—which includes Europe's armed forces and the companies that supply them. His intervention has already soured relations with Italy, which smarts at the implication that it is not trustworthy.

This week the two sides set a deadline of September 27th to reach an agreement. The real danger is that talks fail and that, for want of a satisfactory buyer, a “temporary” nationalisation becomes permanent. That risk is all the greater because nationalising the Saint-Nazaire yard is popular. A recent poll suggested that 70% of French backed it, even as Mr Macron's own support has fallen, from 62% in May to 54% now, faster than any other newly elected leader except Jacques Chirac.

Mr Macron is not one to court popularity. But long-term state ownership would be as bad for Saint-Nazaire as it has

been for French industry as a whole. The state's role in business is greater in France than anywhere in Europe, apart from oil-rich Norway. The state owns stakes worth €100bn (\$118bn) in companies that employ roughly 800,000 people. However, the Cour des Comptes, the national auditor, noted in a critical report in January that state-run firms add value more slowly than do private French ones (see page 47). The long-term nationalisation of Saint-Nazaire would also invite resistance to Mr Macron's plan to sell €10bn (\$11.85bn) of state-owned assets, and to use the funds this raises to help mid-size firms become more innovative.

All at sea

If Saint-Nazaire is a micro-test, the macro-test is approaching fast. Mr Macron has given himself a deadline—also in September—to unveil reforms to France's labour market. These will make the jobs market less inflexible, by limiting courts' freedom to order compensation for dismissed workers, and by putting the onus on unions to negotiate inside companies, where moderate outcomes are likelier than at the national level. This week parliament gave the government the power to change the law by ordinance. The reform promises to be France's most important in decades. The more centrist unions, which are increasingly powerful, accept it. But hardline ones and leftist politicians will object noisily—and after the Saint-Nazaire saga may think they have found a weakness to exploit. Mr Macron must not let them. ■

Politics in Pakistan

Third time unlucky

The courts' dismissal of the prime minister need not throw the country into chaos



OF THE 25 people who have held the job of prime minister of Pakistan, not one has served a full parliamentary term. Nawaz Sharif became the latest to find himself unemployed on July 28th, when the Supreme Court dismissed him

for omitting some income from the declaration of assets he was obliged to submit as a parliamentary candidate (see page 17). This is the third time Mr Sharif has been ejected from the post: the president booted him out in 1993, the army in 1999.

The court's decision to oust Mr Sharif was questionable, to say the least. It ruled that his incomplete declaration fell short of the constitutional requirement for MPs to be “honest and upright”. But that is an impossibly woolly standard, which could be used to ban almost anyone. Moreover, Mr Sharif's lapse—the failure to declare a directorship which carried a small salary that he did not even draw—hardly seems egregious. The court admitted that the more serious allegation against him, that he had used his first stint in office to enrich himself, had not been tested in a proper trial, and thus could not be considered a ground for his dismissal. Instead, it referred the claim back to an anti-corruption tribunal.

Mr Sharif's departure is unfortunate, as it puts an end to a period in which Pakistan came as close as it ever has to stable parliamentary democracy. His government had followed an-

other democratically elected one—a feat not achieved since the 1990s. Just as important, given the armed forces' habit of meddling in politics, an army chief had retired on schedule on Mr Sharif's watch, to be replaced by a general of the civilian government's choosing. The terrorism that had plagued the country has abated; the economy is much improved (see page 54). These hard-won gains are now at risk. Even so, there is no undoing Mr Sharif's ousting, nor should there be.

Khyber pastiche

On the face of things, the ship of state continues to sail. Mr Sharif's party, the PML-N, still commands a big majority in parliament. It has selected Mr Sharif's younger brother, Shahbaz, as his successor. The younger Mr Sharif, who is chief minister of Pakistan's most populous province, Punjab, plans to stand in the by-election for his brother's now vacant seat in September. In the meantime, the PML-N installed a placeholding prime minister this week without incident.

Nonetheless, a period of instability is inevitable. Rival parties are wooing PML-N MPs to defect ahead of elections due within a year. Many will do so if they judge the Sharif family a liability. Imran Khan, a politician who campaigned doggedly for the elder Mr Sharif's dismissal, may instigate a fresh round of disruptive protests: Shahbaz, after all, has been the object of a corruption investigation himself, as has the interim prime minister installed this week. And there is always a chance that the army might consider the chaos justification to intervene in ►

► some way, further disfiguring Pakistan's democracy.

Yet, for all the baleful consequences of Mr Sharif's sacking, it would be an even bigger disservice to democracy to suggest that the courts should not pursue corruption cases for fear of the political fallout, or that the government should ignore the courts' rulings. It is hard to paint Mr Sharif's difficulties as a conspiracy orchestrated by the army, as his supporters would have it: the case was instigated by Mr Khan, a civilian politician. Moreover, Mr Sharif himself appointed not just the head of the army, but also the directors of all the agencies that compiled evidence for the Supreme Court. And he could have made the whole problem disappear by providing proof that the money his family spent on four flats on a posh street in London came from legitimate sources, which he has failed to do since allegations of corruption first surfaced 20 years ago.

But there is much that others could do to minimise the

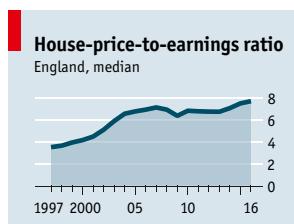
trauma of his ejection. The judiciary could help dispel the idea that Mr Sharif is the victim of a witch hunt by allowing a thorough airing of the evidence against him in the trial the Supreme Court has demanded. It should also make sure that investigations of Mr Sharif's political adversaries, including Mr Khan, are pursued with equal vigour. The army, meanwhile, could prove its good faith not just by staying in barracks, but also by showing the new prime minister a deference it did not accord Mr Sharif or his civilian predecessors.

Politicians, for their part, should focus not on taking one another to court, but on running the country. The security situation and the state of the economy must surely loom as large in the minds of ordinary Pakistanis as the political tumult. If voters, rather than soldiers or judges, get the final word on whether the Sharif family should remain in power, Pakistan's democracy might actually end up strengthened. ■

Housing in Britain

Rooms for improvement

How to solve Britain's housing mess



ON EVERY side, Britain's politicians are grappling with problems of immense scale and nightmarish complexity. How to manage the departure from the European Union? How to help a crumbling health service cope with an ageing, weakening population? How to deal with persistent regional deprivation? Yet one national scourge that holds back the economy and poisons politics is readily solvable—politicians just need to be brave enough to act. That scourge is the cost of housing.

Through the roof

The ratio of median house prices to earnings in England hit 7.7 in 2016, its highest recorded level. In the past four decades house prices have grown by more in Britain than in any other G7 country. Home ownership has been falling for more than a decade, after rising for most of the past century. In London housing is outlandishly dear: before the Brexit vote sent the pound tumbling, it was the priciest city in the world for renters.

The cost of housing has knock-on effects across the economy. As people are forced out to the suburbs, cities become less dynamic. Workers waste time on marathon, energy-sapping commutes. People from the regions cannot afford to move to cities where they might find work. Businesses cannot clear land to build. It is perhaps no coincidence that Britain's growing housing mess has coincided with stagnant productivity.

All this has fostered a growing sense of inequity. Britons over the age of 65, a fifth of the population, own over 40% of the housing wealth held by owner-occupiers. Youngsters with rich parents can buy their first house thanks to the "Bank of Mum and Dad". Everyone else must resign themselves to renting small properties for life, or to continuing to pay off their mortgage long after retirement. At the election in June half of all private renters voted for Labour and Jeremy Corbyn, up from a third who supported the party in 2010. As home-ownership declines, the Conservatives, in particular, are beginning

to worry (see page 42)—as indeed they should.

What makes Britain's housing squeeze maddening is that, unlike many other problems, something can easily be done about it. Britain needs to get building. The consensus is that, to keep prices in check, it must put up 300,000 houses a year, double what it erected in 2015-16. Mr Corbyn says the answer is a huge expansion of public housing, like the one in the Wilson and Callaghan governments in the 1970s. This would be expensive, especially if such housing was let at below-market rates. And few Britons aspire to rent from the council for life.

Better would be to unleash the market. A change to regulations on green-belt land, which surrounds cities and which is designed to block construction, is long overdue. Far from being a bucolic retreat, much of the green belt is intensively farmed. By one estimate, more of Surrey is devoted to golf courses than houses. Within Greater London enough green-belt land languishes to build 1.6m houses at average densities.

The government should also cut stamp duty, a land tax levied on property transactions. Over the long term the burden has risen, which is one reason why the rate of transactions has slumped. Abolishing or replacing stamp duty would help more young families live in decent homes. Oldies could downsize at less cost, freeing up more of Britain's 25m or so empty bedrooms.

And Westminster needs to do away with the perverse incentives arising from local-government taxation, in particular the out-of-date system of council tax, which is levied on housing. Councils miss out on much of the extra local tax revenue from new houses, because it is hoovered up and redistributed by central government. But they are lumbered with the cost of providing local services for newcomers. That should change. Councils should be allowed to charge taxes that reflect the true values of properties—and keep the proceeds.

Economically straightforward is not the same as politically easy. Even so, Theresa May, the prime minister, has so far failed to show any mettle over housing. Her government has proposed nothing more than tweaks to a broken system. This lack of leadership feeds a crisis that is entirely unnecessary. ■

The situation in Qatar

The ambassador of the United Arab Emirates to the UN claimed that the hostile action taken by the UAE, Saudi Arabia, Bahrain and Egypt against Qatar is not a blockade, because "there is no military aspect to the diplomatic measures that have been taken" (Letters, July 15th).

Qatar's only land border has been closed and air and sea traffic has been diverted, cutting off vital routes for imports. Fresh food, water supplies and medicine must now be airlifted into Qatar or delivered by boat. Parents have been forcibly separated from their young children and husbands from their wives. Family members have been prevented from visiting sick or elderly parents. To the people of Qatar, this is a blockade.

The citizens of the blockaded countries are suffering as well. Hundreds have been forced to choose between abandoning their jobs and families or facing fines and even prison for disobeying the orders. Foreign patients being treated in Qatar have had their medical care disrupted.

As Qatar's foreign minister, Sheikh Mohammed bin Abdulrahman Al Thani, told an audience in London recently, "When you have a mother holding her seven-year-old child, and they are pulling her son away from her and not allowing her to travel with him, this is a blockade. It is inhuman. It is illegal. I'm sorry, but no one can call it a 'boycott'."

AMBASSADOR ALYA BIN SAIF AL THANI
Permanent Representative of
Qatar to the UN
New York

Around the world in 80 days

I'm sure readers were amused by the clever headline, "It's not the heat; it's the cupidity", for the Free exchange column on climate change (July 15th). It's a great line. S.J. Perelman, an American humorist and screenwriter, coined the phrase in his delightful travel chronicle, "Westward Ha!", in

the late 1940s. Perelman and Al Hirschfeld, a cartoonist for *New Yorker* magazine, were commissioned to undertake a round-the-world trip mostly by slow steamer, presumably with an eye to replicating the success of Mark Twain's "A Tramp Abroad" more than 60 years earlier. The serialised illustrated essays were compiled and published in book form in 1947.

JIM RHODES
Norfolk, Virginia

You say potato...

Is Johnson (July 22nd) being deliberately provocative in suggesting that scone is pronounced by Britons to rhyme with "gone", whereas Americans pronounce it as rhyming with "cone"? Britain is just as divided on this topic as it is on Brexit (or on whether the jam or cream is spread first).

IAN SALSBURY
Oxford

Keeping the generals happy

Riding up and down the Champs-Elysées with Donald Trump and promising to all and sundry that France will maintain its operations abroad is one thing ("Stumbling into a fight", July 22nd). Providing the armed forces with the means to achieve that is another. Two groups of people risk being alienated by Emmanuel Macron's latest moves: the armed forces and the civil servants.

The president's desire to re-establish the *journée de carence*, when civil servants have to sacrifice pay for their first day of sick leave, suggests a certain disdain. Treating the armed forces and the civil service in this way risks creating a powerful enemy coalition. There are dangerous signs of Napoleonic ambitions, without the thought needed to carry them through. Having assembled a parliamentary majority of largely inexperienced legislators, the president seems to be tempted by the idea of bypassing parliament and governing by decree.

A last detail. Mr Macron's official portrait, which will be on display in French town

halls, happens to be bigger than its predecessors, causing some mayors to protest against the cost of framing it. *La folie des grandeurs?*

ALAN KIRMAN
Director of studies
School for Advanced Studies in
the Social Sciences (EHESS)
Paris

The life saver

Lexington praised the young Ronald Reagan's initiative in getting a summer job as a lifeguard at a municipal beach (July 8th). The young jobseeker had taken a life-saving course at the YMCA. He gained employment because the local authority insisted that the beach concessionaires improve safety standards after a spate of drownings. This was a case of government showing it could be the solution rather than just the problem (something the 40th president had forgotten by the time he gave his inaugural address in 1981).

In his advanced years Reagan proved the durability of skills learned in younger days. Aged 58 as the governor of California, he dived fully clothed to rescue a seven-year old African-American girl who had got into difficulties in the pool at his house in Sacramento, where a party for staff families was being held. "I guess it's just an old instinct that remains," he told the press when the story got out.

IWAN MORGAN
Professor of US studies
University College London

Glad to be grey

You asked what to call someone who is over 65 but not yet elderly ("Over 65 shades of grey", July 8th). Friends of ours

invented the acronym Hopskis: Healthy Old People Spending Kids' Inheritance, which sums it up pretty well.

LARS HENRIKSSON
Kristianstad, Sweden

In my early days as a student in Bournemouth, we referred to the over 65s as Woopies and Jollies: Well Off Older People, and Jolly Old Ladies with Lots of Loot. Mind you, this was Bournemouth.

IVAR HAUFF
Oslo

Being 79, I am in the midst of "longevity". Yes, I am an Owl, Older, Working Less, still earning; but that also means Older, Wiser, still Learning.

FATHER EMMANUEL KAHN
Warrington, Cheshire

I am now evidently able to refer to myself as a Geriactive, a Sunsetter, a Nightcapper, a Nyppie, or as one of the Owls. But after reading the reference to the Rolling Stones in your special report on longevity (July 8th), I think I'll plump for "Jaggernaut".

DAVID OGILVIE
New York

The English-speaking world thinks of "retirement", as "withdrawal to a place of seclusion", you say. But not all nations share such etymology. Germans have *Pensionierung*, Swedes *pensionering*, and Italians *pensionamiento*, while Spaniards call it *jubilación*.

TRISTAN JONES
Chicago

Charles Dickens described the young elderly as being in their "green old age", which is a wonderful definition.

META ROSENEIL
Buckhurst Hill, Essex

How about Indy, as in I'm Not Dead Yet?

BRADFORD HAWKINS
Irvine, California ■

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E-mail: letters@economist.com
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A New Challenge?

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**Controller and Director,
Division of Financial and Administrative Management
Geneva, Switzerland**

Closing date for applications: August 15th 2017

The United Nations High Commissioner for Refugees (UNHCR) is one of the world's leading humanitarian organisations addressing the global challenges of refugees, internally displaced persons, and stateless persons. It is seeking suitable candidates to fill the position of Controller and Director of the Division of Financial and Administrative Management (DFAM) based in UNHCR headquarters in Geneva, Switzerland.

The Controller will be the key official responsible for financial and budgetary strategy and policy formulation, the production of the statutory accounts, cash management, as well as financial change management and related project implementation including the development and maintenance of supporting corporate IT systems. The Controller is also the Director of the Division of Financial and Administrative Management and, as such, is responsible for overseeing and supervising the Division which comprises approximately 120 staff, located both in Geneva and Budapest.

The Controller directs, administers and controls the Organization's overall financial management systems and participates in the management, decision-making and evaluation of programme activities and related budgetary requirements. The Controller is also responsible for the application of the United Nations Financial Rules and Regulations as well as the application and maintenance of Financial Rules for Voluntary Funds administered by the High Commissioner for Refugees.

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The Controller and Director of the DFAM requires a minimum of an advanced university degree (Master's degree or equivalent) in finance, business administration, accounting or a closely related field and minimum 20 years professional experience in an international, decentralized and/or multinational environment, of which at least 10 years serving in an international capacity, preferably the United Nations and in the functional area that is directly relevant to the current position - at Headquarters level. Fluency in written and oral English is essential and working knowledge of French is desirable.

For further details on the Job Description and application process, please go to <http://www.unhcr.org/careers.html> by Tuesday, 15th August 2017.

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Vision for a Nation Foundation (VFAN) is an award-winning UK charity founded by philanthropist James Chen that is improving the lives of people with poor vision. VFAN has transformed eye care in Rwanda by providing local access to affordable eye care - delivering 2m eye tests. Over the next 5 years, VFAN has exciting plans to expand its work to other countries in Africa and Asia.

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The deadline for applications is 5pm on Friday 15 September 2017.

For further information, please visit www.visionforanation.net/jobs.



國立臺灣大學

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National Taiwan University (NTU) is a full-fledged comprehensive university with outstanding achievements. Presidential Search Committee now invites nominations and applications for the position of President.

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If you have any inquiries, please call (886)-2-33662035, or fax (886)-2-23629997. The nomination forms can be downloaded from the NTU Website:

<http://www.ntu.edu.tw>



Testing, testing...

Also in this section

14 War in Korea

Kim Jong Un does not yet have a missile that can strike America. But he's close

THE launch of a ballistic missile on July 28th, with the range to hit cities on America's west coast, provided further chilling evidence of the speed at which North Korea is developing a capability that Donald Trump has declared it would never have. It followed a test of a similar Hwasong-14 two-stage missile on July 4th. Both launches were on a lofted trajectory—the missile travelling more or less straight up rather than around the curve of the Earth. Based on the test's course and flight time, analysts believe the first missile would have had a normal-trajectory range of about 7,500km, while the second, which flew for 47 minutes and reached an altitude of 3,700km, would have had a range of up to 10,000km while carrying a warhead weighing up to 650kg.

It is too soon, however, to assert that North Korea is on the brink of being able to threaten, say, Los Angeles, with a reliable intercontinental ballistic missile (ICBM). To do so, it would need to make a warhead compact and light enough to fit into a missile's nose cone.

Experts, such as Jeffrey Lewis of the James Martin Centre for Non-Proliferation Studies in California, believe that North Korea can already fit a fission nuclear warhead with a yield of about 20 kilotonnes, the same as the atomic bomb dropped on

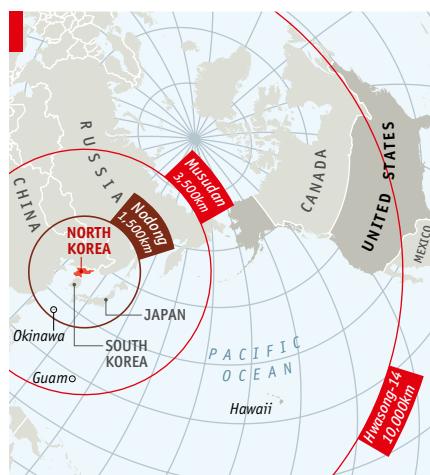
Nagasaki, to its short- and medium-range missiles. But so far, there is nothing to suggest that it has yet tested a fusion or thermonuclear weapon despite claims by its leader, Kim Jong Un, that it has. It is clearly working on the technology, though. It may be able to demonstrate this, or at least add a thermonuclear element to boost yield, when it conducts a sixth nuclear test, perhaps before the end of the year. A thermonuclear warhead small enough to be carried by the Hwasong-14 could easily have a yield of 300 kilotonnes, enough to devas-

tate an area of over 70 square kilometres.

There is also scepticism that North Korea has yet produced a re-entry vehicle that would protect the warhead on its path through the Earth's atmosphere at velocities travelled by ICBMs. In an analysis of the latest launch, Michael Elleman of the International Institute for Strategic Studies has examined video from a weather camera in Hokkaido, Japan, which captured the glowing re-entry vehicle on film as it sped earthwards. As it hits the Earth's atmosphere, it starts to shed "small radiant objects" and "incandescent vapour". It then dims and disappears.

Based on its current progress, North Korea will probably overcome such problems sooner rather than later. The latest assessment by America's Defence Intelligence Agency, reported by the *Washington Post* three days before the most recent missile test, is that North Korea could have a workable ICBM some time in 2018—at least two years before the previous consensus had estimated it would do so.

The reactions to the missile test were mostly predictable. Two B1 strategic bombers were dispatched from an American base in Guam to fly over South Korea. A THAAD anti-missile battery in Alaska, like the one recently deployed in South Korea, successfully carried out a test interception. ►



In two tweets Mr Trump wrote: "I am very disappointed in China. Our foolish past leaders have allowed them to make hundreds of billions of dollars a year in trade, yet...they do NOTHING for us with North Korea, just talk. We will no longer allow this to continue. China could easily solve this problem!"

A few days later Rex Tillerson, America's secretary of state, struck a more eloquent note towards North Korea, saying: "We do not seek a regime change...we hope that at some point they will begin to understand that and we would like to sit and have a dialogue with them."

Paradoxically, in South Korea, conservative opposition parties have called on the country's recently elected liberal president, Moon Jae-in, to abandon his twin-track policy of imposing sanctions on North Korea while still offering dialogue. Mr Moon wants to see a greater level of military readiness for anything that might happen. But, like Mr Tillerson, he is still insisting that he would not close the door on talks with Mr Kim, should he respond. Among the options under consideration is a relaxation of an agreement between America and South Korea that limits the range and payload of the South's conventional missiles.

If the reaction to the test on July 28th consisted largely of gestures and vague threats, that is because the options are either improbable (constructive talks with Mr Kim), feeble (tougher sanctions) or terrifying (pre-emptive military action).

For all that, fears are growing that Mr Kim and Mr Trump are now on a collision course which could result in a war that neither wants, but which both may find difficult to avoid. Rodger Baker of Stratfor, a geopolitical consulting firm, says that Mr Kim wants to prove he has a credible ICBM capability, while America has to show that it has the military will to prevent it. He believes that North Korea would have to respond in some way to an American strike, even of the most limited kind.

Anthony Cordesman of the Centre for Strategic and International Studies in Washington, DC, warns that America's ability to deal with all North Korea's nuclear facilities "is very uncertain". He adds that anticipating what the North might do with its conventional weapons is like "trying to describe a very complex game of multidimensional chess in terms tic-tac-toe". The problem, he says, is that there are many ways and reasons for each side to escalate the fighting once it begins. Stopping it would be much more difficult.

People with military experience of Korea "paint a picture that should scare the hell out of anyone in the US who was contemplating an attack," says Jonathan Pollack of the Brookings Institution. "Are we over-estimating North Korea?" he asks. "I don't want to find out." ■



War in Korea

Red lines and bad choices

How a war on the Korean peninsula could start and how it might end

IT WAS March 2019. America and South Korea were conducting an annual large-scale military exercise, Foal Eagle, involving nearly 20,000 American troops and about 300,000 Korean counterparts. The drill was taking place against a backdrop of continuing missile tests by the North Koreans.

Over the previous two years, the regime of Kim Jong Un had successfully test-launched several intercontinental ballistic missiles (ICBMs). The most recent was another two-stage rocket that analysts reckoned could reach any city in America. It carried what appeared to be a credible re-entry vehicle to shield its nuclear warhead as it plummeted through the Earth's atmosphere towards its target and from which decoys could be fired to bamboozle missile defences.

A seventh nuclear test in January had confirmed that the warhead carried by the missile would in time be a thermonuclear one with the power to destroy all life within an area of 70 square kilometres. Some intelligence reports had suggested that the next test the North Koreans would conduct, likely to coincide with the climax of Foal Eagle, might include a high-altitude nuclear explosion of the kind that America and the Soviet Union had conducted until 1962 to test their weapons.

Whereas other new nuclear states,

such as Pakistan and India, had been content to carry out all their testing underground, Mr Kim had boasted since the start of the year that he would soon provide final proof that would convince the world to respect North Korea's nuclear capability. If the North really carried out such a test, the electromagnetic pulse it would cause could take out satellites and damage power stations on the ground.

For Donald Trump, that would cross a red line. The moment was now or never. Responding to claims by Mr Kim at the outset of what was to become his troubled presidency that North Korea was in the final stages of developing an ICBM, he had declared on Twitter, "It won't happen." In June 2017, a few days before North Korea conducted its first ICBM test, Mr Trump had stated that the "era of strategic patience" with Mr Kim was over.

Since then, America had tightened sanctions against the North Korean regime, including taking action against Chinese and Russian firms trading with it and cutting off sources of finance generated by Mr Kim's criminal networks overseas. But with China only willing to offer token help, it had proved too little and too late to slow the North's rapid development of nuclear missiles.

The president had thus far heeded the warnings of his defence secretary, Jim



Mattis, and his national security adviser, H.R. McMaster. The risks of taking military action were too great, they had argued. But Mr Trump was no longer willing to listen. Mr Mattis was said to be on the brink of resignation, partly because he did not believe that Mr Kim was about to carry out an atmospheric test. Mr McMaster had been fired and replaced by John Bolton, a hawkish former ambassador to the UN who had been a prime mover for action to overthrow Saddam Hussein because of his supposed arsenal of weapons of mass destruction. Mr Bolton had told the president that a high-altitude test was imminent. He had long argued for doing whatever it would take to bring about regime change in North Korea.

Mr Trump did not necessarily want to go that far. China's leader, Xi Jinping, had warned him that there would be "serious consequences" if such a step was being considered. It was not clear whether China would step in to help North Korea as it had in the past (the view in Washington was that it would not). What was not in doubt was its hostility to anything that might bring American forces north of the 38th parallel and close to China's border.

South Korea's president, Moon Jae-in, had at first been strongly against any pre-emptive strike, as his country would bear the brunt of any subsequent mis-

calculation by either side. But after bullying from Washington, he had reluctantly withdrawn his opposition. Mr Trump felt very strongly that he needed to show his supporters at home that he could still make tough decisions.

To that end, he had asked his military advisers to come up with a plan that would show he meant business; powerful enough to make Mr Kim think twice before hitting back, but not so drastic as to trigger war. After all, Mr Kim would surely realise that to do so would risk entering a cycle of escalation that would lead inexorably to his defeat and the obliteration of his dynasty—the very thing his nuclear programme had been designed to prevent.

The preferred option would have been to have shot down the missile in its boost or ascent phase with interceptors fired from US Navy destroyers. But new SM-Block2A interceptors, which might have been fast enough to do the job, were not yet ready for deployment. The plan the Pentagon had therefore come up with was to fire a salvo of cruise missiles from a submarine in the Sea of Japan, destroying the missile on the ground. Much would depend on getting prompt intelligence from surveillance satellites and high-flying drones to hit the launch site before the missile could be fired. Any subsequent tests, Mr Kim would be told, would get the same treatment. A belligerent response by Mr Kim would be met by an attack on his nuclear and missile facilities.

Mr Trump was warned, however, that although Mr Kim was thought to be rational, he faced political problems of his own and would have to react in some way. According to the most optimistic scenario, Mr Kim might feel that he could get away with a gesture, such as firing missiles at the outer islands, in an operation similar to the shelling of Yeonpyeong in 2010. He might also conclude that he could anyway stop testing for now, as he had credibly acquired the means to hit the continental United States.

The operation appeared at first to succeed. There was little unintended damage and not much indication whether the missile had been armed (nuclear weapons are designed to resist accidental explosion—the warhead is encased in a sturdy re-entry vehicle and detonation sequences have to be minutely timed). Despite the usual threats from Mr Kim to "wipe America off the face of the Earth" and to turn Seoul into a "sea of fire", nothing appeared to happen. Mr Trump's poll ratings spiked and he tweeted: "Fat Kim just got what he's been asking for. SAD!" Triumphant, he berated "my generals" for their caution which had stopped him from doing something similar sooner.

But even as Mr Trump was bragging

about the success of the strike, Mr Kim was ordering elite units from his 180,000-strong special operations force to carry out a series of hit-and-run attacks on targets in the South. Some would infiltrate by using a network of tunnels running beneath the demilitarised zone (DMZ); others would be inserted from the sea by mini-submarines or flown in by ancient hedge-hopping An-2 biplanes that were hard for modern radars to spot. Meanwhile, North Korea's navy had also begun laying mines in both the West and East seas in an effort to disrupt trade. A series of cyber-attacks on South Korea's critical infrastructure also appeared to be under way.

Holding their nerve gas

North Korea's aim was to stop short of actions, such as releasing nerve gas in the outskirts of Seoul, that would prompt an all-out response from the Americans and their ally, but to do just enough to generate a sense of panic and uncertainty among South Korean civilians. Mr Kim's advisers had told him that their analysis, based on their contacts in the South, was that this would generate huge pressure on the South Korean government to veto any further escalation that might lead to outright war.

That turned out to be a grave miscalculation. The allies could not be sure what Mr Kim planned next, so they had to prepare for the possibility that sabotage attacks were a prelude to a major offensive. With that in mind, the evacuation of foreign nationals, mainly from Seoul, had begun. These included some 150,000 American civilians, over 40,000 Japanese and up to 1m Chinese citizens. The evacuation was intended to send a strong message to the North that events were developing a momentum of their own.

American and South Korean commanders had recommended to their governments that they should prepare for the worst. The military exercises already under way were intended to practice OPLAN 5015, a classified scheme drawn up in response to the growing missile threat. The drill, they advised, could rapidly be turned into reality. Whereas previous war plans had been premised on the belief that a new conflict would be fought along similar lines to the first Korean war (with large units first deployed in defensive formations before counter-attacking into the North), the new plan called for precision strikes and special forces acting behind enemy lines.

The first requirement would be to suppress North Korea's surprisingly lethal integrated air-defence system, which fields, along with Soviet-era surface-to-air missiles, the indigenously produced and highly capable KN-06. With that out of the

way, missiles, smart bombs and huge "bunker busters" would rain down on nuclear sites, missile launchers and command posts while South Korean special forces carried out "decapitation" raids to kill North Korea's leaders. The idea was that by striking pre-emptively, any war would be both limited and short.

The problem was that the commanders could only be moderately sure that their plan would work. Apart from the effort required to disable Mr Kim's air defences, an almost complete dearth of reliable human intelligence meant that there might be secret nuclear sites that were not on the target list. Add to that North Korea's extraordinarily mountainous terrain and its tunnelling skills, honed over the past 60 years, and there was a good chance that some nuclear facilities would remain intact. In addition, missiles on mobile launchers could be hidden deep in caves.

An air of superiority

Therefore, rather than press ahead with OPLAN 5015 immediately, American commanders decided that they should bring at least another 500 tactical aircraft into the theatre, both from carriers and from bases in America. They would be needed to maintain the sortie rate required to destroy North Korea's air defences and then hit all the other targets, including both the ones that were already identified and also others that would emerge. Although it might take a few weeks, it would signal to North Korea the seriousness of their intent and might persuade Mr Kim not to press ahead with a wider attack.

Mr Kim was aware that time was against him. At this stage, he too hoped to avoid an all-out war, which beneath his usual bombast he knew he might lose. But the build-up of forces in the South, especially the rapidly increasing airpower that would soon allow his adversary to launch a pre-emptive attack against his most important weapons, convinced him that he had to fire a powerful warning shot of his own.

With over 14,000 artillery pieces, about 1,000 of them positioned in caves and bunkers within range of Seoul, he could do a lot of damage quickly. But unleashing the kind of barrage that his regime had threatened in the past would take him rapidly past the point of no return. He also had to decide how much of his long-range artillery force of 170mm guns and both 240mm and 300mm multiple-rocket launchers he was prepared to expose at this stage to counter-battery fire from the South. He therefore opted for a limited salvo that would last under an hour before pulling back his artillery to positions where it would be less vulnerable.

His message to Mr Trump was that this

was just a taste of what South Korea and its allies could expect if he continued with his aggressive war plans. It failed to have the effect that Mr Kim was hoping for. Despite hints that he might stop there, with several thousand civilian and military casualties already sustained, American and South Korean commanders had to take action in case this was just the prelude to an all-out artillery barrage.

Based on attempts to model the effects of such an attack, they believed that in just a few hours up to 100,000 people would be killed in Seoul and perhaps many more if they did not act fast. That meant putting OPLAN 5015 into action immediately and with it a warning directly from Mr Trump to Mr Kim that, if he launched a missile believed to be carrying a nuclear warhead, he could expect a swift and devastating nuclear response that would "remove him and his country from the map."

The ferocity of the initial assault stunned Mr Kim. Large parts of his massive but technologically crude military infrastructure started disappearing. Tank divisions he had ordered south were sitting ducks in the narrow valleys they were forced to pass through. Any artillery that had been left in the open was being systematically destroyed by witheringly accurate counter-battery fire. Missile launchers supposedly hidden in caves were being pulverised by huge bunker-busting bombs. Twice Mr Kim had narrowly avoided being blown apart himself, when bombs had hit command bunkers minutes after his departure.

Faced with the imminent destruction of his regime, Mr Kim decided to go down fighting. The artillery he had held back

began its bombardment of Seoul. A number of the shells and rockets had chemical warheads. Special forces already in the South were ordered to release poison gas in populated areas. Rumours rapidly spread of the use of biological weapons.

Most fatefully, Mr Kim, realising that his time would soon be up, had made up his mind to launch what remained of his nuclear arsenal. He cared little about the consequences either for his enemies or his own long-suffering people. He lived just long enough to know that neither of his two ICBMs had left its launch pad and three Musudan intermediate-range missiles, aimed at Tokyo and the American base at Okinawa, had been shot down by Patriot batteries in Japan before they could reach their targets. The new THAAD system and Patriot interceptors in South Korea had taken care of several medium-range Pukguksong-2 missiles. But to his satisfaction, two short-range missiles, hidden like needles in haystacks among multiple salvos of conventionally armed rockets, had got through to Seoul.

The price of defeat

The initial death toll was put at 300,000, but the effects of radiation would mean that many more would die in the months ahead, including large numbers of American civilians and service personnel. Mr Trump was advised that he had no option other than to retaliate with a nuclear strike on the North. The decision was taken to use America's latest nuclear bomb, the guided B61-12, dropped by a B2 stealth bomber. It was both highly accurate and could have its explosive power dialled down to reduce civilian casualties and fallout. At least that was the hope.

After four had been dropped, North Korea's war was over. Mr Kim and most of his high command had been vaporised in their bunkers, his missile force and nearly all his artillery had disappeared. Despite the use of relatively low-yield weapons, military casualties were in the hundreds of thousands. Over a million people were trying to leave Pyongyang, the capital, in case of further attack. With order breaking down and food supplies getting scarce, China found itself facing a humanitarian catastrophe on its border. It claimed that lethal radioactive material was being blown into Chinese cities by disrupted weather.

Nobody knew how an appalled President Xi would respond. The shock sent stockmarkets across the world reeling, foreshadowing a global recession to come. Mr Trump, however, was undaunted. He tweeted: "Nuke attack on Seoul by evil Kim was BAD! Had no choice but to nuke him back. But thanks to my actions, America is safe again!"





Politics in Pakistan

A Nawaz-shaped hole

ISLAMABAD

Who will fill the void left by the courts' ejection of the prime minister?

A COUPLE of days before Nawaz Sharif was forced to step down as prime minister of Pakistan, his most vehement critic, Imran Khan, a former cricket star turned politician, asserted to *The Economist* that Mr Sharif had spent his life rigging the system. Hell, Mr Khan complained, when they used to play cricket together as young men in Lahore, at the Gymkhana Club, Mr Sharif somehow made sure that the umpire cried foul any time he appeared to have been bowled out.

Given Mr Sharif's reputation for canniness, it is a mystery why, following the publication in 2016 of papers leaked from a Panamanian law firm, Mossack Fonseca, he went into bat so nonchalantly to save his own political career. The leak ended up bringing him down and threatens the survival of his political dynasty. The papers suggested that Mr Sharif's children had amassed valuable assets abroad, including four apartments in an expensive area of London, that seemed unaffordable given his stated income.

Mr Khan seized on the papers, relentlessly demanding that the Supreme Court pursue the matter as the family kept changing its story and as inconsistencies in its account grew. The court first formed a special task-force to look into the allegations, which duly produced a damning report. On July 28th the court instructed the National Accountability Bureau, an anti-corruption body, to bring a case against Mr

Sharif based on the report's findings. But it also ruled that Mr Sharif was no longer fit to be prime minister. He stepped down on the same day, leaving Pakistan's politics in turmoil before a general election due within a year.

To Mr Khan, the Supreme Court has shown courage and wisdom, but that view is self-serving. You do not have to believe Mr Sharif to be a model of probity to think that the court overstepped its bounds in its pursuit of him. Other politicians are fingered in the "Panama Papers", including in Mr Khan's Pakistan Tehreek-e-Insaf party, or PTI, but they have not been pursued with the same relish. The court included two soldiers in the task-force it created to investigate Mr Sharif, laying itself open to accusations that it was doing the army's bidding (the generals helped oust Mr Sharif as prime minister twice before, in the 1990s). And it ejected him without ruling on the nub of the case against him.

Very fine print

The court's grounds for Mr Sharif's dismissal were narrow in the extreme. They had to do with a family company in the United Arab Emirates, formed when Mr Sharif was in exile. Mr Sharif, the judges said, should have declared his income as chairman on election forms—even though he had not drawn it. That, they ruled, disqualified him under a clause in the constitution, inserted during one of Pakistan's

Also in this section

18 Another term for PNG's PM

18 India's ruling party on a roll

19 The Philippines' war on drugs

Banyan is away

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several periods of military rule, that insists that leaders uphold Islamic virtues and be "sagacious, righteous and non-profligate, honest and upright". The precepts are so broad as to be meaningless—and wide open to abuse.

Yet Mr Sharif has accepted the outcome, and in doing so has probably forestalled greater turmoil. Indeed, it is not clear that he believes himself to be down and out. After all, his party, the Pakistan Muslim League-Nawaz, or PML-N, still holds a majority in parliament. Mr Sharif has installed a loyal placeman, Shahid Khaqan Abbasi, previously the minister for natural resources, as interim prime minister. Meanwhile, a path is being cleared for Mr Sharif's younger brother, Shahbaz, chief minister of the province of Punjab, the family's power base, to enter the lower house of parliament, and then be made prime minister. That will keep the job in the family. For how long is another matter. Nawaz Sharif had seen his daughter, Maryam, as his successor, but she is now besmirched by the Panama saga. A degree of rivalry exists between Nawaz and Shahbaz, who wants the succession to pass to his son.

There have been many predictions that MPs from PML-N will jump ship en masse, fearing that they will go down with the Sharifs. That looks premature—and not only because Nawaz's allies think he may find a way to survive. The PML-N remains broadly popular with swathes of Pakistanis for having governed relatively well since returning to power in 2013, not least by starting to resolve the country's dire electricity shortages, and by securing Chinese participation in vast infrastructure projects. Optimism over the economy has grown by leaps in the past four years (see page 54), even though the outlook is now souring somewhat. What is at stake in this ➤

▶ political crisis, says Ahsan Iqbal, the planning minister, is the economic turnaround. Voters may yet agree with him.

Meanwhile, Mr Khan has yet to convince many Pakistanis that the PTI is ready for power. It appeals to the young, urban and educated and has made a decent fist of governing the province of Khyber Pakhtunkhwa. But to gain national power it would have to recruit dozens of "electables", MPs commanding huge vote banks in Punjab, the richest and most populous province. Even if it succeeded, that would tarnish PTI's claims of probity—its chief selling point.

Much hinges on what other parts of the government do now. Should the Supreme Court—with a history of activism and even, some say, a "Messiah complex"—choose to go after almost the entire political class, there would be few civilian politicians left to govern. Even Mr Khan has been hauled into court accused of making faulty declarations of assets as a candidate, just like Mr Sharif. For now, lawyers close to the court predict it will shrink back into its shell after such a consequential verdict as this one.

As for the army, few suggest that it is about to intervene directly in politics, as it often has in the past. That is certainly a mark of progress. But it was not shy to confront Mr Sharif whenever it felt he was muscling in on what it considers its turf, most notably relations with India. It will presumably be even more assertive with Mr Abbasi and the younger Mr Sharif. In the meantime, the army may be happy not to have to clear up the current political mess. Only voters can do that. ■

Elections in Papua New Guinea

Continuity, not stability

A chaotic vote yields a second term for the prime minister

MARAUDING supporters went on the rampage with bush knives, candidates were imprisoned and kidnapped and police stations were burned during the six-week vote and count in elections in Papua New Guinea (PNG). On August 2nd the incumbent People's National Congress party finally declared victory and Peter O'Neill was returned as prime minister for a second five-year term. But the violence augurs ill for the country's stability.

The chaotic campaign reflected enduring problems in the political system. Most politics in PNG is local: the population of 7.6m people speak nearly 850 languages. Fully 44 parties took part and many candidates ran as independents. All three mem-



O'Neill triumphant

bers of the Election Advisory Committee, a government body supposed to monitor election proceedings, resigned in early July because, they said, they had not been given enough information to do their work. One MP who was standing for the ruling party was imprisoned for inciting unrest in his township that left three people dead. There were allegations of irregularities at the central level too, with reports of ballot papers being funnelled to the incumbent party. Patilias Gamato, the electoral commissioner, acknowledged that there were grave problems with the electoral roll and the conduct of officials.

Mr O'Neill took office in 2011 promising a crusade against corruption, but did little to clean up politics. He disbanded the anti-graft task-force he had set up when it started to investigate him. During the campaign there were numerous reports of election officers taking bribes to help particular candidates or favouring relatives. In Port Moresby, the capital, a returning officer appeared on TV in a dingy hotel room surrounded by heavies to announce the winning candidate in his district at the same time as his deputy declared the true victor to be Sir Mekere Morauta, a former prime minister who had come out of retirement to oppose Mr O'Neill. Rival camps attempted to whisk away new MPs as they arrived at the airport from the provinces.

In spite (or perhaps because) of such shenanigans, politics in PNG appears to be growing more stable than in the past: in the 1980s and 1990s no government even survived a single term, much less won re-election. Over the past decade the commodities boom has filled government coffers and eased the task of building and maintaining fragile, if fractious, coalitions. Since 2009 ExxonMobil and its partners have invested \$19bn in a liquefied natural gas pro-

ject in the southern highlands, the biggest private-sector investment in PNG's history.

Local themes drowned out national ones during the campaign. But the country faces big problems. The violence before and after the election reflects deep social rifts, particularly in the highlands, which are riven by tribal conflict. A fiscal crisis is also looming. Economic growth fell from 13% in 2014 to just 2% last year, according to the Asian Development Bank, and government debt has been rising fast. This is largely due to the falling price of natural gas, PNG's main export. Its timber industry faces renewed scrutiny too: several foreign companies recently suspended sales of products made from Papuan wood over concerns about illegal logging and rampant deforestation.

Mr O'Neill now has 18 months before the opposition can call a vote of no confidence—but they will be far from calm. He was elected by 60 votes to 46, a smaller majority than is typical (the vote had to be delayed when two men turned up purporting to represent the same constituency). Most MPs are first-timers and in hock to a small number of influential figures. Mr O'Neill is also likely to face challenges in court over the tempestuous election that returned him to office. ■

Politics in India

Gobble them up

DELHI

The ruling party is on a roll

THERE may not have been any elections for a few months, but the Bharatiya Janata Party (BJP) of India's prime minister, Narendra Modi, is still winning control of state legislatures. Last week Nitish Kumar, the chief minister of Bihar, who took office at the head of a coalition formed to stop the BJP, jumped ship—to join his erstwhile enemies in a new coalition. Members of the feckless Congress party, which dominated Indian politics until a generation ago, are turning coat, too.

This week Congress's 44 members of the legislature of Gujarat, Mr Modi's home state, holed up in the Eagleton Golf Village, a posh resort near Bangalore, the capital of Karnataka, the last big state still controlled by Congress. A party leader says they were fleeing an attempt by the BJP to coerce them into changing sides by means of "muscle power". More likely they are being protected from "money power" intended to induce them to defect, as five of their colleagues did last week. The inmates at the Eagleton are free to use the sauna and the tennis courts, but not their smart-►

phones. In southern India they call this "resort politics". At least 100 state legislators from the ruling party in Tamil Nadu were sequestered at the Golden Bay resort near Chennai, the state capital, for 13 days earlier this year, in the middle of a leadership struggle.

Even in Karnataka Congress's Gujarati contingent felt the long arm of the national government. On August 2nd income-tax agents raided the Eagleton, keen to catch a Congress man with undeclared assets. If they survive their week between the pool and the buffet, the 44 must return home on August 8th to help pick three members of the upper house of India's parliament. Two of the seats are bound to go to the BJP, but Congress hopes to retain the one occupied by Ahmed Patel, a party grandee.

Whether or not he hangs on, his party has little chance of unseating Mr Modi in the next national elections, in 2019. After Mr Kumar won Bihar in 2015 in an alliance with Congress, he looked like the one leader who could conceivably beat Mr Modi in a national contest. At any rate, the BJP's defeat in Bihar was by far its biggest electoral setback since Mr Modi became prime minister in 2014. Mr Kumar enjoys a reputation for probity, an appealingly humble caste background and a record of getting things done. Last month Rama-chandra Guha, a prominent historian, suggested that only Mr Kumar could save Congress, by joining it and displacing the dynastic leadership of the Gandhi family.

Instead Mr Kumar, who has castigated Mr Modi for Hindu-supremacist bigotry, has thrown his lot in with the BJP. He believes the prime minister is bound to win another five-year term in 2019. What with gargantuan Uttar Pradesh, where the BJP won a state election in a landslide in March, and now Bihar, almost all the biggest states are under the party's control. The BJP has also managed to form coalition governments in smaller states, such as Goa and Manipur, where Congress actually won more seats than it did. Just five of the 29 states are under Congress's control now, three of them specks on the map.

Anti-incumbency had been considered

the norm in Indian politics. Yet the BJP seems to be marching towards single-party dominance. Control of national agencies, including the federal police and taxmen, comes in handy. So does money. Despite its avowed desire to reduce the role of cash in politics, Mr Modi's government recently relaxed restrictions on corporate donations to parties, which may now collect them without limit and without public disclosure. There is an anti-defection law intended to prevent a rich party from buying the support of members of the opposition,

but it is woefully ineffective.

The BJP is eyeing other states. It was the legal troubles of a senior member of Mr Kumar's coalition in Bihar that gave him an excuse to switch sides; an investigation of Naveen Patnaik, the chief minister of the state of Odisha for 17 years, may present a similar opportunity. Some members of Mr Patnaik's party may be itching for a better offer from the BJP. There is even talk of the BJP broking peace between the warring factions of the party that runs Tamil Nadu, to resort-owners' dismay. ■

The Philippines' war on drugs

Narco-consternation

MANILA

A police raid kills a mayor and much of his family

ARMED police raid the base of a narcotics kingpin masquerading as a civic leader and are met by a hail of gunfire, which they return, killing the gang boss and his thugs—Filipinos see such fare at the cinema and in television dramas all the time.

In essence, that is also the official version of events that unfolded in Ozamiz, a city on the southern Philippine island of Mindanao, on July 30th. It was just the sort of action voters expected to see lots of when they made Rodrigo Duterte president last year, after he vowed to wage war on drugs. Instead, they have mainly witnessed vicious skirmishes in slums that leave addicts and petty pushers dead at the hands of the police or murderers unknown.

The police say that in the middle of the night, officers with warrants to search for illegal drugs and firearms raided properties belonging to the mayor of Ozamiz, Reynaldo Parojinog, or his relatives. Armed men at the mayor's house opened fire at the raiding officers, they claim, starting a gun battle. Mr Parojinog, his wife, two of his siblings and 11 other people were killed, but no policemen. The mayor's daughter, who is the vice-mayor of Ozamiz, and one of his sons were arrested. Firearms and illegal drugs were seized, the police say.

The mayor's name is on a list of officials whom Mr Duterte suspects of threatening the fabric of the nation by dealing in illegal drugs, mainly methamphetamine. Mr Parojinog denied that he was a narco-politician. But the mayor knew his family's reputation put him in the police's sights. Mr Parojinog's father was the first boss of the Kuratong Bale-leng gang, a private army given weapons by the security forces in the 1980s to fight communist guerrillas on Mindanao. The gang later turned to crime, prospering through robbery, kidnapping and drug-



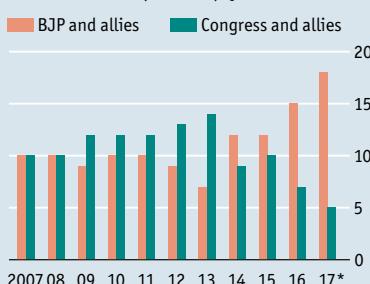
The minority view

running. After his father and elder brother met violent ends, Mr Parojinog became head of the family, which turned to local politics. It showered wealth on voters in and around Ozamiz to win office and, cynics claimed, to make it awkward for the authorities to pursue them.

Many voiced scepticism about the police's account of the Ozamiz raids. Human Rights Watch, an NGO, asked why security cameras at Mr Parojinog's house were put out of action, and said the vice-mayor had accused the police of planting the drugs found. But Mr Duterte scoffs at defenders of human rights, arguing that it is the drug dealers who show little respect for humanity. The president was himself formerly the mayor of a city on Mindanao, an island tormented by violence committed by communist insurgents, Muslim separatists, jihadist terrorists, common criminals and the security forces. A recent opinion poll found that 82% of Filipinos approve of Mr Duterte's performance as president, suggesting that they share his view.

No competition

India, states held (out of 29), year end



Sources: Election Commission of India; press reports; *The Economist*

*At August 1st



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The armed forces

Shrinking and flexing

BEIJING

One of Xi Jinping's biggest reforms enters a new phase

EIGHTEEN helicopters land with a roar at Zhurihe, a military base in Inner Mongolia. Troops pour onto the endless prairie in a mock airborne assault, marking, said *China Daily*, a state-owned newspaper, “the first time the People’s Liberation Army had presented fighting manoeuvres in a parade” (troops usually just march up and down). Looking on, in combat fatigues, was China’s president, Xi Jinping. The occasion was the 90th anniversary of the founding of the PLA on August 1st. The event signalled a new phase in China’s biggest military shake-up for half a century. That shake-up is a case study in Mr Xi’s style of modernisation, and may hold lessons for reform in other areas.

The PLA is officially the armed wing of the Communist Party. For years its main jobs were to keep order at home and protect against an invasion across the border with the Soviet Union. Now Mr Xi wants it to project force abroad, requiring joint operations with the navy, air force and other services. As a government white paper put it in 2015, “the traditional mentality that land outweighs sea must be abandoned.”

Mr Xi took his first and biggest step towards cutting the army down to size in 2015, when he changed the PLA’s command-and-control system. Out went an organisation based on seven regions aimed mostly at controlling the domestic population. In came five more outward-looking

“theatre commands”, which are designed to assert China’s authority in, say, the South China Sea, as well as Tibet. Mr Xi also announced that the PLA would be trimmed by 300,000 troops, to 2m, less than half the number of 1980 (see chart).

This year Mr Xi has initiated a second phase of the shake-up, which the Chinese call “below the neck” reform, affecting combat troops, mid-ranking officers and operational units. In April the defence ministry announced that five “group armies”, or army corps, would be disbanded, cutting the total to 13 (a group army has roughly 50,000 troops). The PLA, the ministry said, is being reorganised into 84 units, although it did not say how these differ



Also in this section

22 Keeping out foreign rubbish

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from what existed before. The PLA is also turning its divisions (roughly 10,000 troops) into brigades, which are smaller and in theory operationally more flexible.

At the same time Mr Xi has overseen a big expansion in “new-type combat forces”, especially mobile ones. Last year the PLA took delivery of its 1,000th helicopter, amid much fanfare. Twenty years ago, the PLA had little more than 100 helicopters, mostly for transport. Since then the number of aviation units has doubled to 14 and hundreds of attack helicopters have been deployed. The parade at Zhurihe showed an aerial-assault unit in operation for the first time. (America’s armed forces still have four times as many helicopters as China’s.)

By the same token, until 2015 the navy had about 12,000 marines. This year there have been reports of plans to increase the number to 40,000 (it is not clear by when). In the mid 2000s the PLA had only seven units of special-operations forces, the equivalent of America’s Green Berets or Navy SEALs. By January that had risen to 11.

These changes have three aims. First, to create a more mobile PLA capable of projecting force abroad, not just defending the mainland. On August 1st China opened its first foreign base, in Djibouti in the Horn of Africa (though the PLA describes the outpost merely as a “support facility”). The second aim is to reduce the army’s dominance. In January a vice-admiral took over one of the five new theatre commands—the first non-army officer to run one of these commands, but presumably not the last. The third aim seems to be to make military training more realistic, something that is needed as higher-tech weapons are deployed. Each group army used to have very different capabilities. But as Dennis Blasko, a PLA-watcher who writes for the ►

► Jamestown Institute, an American think-tank, points out, all the group armies disbanded this year lacked either a helicopter force or a special-operations force, or both. Those that remain all have such units—a step towards a more standardised and modern fighting force.

There is a paradox here. The Communist Party's power has always been based on the fact that the PLA is not a normal army. It is the party's armed force, not a national army pledged to defend the state. This week's parade reiterated this Maoist dogma. (The troops even addressed Mr Xi as "Chairman", a term rarely used in politics since the death of Mao Zedong.)

Hence, along with encouraging a more professional force, Mr Xi has also boosted the institution by which the party governs the PLA, the Central Military Commission. In 2015 the commission took on many jobs previously handled by military headquar-

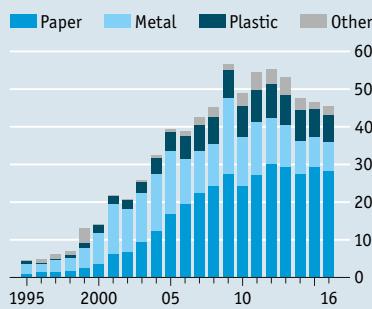
ters, such as supervising logistics. This year its general office has been upgraded further: instructions from it have been given the status of military regulations.

These reforms seem to follow a template Mr Xi also used with the Communist Party and state-owned enterprises (SOEs). He begins by criticising the institutions, calling the party corrupt, SOEs inefficient and the PLA unsuited to high-tech warfare. Then Mr Xi reorganises the top brass in order (he says) to break down opposition from vested interests. Then he moves on to the lower-ranking bodies, while tightening his own control.

The difference is that these changes have gone much further in the military realm than with the party or SOEs. Many observers have questioned whether Mr Xi will be able to impose more reforms on the party or SOEs. If the PLA is any guide, he will certainly try. ■

Junk bond

China, waste imports, tonnes m



mercury. In 1996 factories in Xinjiang inadvertently imported more than 100 tonnes of radioactive metal from Kazakhstan. The following year an American businessman was convicted of smuggling over 200 tonnes of unsorted rubbish labelled as waste paper. Even when the intended material is imported, it is often recycled improperly. In 2002 the authorities faced widespread criticism after a documentary showed workers in Guangdong province crudely dismantling discarded electronic devices and dumping the toxic remains into a river. Officials may have been spurred into the latest restrictions by the release of *Plastic China*, an unflattering documentary about the plastic-recycling industry which was screened at Sundance, a grand American film festival, in January.

The government had already been campaigning to block imports of illegal and low-quality waste under a crackdown called Operation Green Fence launched in 2013. Customs officials have ramped up inspections of scrap metal for circuit boards, plastic for syringes and other medical waste, and waste paper for plastic or wood. Since then, China's imports of waste have fallen sharply (see chart).

Whereas Green Fence was aimed at improving the quality of imported waste, the government's latest move bans several types of waste outright, threatening some \$5bn in trade. The Ministry of Environmental Protection says the ban will cut pollution. But most of the waste consumed by China's recycling industry comes from domestic sources, not imports, notes Joshua Goldstein of the University of Southern California: "This is not really where the problem lies." Indeed, recyclers who rely on imports may now switch to grubbier domestic stock.

"This is going to be very hard on our industry," says Adina Renee Adler of the Institute of Scrap Recycling Industries. As it is, Operation Green Fence has put lots of small recyclers out of business. Exporters will suffer too. Derek Kellenberg of the University of Montana says, "My suspicion is that the lower-quality stuff is more likely to end up in a landfill." ■

Waste management

Anti-dumping

The latest crackdown on foreign rubbish will disrupt the global garbage trade

CHINA dominates international trade in many goods, but few more than waste for recycling. It sucked in more than half the world's exports of scrap copper and waste paper in 2016, and half of its used plastic. All in all, China spent over \$18bn on imports of rubbish last year. America, meanwhile, is an eager supplier. In 2016 nearly a quarter of America's biggest exporters by volume were recyclers of paper, plastic or metal. Topping the list was America Chung Nam, a California-based supplier of waste paper which last year exported a whopping 333,900 containers, almost all of them to China.

This may soon change. On July 18th China told the World Trade Organisation that by the end of the year, it will no longer accept imports of 24 categories of solid waste as part of a government campaign against *yang laji* or "foreign garbage". The Ministry of Environmental Protection says restricting such imports will protect the environment and improve public health. But the proposed import ban will disrupt billions of dollars in trade. Recyclers worry that other categories of waste may soon receive the same treatment.

Imports of rubbish have helped feed China's voracious appetite for raw materials. It is often cheaper to recycle scrap copper, iron and steel, as well as waste paper and plastic, than to make such materials from scratch, especially when commodity prices are high. So as commodity prices

rose during the 2000s, the burgeoning trade in waste benefited both exporters, who made money from previously worthless trash, and importers, who gained access to a reliable stream of precious feedstock. Between 1995 and 2016 Chinese imports of waste grew tenfold, from 4.5m to 45m tonnes.

But imports of recyclable waste are often dirty, poorly sorted or contaminated with hazardous substances such as lead or



No longer fantastic



The revolving White House door

Though Mooch is taken, Mooch abides

WASHINGTON, DC

A new chief of staff aims to bring order to a chaotic White House. Good luck

ANTHONY SCARAMUCCI'S tenure as White House communications director lasted just ten days—shorter than anyone other than the German-born John Koehler, whose admission that he took part in a Hitler Youth programme he described as “the Boy Scouts run by the Nazi Party” triggered his resignation about a week after Ronald Reagan had appointed him. Mr Scaramucci was also the last of three White House aides to leave in ten tumultuous days. Sean Spicer resigned as press secretary rather than report to Mr Scaramucci who, unlike Mr Spicer, had no previous experience in political communication. A week later President Donald Trump replaced Reince Priebus, the chief of staff, with John Kelly, a retired Marine general who had been serving as homeland security secretary.

Many in Mr Trump's orbit have welcomed all three departures. Mr Trump likes relatives and people personally loyal to him, while Messrs Spicer and Priebus rose through Republican Party ranks. Mr Priebus, a dogged, earnest Wisconsinite who last autumn allegedly pressed Mr Trump to drop out of the presidential race after an old tape surfaced of him bragging about grabbing women's genitals, never won Mr Trump's respect. Mr Spicer had ceded press-briefing duties to his deputy, Sarah Huckabee Sanders; he reportedly grew tired of Mr Trump's needling. The presi-

dent's son-in-law and daughter, Jared Kushner and Ivanka Trump, suspected both men of insufficient loyalty.

Mr Scaramucci was a much Trumpier figure—a nattily dressed, self-made millionaire from Long Island just as brash and inexperienced as his boss. Unfortunately, he was spectacularly bad at his job. Most communications directors operate behind the scenes, working out how best to craft the president's message and rally support. Mr Scaramucci gave an interview to a *New Yorker* reporter in which he called Mr Priebus, who was nominally his boss, “a fucking paranoid schizophrenic” and claimed Steve Bannon, Mr Trump's paleo-conservative chief adviser, performed a physically unlikely act of self-pleasure. Mr Kelly was hired to bring discipline and order to a leaky, fractious, chaotic White House; few were surprised when he got rid of Mr Scaramucci just hours after being sworn in. But from here his mission gets harder.

Kelly's slate

Mr Kelly comes from one of the only two groups of people the president seems to respect: billionaires and generals. He has experience dealing with Congress: he was the Marines' liaison to the House of Representatives for four years in the late-1990s, a perch from which he saw up close Newt Gingrich's tumultuous reign as Speaker of the House of Representatives, and was

Also in this section

- 24 Will Republicans cut taxes?
- 25 Affirmative action at the Ivies
- 25 The maternal-mortality mystery
- 26 Trusting in Trump
- 27 Gangs and immigration
- 28 Lexington: Jeff Flake

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also legislative aide to the Marines' commandant in the mid-2000s. And he has run a large, unwieldy organisation as head of the US Southern Command, which oversees all American military activity in Central and South America.

Whereas Mr Trump used to belittle Mr Priebus, he has given Mr Kelly traditional chief-of-staff authority. Ms Sanders affirmed that senior White House officials, including Messrs Kushner and Bannon, will report to him rather than to the president, as was the case under Mr Priebus. Mr Kelly's ascent may have empowered other generals in the administration. This week H.R. McMaster, the national-security adviser, sacked Ezra Cohen-Watnick, the senior director for intelligence, who he had tried and failed to fire in March.

How long that authority will last is unclear. Mr Trump encourages factionalism and competition among his underlings. In the Marines Mr Kelly could punish the insubordinate. Will he be able to do the same to recalcitrant aides—especially those such as Mr Kushner and Ms Trump, who are also family? Mr Kelly will certainly not be able to get Mr Trump to cede control of his Twitter account, and message discipline only goes so far when the messenger himself is undisciplined. “The problem,” says Peter Wehner, who worked in the previous three Republican administrations, “is fundamentally in the disordered mind and personality of President Trump.”

After six months in office, Mr Trump still does not have a big legislative achievement, despite Republican majorities in both houses of Congress. That is less the fault of leakers or an undisciplined White House staff than unsquareable policy circles (Republicans who believe the government should get out of the health-care business will never agree with those who ➤

► view health care as a right) and an increasingly poisonous relationship with congressional Republicans.

In the wake of his health-care defeat, the president has harangued Republican senators on Twitter. John McCain took to the Senate floor to remind his colleagues, "We are not the president's subordinates. We are his equal." Mr McCain's fellow-Arizonan in the Senate, Jeff Flake, has released a book about the danger that Trumpism poses to conservatism (see Lexington). Perhaps Mr Kelly will be able to smooth some ruffled feathers, but the chorus of complaints sounds less like bruised egos than long-standing private distaste for Mr Trump at last coming into the open.

Mr Trump's attempts to govern via Twitter do not help. On July 26th, for instance, he tweeted that the armed forces "will not accept or allow transgender individuals to serve in any capacity." But he did not consult military chiefs or the secretary of defence, and released no implementation plan. The generals said they would not enact his order without guidance on how to implement it.

The president's Twitter attacks on Jeff Sessions, his attorney-general, with whom he is furious for recusing himself from Russia-related investigations, have quietened down for the moment. They provoked outrage from some usually supportive commentators, as well as Mr Sessions's former colleagues in the Senate.

Ms Sanders denied rumours that Mr Sessions would move to the now-vacant post of homeland security, which would allow Mr Trump to appoint a more compliant attorney-general. Lindsey Graham, a Republican senator from South Carolina, warned of "holy hell to pay" if Mr Sessions is fired, while Chuck Grassley, who heads the Senate Judiciary Committee, warned that no new attorney-general would be confirmed this year. The transgender ban, attacks on Mr Sessions and high-handed treatment of Republican legislators all came from Mr Trump himself.

Most alarming for anyone hoping that Mr Kelly can right the ship is Mr Trump's habit of disregarding advice. On July 31st the *Washington Post* reported that last month he defied his counsellors and lawyers to dictate personally a misleading statement about a meeting with a Russian lawyer released under his son's name. (Mr Trump's lawyer denied the report, but Ms Sanders said Mr Trump "weighed in as any father would".) That evinces not poor staff control, but Mr Trump's questionable political, strategic and moral instincts.

Throughout Mr Trump's campaign and presidency, supporters have said he would soon moderate his behaviour. It never happened: Mr Trump is who he is. Mr Kelly may successfully impose order on the lower ranks. But even the best generals cannot discipline their commander-in-chief. ■

Tax cuts

Don't hold your breath

WASHINGTON, DC

Cutting taxes sounds easy. It isn't

STEVE MNUCHIN, the treasury secretary, once expected to have passed tax reform by now. The Republicans' tortuous and ultimately doomed struggle to reform health care put paid to that goal. Yet the Trump administration still promises to cut taxes in 2017, and Republicans in Congress are desperate to show that their control of the legislature is worth something. On July 27th leaders from Congress and the White House announced they had agreed on the "principles" of tax reform. Four days later, the White House set out an "aggressive" timetable to pass a bill through the House in October and the Senate in November. Yet Republicans are not as united as they seem on tax policy. Their plans will probably go the way of Mr Mnuchin's earlier schedule—and could even meet the same fate as their health-care bill.

Tax "reform" is probably a misnomer. The last true reform, in 1986, under Ronald Reagan, reduced tax rates without losing revenue by eliminating swathes of tax deductions. Crucially, it was a bipartisan effort, which made it easier for Congress to take on the interest groups which avidly defend the benefits they gain from carve-outs. Despite apparent overtures from both sides, there is little serious hope of cross-party co-operation this time, because Democrats would extract too high a price. For example, they insist that the wealthiest 1% of Americans must not see any tax cuts—a demand that clashes with all recent comprehensive conservative plans.

Acting alone, Republicans are unlikely

to broaden the tax base much. The administration has shown little appetite to take on the most expensive and distorting tax breaks: those for mortgage interest and employer-provided health insurance, and, for corporations, a deduction for debt interest. All three are defended by fierce lobbies. The only deduction that seems firmly in the administration's sights is for state and local taxes, which mainly benefits residents of high-tax Democratic states such as California and New York. Tax-cutters rail against the corporate-tax system for favouring particular industries. But the biggest such breaks go to domestic manufacturers and oil and gas producers. President Donald Trump seems unlikely to want either scrapped. With their new principles, the Republicans' potential tax base actually shrank, because they ruled out a controversial but lucrative "border adjustment" to the corporate tax, which would have taxed imports and subsidised exports.

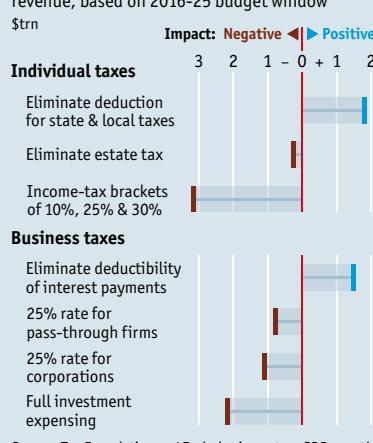
That makes a tricky task trickier. To pass a tax bill by themselves, Republicans will need firm discipline. Senate procedure allows tax legislation to pass with just 51 votes, but only once a budget is in place. Passing a budget means deciding in advance whether—and to what extent—tax cuts will be paid for. If they are unfunded, the budget must waive Senate rules preventing bills from adding to deficits (even then, unfunded tax cuts could probably only last ten years). Republicans would also need to circumvent a law, signed by Barack Obama in 2010, that triggers automatic spending cuts to plug any shortfall. These would fall on programmes including Medicare, health insurance for the old, which Mr Trump has pledged to protect.

Early drafts of the budget in the House of Representatives would not increase deficits. But fights have broken out over how to make the books balance. To pay for tax cuts, conservatives are proposing cuts to entitlement spending, worth \$200bn over a decade, that more moderate Republicans cannot stomach. As a result, the budget is already behind schedule. It could be further delayed by a row over the debt ceiling, which must be raised in October. If so, the timetable for tax reform will slip, too.

If they are constrained by a thrifty budget, Republicans in Congress will find it hard to deliver the big tax cuts they promise. Mr Trump wants all firms to pay no more than a 15% rate, to lower income taxes across the board and to eliminate the estate

Check your sums

United States, ten-year impact on government revenue, based on 2016–25 budget window*



► (inheritance) tax. Together these changes would cost over \$5trn, before accounting for their effect on economic growth, according to the Tax Foundation, a right-leaning think-tank. Abolishing the state and local deduction raises only \$1.8trn. A little more money—perhaps \$260bn—might come from taxing profits that firms have stashed overseas. Yet this would be a one-off windfall that could finance only a two- or three-percentage-point reduction in the corporate rate for a decade.

Congress could square the circle by directing budget scorekeepers to assume that tax cuts spark much higher economic growth. But although most congressional Republicans support such “dynamic scoring”, they have little appetite for completely fanciful analysis, says Andy Laperriere of Cornerstone Macro, a consultancy. A credible dynamic score would still leave a large funding gap.

The upshot is that modest, permanent tax cuts, financed by scrapping the state and local deduction, are achievable. In isolation, such a reform could even fulfil Mr Mnuchin’s pledge not to cut income tax for the highest earners (who also pay the most to state and local governments). Such a policy might be combined with temporary business-tax cuts that balloon the deficit and benefit the rich. But that would require advanced planning in the budget and a careful legislative strategy. Firms should not bank on it. ■

College admissions

POTUS v Harvard

NEW YORK

The Department of Justice targets race-conscious admissions at the Ivies

UNDER Jeff Sessions, the attorney-general, Donald Trump’s Department of Justice (DoJ) has abandoned voting-rights litigation, tried to punish sanctuary cities, cracked down on undocumented immigrants, revoked sentencing reforms and argued that civil-rights laws do not protect gays and lesbians from employment discrimination. Now the DoJ is entering the fray on affirmative action. It is recruiting lawyers to investigate a complaint that Harvard University’s pursuit of campus diversity comes at the expense of Asian-Americans.

After whites, who constitute about half of Harvard’s student body, Asians are the largest demographic group, accounting for 22% of the class arriving on campus later this month. But a lawsuit filed in 2014 by Edward Blum—architect of six race-tinted Supreme Court cases—says their share should be higher. He claims that Harvard’s



What quotas?

“holistic” admissions policy disguises “the fact that it holds Asian-Americans to a far higher standard than other students and essentially forces them to compete against each other for admission”. Harvard’s admissions policy is “a figleaf”, he says, “to hide, dissemble and obfuscate racial balancing and quotas.”

In May 2015, 64 Asian-American organisations filed a complaint to this effect with the DoJ. The 50-page document argued that Asian applicants to Harvard “have 67% lower odds of admission than white applicants with comparable test scores” and, on the SAT, need 140 more points than whites, 270 more than Hispanics and 450 more than blacks to have the same chance of getting in. The groups cited Harvard’s “remarkable” stability in acceptance rates for Asians and juxtaposed it with the group’s steadily rising share of Harvard’s applicant pool. They claim this mismatch, along with flat acceptance lines for other demographic groups, suggests that Harvard seeks “proportional representation of the various racial and ethnic groups present in Harvard’s student body”.

On August 2nd Sarah Isgur Flores, a DoJ spokesperson, said that the Obama administration had left this complaint against Harvard “unresolved” and that the civil-rights division of the office was seeking volunteers to reopen it. Ms Flores also corrected what she called “inaccurate” press reports of an internal DoJ memo that the department was about to launch an investigation of “university admissions in general”. Excerpts from the memo published by the New York Times a day earlier had suggested that the DoJ would look into and litigate “intentional race-based discrimination in college and university admissions”—a rather open-ended mission.

If the DoJ is using the Harvard suit as a first step towards a wider-ranging investigation, it will be constrained, for now, by the Supreme Court’s narrow endorsement of admissions policies benefiting blacks and Hispanics. Since 1978, the court has said that while quotas are unconstitutional, universities seeking “the educational benefits that flow from an ethnically diverse student body” may consider race.

Last year Justice Anthony Kennedy wrote the majority opinion in a case rebuffing a woman who complained that being white cost her admission to Texas’s flagship public university, where race is a modest factor in admitting a quarter of the student body. Universities are “laboratories for experimentation”, Justice Kennedy wrote. They are owed “considerable deference” in defining “intangible characteristics, like student body diversity.” But, he added, they must strive “to reconcile the pursuit of diversity with the constitutional promise of equal treatment and dignity.”

The 81-year-old Justice Kennedy, whose vote upheld race-aware admissions last year, told prospective applicants for clerkships that he is considering retirement in 2018. If he hangs up his robe, his replacement will almost certainly share the four-justice conservative bloc’s distaste for affirmative action. That means the DoJ’s campaign against racial preferences may face a friendly majority by the time its lawsuits reach the Supreme Court. ■

Maternal deaths

A painful puzzle

Is pregnancy in America much deadlier than in other rich countries?

FEW things are more tragic than the death of a woman in pregnancy or childbirth. In America, as in other rich countries, such deaths are extremely rare. An American woman is more likely to be struck by lightning than to die in childbirth. Nonetheless, 700-800 pregnant women and new mothers die each year. By some measures, America’s maternal mortality is several times higher than in rich European countries. By other measures, however, America has the same rate as Britain.

One bit of the puzzle is what counts as a maternal death. The standard definition used in international comparisons, such as those published by the World Health Organisation, is a death from complications of pregnancy if the death occurs between the time a woman becomes pregnant and six weeks after her pregnancy ends.

In rich countries, these deaths are tallied from vital-registration systems which ►

► in turn compile data from death certificates. These, however, are known to undercount maternal deaths, partly because doctors must select a cause of death from thousands of codes. They are more likely to consider the subset reserved for medical problems caused by pregnancy when the form has a checkbox asking whether the woman had been pregnant.

America added this checkbox to its standard death certificate in 2003, though it took more than a decade for all states to adopt it. It has been a mixed blessing, says Andreea Creanga of Johns Hopkins University. A recent study found that its growing use accounted for 80% of the steep rise in maternal mortality recorded in 2000-14. Although many maternal deaths that would otherwise go unrecorded are now tallied thanks to the checkbox, it is also often marked erroneously—showing recent pregnancy on the death certificates of women who died in their 50s, for example.

According to data from death certificates, America's rate is 21 maternal deaths per 100,000 live births. In Britain, which does not use the pregnancy checkbox, the rate is four to five times lower. It is a rate that British health authorities do not consider reliable.

Because death certificates do a poor job in identifying maternal deaths, some countries, including America, Britain and France, use alternative systems to track maternal mortality. These systems cast a wide net to find all deaths that might count as maternal. They gather reports from hospitals, coroners, newspapers and even tips from ordinary citizens. Experts review the medical records for all deaths that are found. Only those that are clearly a result of health problems caused by pregnancy are tallied as maternal deaths. If the chain of events that led to a woman's death started with asthma, for example, the death would be included only if the pregnancy caused the asthma or made it worse.

In America this type of detailed system, run by the Centres for Disease Control and Prevention (CDC), counts maternal deaths that occur up to a year after pregnancy. (Deaths resulting from pregnancy, such as suicides caused by post-partum depression, can strike many months after delivery.) By that measure, America's maternal mortality rate in 2011-13 (the latest period for which data have been published) was 17 deaths per 100,000 live births. Maternal deaths tallied in the same way in Britain for 2012-14 result in a mortality rate that is almost exactly the same.

Britain's system is better at detecting maternal deaths, if only because America's system relies on adding up numbers from 50 states with varying capacity for the task of collecting data. What is clear, however, is that nobody really knows just how much riskier pregnancy in America may be than in other rich countries. ■

Media matters

Fox populi

Attitudes towards the mainstream media take an unconstitutional turn

IT IS long-standing Republican tradition to deride the national media for its liberal tendencies. Despite that, the words of Lamar Smith, a Republican representative from Texas, delivered four days into Donald Trump's presidency on the floor of the House of Representatives, managed to stand out. "Better to get your news directly from the president," he told his colleagues. "In fact, it might be the only way to get the unvarnished truth." Across the country Republicans seem to be taking the edict to heart.

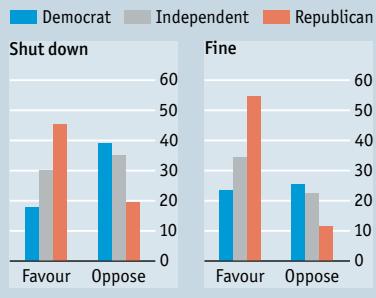
The Economist asked YouGov, our pollster, to survey 1,500 Americans about the trust they placed in the president compared with national media outlets. When Republicans were asked whether they trusted Mr Trump more than the *New York Times*, the *Washington Post* or CNN, at least 70% sided with the president each time. Less than 15% chose the media outlet (the rest were unsure).

Republicans also preferred Trump truths over the *Weekly Standard* and the *National Review*, conservative magazines with impressive intellectual pedigrees. Only with Fox News, the administration's preferred outlet, were Republicans somewhat torn: 23% said they trusted the network more, compared with 54% who stuck with Mr Trump.

Media trust was not high among Republicans to begin with. But YouGov also polled Americans in mid-October about their preferences, making it possible to measure how much their trust has eroded since Mr Trump's election. Distrust in the *Washington Post* and New

Freedom from the press

United States, "Do you favour or oppose permitting the courts to shut down or fine news media outlets for publishing or broadcasting stories that are biased or inaccurate?", % polled*



Sources: YouGov; *The Economist*

*July 23rd-25th 2017

York Times, the papers that have served up the most calorific scoops during the Trump presidency, is up by seven and nine points respectively among Republicans. The numbers for Fox News, the only outlet trusted by a majority of Republicans, were unchanged.

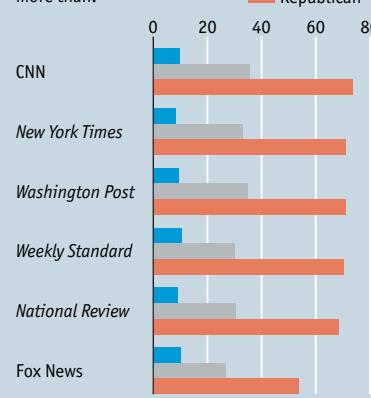
Much of that may be the work of Mr Trump's constant hammering and haranguing. The president, who reportedly watches hours of television a day, offers his 35m followers on Twitter a running media commentary, praising his flatterers and bashing his critics. Since becoming president, Mr Trump has tweeted approvingly about Fox News or its hosts 87 times—devoting as much Twitter time to the network as he has to Republican lawmakers' efforts to overhaul America's health-care system.

Many of Mr Trump's most enduring catchphrases are swipes at media companies. There have been 79 gripes about "fake news" since Mr Trump took office. He has used the insult "failing *New York Times*" verbatim 21 times. ("Amazon *Washington Post*", his latest slogan attempt, seems to be fizzling.)

Republicans now loathe mainstream media outlets so much that many say they would stoop to unconstitutional means to silence them. When YouGov asked whether courts should be allowed to "shut down news media outlets for publishing or broadcasting stories that are biased and inaccurate", 45% of Republicans were in favour, compared with 20% who opposed the measure. More than half thought it acceptable to fine an offending news outlet (and 40% thought it would not violate the First Amendment to do so).

Trump News Network

United States, % polled*
who trust Donald Trump
more than:



Sources: YouGov; *The Economist*

*July 23rd-25th 2017

Gangs and immigration

A horrible MS

LOS ANGELES

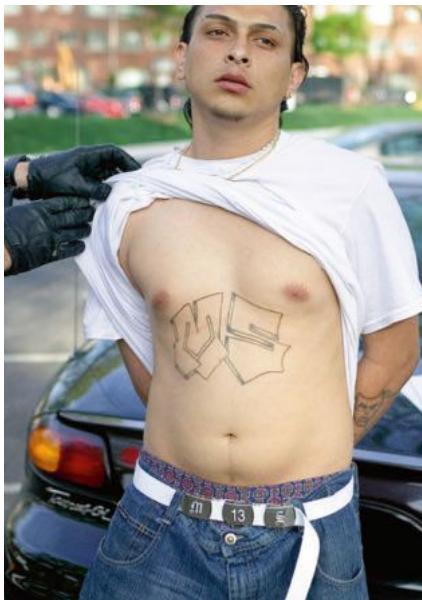
The federal government may inadvertently be helping MS-13 with its recruiting

ON THE evening of April 11th, two women associated with MS-13, a criminal gang with a large presence in the United States and Central America, lured five teenage boys to a wooded park in Suffolk County, New York, where a dozen MS-13 gangsters with nicknames such as "Anti-christ" were waiting. On their arrival, the gang members surrounded the boys, who they thought belonged to a rival gang, and attacked them with knives, machetes and wooden clubs. One of the boys managed to flee; the corpses of the other four were so badly mutilated that the police refused to show their families the murder scene.

President Donald Trump often uses MS-13 to prove the need for stricter immigration policies. Many of the gang's members in America are immigrants; some are undocumented. Their motto is "Kill, rape, and control". In a speech to police officers on July 28th in Suffolk County, a largely suburban area where MS-13 has murdered 17 people since January 2016, Mr Trump thundered: "They kidnap, they extort, they rape and they rob. They prey on children. They shouldn't be here. They stomp on their victims. They beat them with clubs. They slash them with machetes, and they stab them with knives. They have transformed peaceful parks and beautiful, quiet neighbourhoods into bloodstained killing fields. They're animals."

MS-13 is not a new threat. The gang, also known as Mara Salvatrucha, originated in Los Angeles in the 1980s when a brutal civil war in El Salvador led hundreds of thousands of Salvadorans to stream north and seek refuge in the United States. It was formed originally as a way for new Salvadoran immigrants in Los Angeles to defend themselves against the Mexican gangs that dominated the city's barrios. Deportations of MS-13 gang members beginning in the 1990s extended the gang's influence to El Salvador, Honduras and Guatemala, which now, partly as a result, have some of the highest murder rates in the world.

Over the past several decades MS-13 has also spread across America, where the Department of Justice estimates it now has more than 10,000 members and operates in at least 40 states and the District of Columbia. That makes it a large national gang, but by no means the largest. In comparison, a report by the National Gang Intelligence Centre from 2009 estimated the population of the Latin Kings, another Latino gang, to be between 20,000 and



Guilty until proven innocent

35,000. Membership of the Crips, a largely African-American gang, was estimated to be between 30,000 and 35,000.

What makes MS-13 unique is its brazenness. According to two FBI agents, Asiano Davila and Daniel Netemeyer, whereas many gangs conduct drive-by shootings to eliminate rivals, MS-13 members tend to use knives and machetes. They are swift to kill. Stephen Gunson, a deputy district attorney in Los Angeles's Hardcore Gang Division, recalls one case in which a Los Angeles man entered one of MS-13's casitas, secretive dens where the gang hawks alcohol, drugs and prostitutes. He told the MS-13 members he was the cousin of a member of the rival Playboys gang; they promptly shut down the casita, took him round the back and shot him. In 2016 in Suffolk County, MS-13 members killed two teenage girls with machetes and baseball bats after one of the girls clashed with them at high school.

Minor report

The FBI contends that, after a long period of relative quiet, MS-13 has grown more violent over the past two years, particularly in Suffolk County and around Washington, D.C. Like Mr Trump, Messrs Davila and Netemeyer partly attribute this to an influx of unaccompanied child migrants into the United States. Over the past five years, more than 185,000 such children have fled

across the border largely to escape gang violence (including from MS-13) in Central America. According to Senate testimony in May by Timothy Sini, the Suffolk County police commissioner, 4,624 unaccompanied child migrants were settled in Suffolk County from the beginning of 2014 to March 2017, making it one of the largest recipients of such young people in the country. This gave MS-13 an ample pool of rudderless teenagers, struggling with a new culture and language, from which to recruit. In testimony to the Senate Committee on the Judiciary on June 21st, Carla Provost, the acting chief of the United States Border Patrol, said that of the 250,000 unaccompanied minors apprehended at the border since 2012, 56 were suspected of having ties to MS-13.

Large populations of new immigrants also give MS-13 more potential victims to prey on. Whereas other gangs generate profits largely through drug sales, MS-13 makes most of its money through extortion. Jorja Leap, an anthropologist at the University of California, Los Angeles Luskin School of Public Affairs who studies gangs, says MS-13 targets undocumented immigrants because it knows they may hesitate to report crimes for fear of deportation. An MS-13 gangster may approach a street vendor or a prostitute and threaten to kill them unless they pay weekly "rent" money. MS-13's presence in the "Northern Triangle" of Central America allows it to gather information about immigrants' families which it can use as leverage, too. "They might threaten to kill an aunt, an uncle, a grandma back in El Salvador or Honduras," Ms Leap says.

While law enforcement officials agree that MS-13 is a problem that needs to be tackled, many are wary of Mr Trump's prescription for doing so. In his speech on July 28th the president railed against sanctuary cities, where police ignore the immigration status of the victims and suspects they interact with. To Mr Trump, such policies allow immigrants with criminal records to slip back into society and commit more offences. But some police chiefs say such policies allow them to fight MS-13 more effectively. After the Los Angeles Police Department (LAPD) busted 21 suspected MS-13 members in May, Police Chief Charlie Beck said: "MS preys on the illegal immigrant community. They extort them. They rob them. They rape them. They murder them. Without their co-operation as witnesses, none of this would be possible."

"All kids join gangs because they want to be part of the most fearsome gang, the biggest gang, the best gang," says Alex Sanchez, a former MS-13 member who now runs a gang-violence-prevention group in Los Angeles. It would be grimly ironic if, by singling out the gang in speeches, the Trump administration makes it more attractive to potential recruits. ■

Lexington | A Republican senator revolts

Jeff Flake of Arizona says Donald Trump is destroying the conservative movement



SENATOR JEFF FLAKE of Arizona has written a brave book. It states aloud a truth that other Republicans voice only behind closed doors: that the American conservative movement is in crisis. He regrets that a demagogue, President Donald Trump, has lured Republicans into a "Faustian bargain", offering power if they forget everything they believe about free trade and individual freedom, about leading global alliances against tyranny, and even about personal honour. Republicans succumbed as rapidly as a "tranquillised elephant", he writes in "*Conscience of a Conservative: A Rejection of Destructive Politics and a Return to Principle*". Now they languish in an "unconservative stew of celebrity and authoritarianism," spiced with conspiracy theories.

Bang on cue, Mr Flake's book has been denounced by Mr Trump's enablers in the world of conservative celebrity. Strikingly, such critics as Laura Ingraham, an anti-immigrant tribune reportedly sounded out for the post of White House press secretary, or Mark Levin, a splenetic star of conservative radio, do not accuse the Arizonan of exaggeration, or of muddling his priorities.

Instead they call him a de facto Democrat and a "liberal" who must be purged. No matter that Mr Flake is a lifelong disciple of Barry Goldwater, the flinty Arizonan prophet of economic freedom, whose own call to arms against an overweening central government was entitled "*The Conscience of a Conservative*". They do not care that Mr Flake spent years in Congress opposing abortion, supporting gun rights and voting for lower taxes, enraged party leaders by campaigning against "earmarks" that directed pork-barrel dollars to favoured districts. To the fist-shaking Red Guards of Trumpism, Mr Flake's crime is to argue—perhaps even to remember—that their movement once held to an enduring set of ideas. In this version of a personality cult, conservatism is whatever their Great Helmsman's most recent tweet says it is.

Mr Flake's book may cost him his job. The senator is up for re-election in 2018 and will face challengers from the hardline right and from the left (Arizona is increasingly Hispanic). Mr Trump allegedly threatened to spend \$10m of his own money to help oust Mr Flake (an empty boast, on past form), after the pair clashed over immigration, calls for a Muslim ban and other issues.

Given how much the senator has on the line, it seems churlish to argue that he is not brave enough. Alas, his new book, written

in secret in case aides tried to dissuade him, stares only half the truth in the face. Mr Flake describes a conservative universe divided in two. One half is a realm of uplifting ideas. The other is a realm of political calculation and voter rage. Rather powerfully, his book accords each realm its own landscape: rugged, sun-baked Arizona for ideas, and swampy Washington for politics. A fifth-generation Arizonan, the senator grew up on the cattle ranch founded by his Mormon ancestors. One of 11 children, he describes a state "where conditions were Spartan and life was what you made of it." He is not joking: aged five, he was swimming in the community pool when his finger—poorly reattached after an accident with farm machinery—floated away. His mother shushed his cry of "Mom! My finger fell off," rather than alarm the neighbours. The ranch exposed him to Mexican labourers, who did not always have the right papers but who "usually worked harder than we did". He brings the thought up-to-date, writing movingly about two Muslim immigrant doctors in Arizona who work tirelessly to save his father-in-law's life.

Quoting such heroes as Goldwater or Ronald Reagan, Mr Flake makes a limited government sound a bit like parents removing training wheels from a child's bicycle: a compassionate nudge towards freedom. He contrasts this with the nationalist, zero-sum visions of Trumpism, lamenting that: "Seemingly overnight, we became defined not by the limitless aspirations of a free people but by our grievances and resentments."

The senator is brave enough to admit that Republicans were losing their way before Mr Trump. Any honest accounting will, he suggests, call Newt Gingrich, the former Speaker of the House of Representatives, the modern progenitor of a conservative politics of personal destruction. Mr Flake notes how such congressional bosses as Tom DeLay shunned chances to pass bipartisan legislation, if a party-line vote would fire up the base. There are not-very-veiled swipes at the present Republican majority leader in the Senate, Mitch McConnell, for setting out to make Barack Obama a one-term president, rather than pondering how to advance conservative ideas. Mr Flake expresses horror at the moment when 47 Republican senators, led by Tom Cotton of Arkansas, wrote to Iran's mullahs to tell them that President Obama's nuclear negotiations were invalid.

Pitting "makers" against "takers"

Yet Mr Flake's contrast between conservative ideas and partisan rage is too neat and tidy. When Goldwater, his hero, lost the election of 1964 in a landslide, Republicans concluded that his problem was too honest a platform. Americans believed that Goldwater might actually cut back federal safety nets for the old, the sick and the poor. From then on, the party has carefully buttressed calls to love freedom with appeals to resent redistribution, especially to the undeserving. Reagan's speech about a high-living "welfare queen" mattered as much as sunny talk of individual liberty. Mitt Romney, a far better man than Mr Trump, told Republicans that 47% of the public were a lost cause, believing themselves "victims" entitled to government handouts. Mr Flake is correct to condemn Senator Cotton's Iran letter. But he should also remember how Mr Cotton once told voters in Arkansas that they had all seen food stamps recipients with steak in their shopping baskets, "talking on a brand-new iPhone", and heading to a brand-new four-wheel drive car. That was demagoguery, too, in defence of fiscally conservative ideas. Mr Trump is wrecking the Republican Party. But he did not invent conservative rage. ■



Venezuela

A deadly blow to democracy

CARACAS

The vote for a constituent assembly entrenches dictatorship. But the standoff on the streets will continue

IT IS to be the dawn of “a new Venezuela”, proclaimed the president, Nicolás Maduro. He was celebrating the election on July 30th of a constituent assembly, which will now become the supreme power in the country. A day later Venezuelans got a taste of what the new Venezuela might look like. Before first light, agents of Sebin, the state security agency, swooped into the houses of two opposition politicians and hauled them off to prison. Leopoldo López, the country’s most prominent political prisoner, had been transferred to house arrest in July. He expected re-incarceration: he had recorded a video urging supporters to “fight for” Venezuela, to be released when it happened. Antonio Ledezma, the former mayor of Caracas, was still in his pyjamas when agents forced him into a car. Someone took a mobile-phone video of the arrest, in which a woman can be heard screaming “dictatorship” at the abductors.

To Venezuela’s opposition, a large share of its citizens and many foreign governments, that is what Mr Maduro’s constituent assembly represents. No one believes the electoral commission’s claim that 8m Venezuelans voted to choose the body’s 545 members (see Bello). These are either regime bigwigs or people subservient to them. The assembly will be able to rewrite the constitution, delay elections and issue directives to all branches of government. The plan is for it to meet in the neoclassical edifice that houses the legislature, which is

controlled by the opposition.

The United States responded to the vote by imposing sanctions on Mr Maduro. He joins North Korea’s Kim Jong Un, Syria’s Bashar al-Assad and Zimbabwe’s Robert Mugabe on the list of leaders who are banned from visiting the United States and whose American assets are frozen. Venezuela’s biggest neighbours, including Argentina, Brazil, Colombia and Mexico, say they will not recognise the new assembly. The ambassadors of Britain, France, Mexico and Spain attended a meeting of the legislature, showing which deliberative body they regard as the legitimate one.

Apart from making Venezuela a pariah, the assembly vote is likely to change little in the short run. The country was already becoming a dictatorship. The puppet supreme court overruled acts passed by the legislature, or the government just ignored them. Now the regime is likely to increase its repression, as the re-arrests of Mr López and Mr Ledezma suggest. On the pretext of reforming the judiciary, the assembly is likely to sack the attorney-general, Luisa Ortega Díaz, a supporter-turned-critic of the regime. She denounced the assembly vote as “a mockery of the people”.

This will worsen the stand-off between the regime and its foes, which include a sprawling coalition of parties called the Democratic Unity alliance (MUD) and irate citizens. More than 120 people have died in protests since April; at least ten were killed

Also in this section

30 Temer avoids trial, for now

30 English-language papers struggle

32 Bello: Venezuela’s fantasy voting

on the day of the vote. The MUD has said that the demonstrations will continue.

The stalemate could be broken in two ways. The first would start with a ratcheting up of sanctions by the United States. So far, the Trump administration has targeted only individuals; Mr Maduro is among the 35 Venezuelans on the blacklist of the United States, which has said that it will add more names. It has also threatened to strike at Venezuela’s oil exports, either by ending purchases or by blocking transactions by PDVSA, the state-owned oil company. That would matter much more.

Oil as a weapon

Oil is virtually the only source of hard currency; the United States buys 40% of Venezuela’s exports. Although Venezuela might find other buyers, an American embargo would cut off revenues in the short run and probably force it to accept lower prices from more distant customers. That would worsen shortages of food and medicine, brought about by the leftist regime’s economic mismanagement, which have already made life close to unbearable for most Venezuelans. The problem is, such tough sanctions might hurt ordinary folk more than the fat cats in charge, who control access to dollars. They might also encourage the regime to dig in.

That will surely be the response to hints by Rex Tillerson, the American Secretary of State, that the Trump administration is aiming at regime change. On August 1st he said the United States wants to “create a change of conditions where either Maduro decides he doesn’t have a future and wants to leave of his own accord or we can return the government processes back to their constitution”. He did not say how this might happen.

The second potential game changer would be a further escalation of violence. ►

► Partisans of both sides—the armed irregulars who support the regime, called *coletivos*, and the street fighters of the “Resistencia”—are becoming more radical and less governable. Protesters firebombed police motorcycles during demonstrations against the assembly vote. A breakdown of order could provoke the army to intervene, either to defend the regime or, less likely, to restore democracy.

Mr Maduro would claim that his constituent assembly, due to convene on August 3rd, will end the confrontation in a third way, by ushering in what officials call a “new Venezuelan economy”, less dependent on oil. If Venezuelans are better fed, the fight will go out of the opposition, Mr Maduro may hope. That scenario is as believable as the official turnout figures for the farcical “election”. ■

Brazil

Round One to the president

SÃO PAULO

Michel Temer survives one corruption charge. More may follow

BRAZILIANS care little for Michel Temer, their scandal-plagued president. More than a month after the chief prosecutor, Rodrigo Janot, indicted him for accepting bribes, his approval rating stands at 5%. But Mr Temer retains support where it counts most: in congress. On August 2nd lawmakers in the lower house voted not to refer the case against him to the supreme court, which has the power to try him. A vote the other way would probably have led to Mr Temer's suspension from office. After an uproarious debate, to which anti-Temer deputies brought suitcases stuffed with fake cash, the president won a comfortable victory: 263 deputies voted against referring the case to the supreme court while

227 voted in favour. Mr Temer needed just 172 votes to block the motion.

But his troubles are not over. Mr Janot is expected to bring at least two more indictments against him, which may be put to a similar vote in the lower house. The more time Mr Temer spends defending himself, the less he will spend promoting his programme of economic reform, which is vital to stabilising the country's public finances and to sustaining Brazil's incipient recovery from its worst-ever recession.

The charge that Mr Temer fought off stemmed from evidence provided by Joesley Batista, a former chairman of JBS, a meatpacking firm, who secretly recorded a conversation with the president in March. This prompted a sting operation by police in which Rodrigo Loures, Mr Temer's former aide, was filmed receiving 500,000 reais (\$159,000) from Mr Batista's envoy. Mr Janot suspects that the cash, plus 38m reais promised by Mr Batista, was destined for Mr Temer. In return, Mr Janot alleges, the president interceded with Brazil's antitrust agency on Mr Batista's behalf. Mr Temer denies all this.

The president is nothing if not a shrewd political operator. Armed with a spreadsheet listing legislators according to whether they were leaning for or against him, he spent weeks securing support in the lower house. The savvy septuagenarian met with more than 160 of the 513 deputies and freed up 4.2bn reais to spend in legislators' home areas, according to Contas Abertas, a watchdog. Some legislators backed him enthusiastically. Wladimir Costa, a deputy from the Amazonian state of Pará, tattooed the president's name on his shoulder. Mr Temer avoided trial by a bigger margin than many analysts had expected. “Those who tried to divide us got it wrong,” he crowed after the vote.

He will now attempt to shift attention back to his economic agenda. Despite the charges against him, Mr Temer signed into law a controversial labour reform on July 13th. That has raised hopes that he can re-

form the budget-busting pension system. The real has held its value in the face of Mr Temer's legal troubles, a sign of confidence.

But confidence will be hard to maintain as the charges mount up and national elections approach in October 2018. Public opinion may begin to weigh more heavily with politicians facing re-election (Mr Temer is unlikely to run). One survey, taken before the lower house voted on the charges, found that 81% of Brazilians want Mr Temer to face trial. That will make it harder to enact the unpopular pension reform. Mr Temer will try to pass a slimmed-down version, predicts Christopher Garman of Eurasia Group, a risk-analysis firm. Much may depend on how meagre it is.

Mr Temer may well survive the congressional votes likely to be coming his way. Though angry, Brazilian voters are also weary. The president's predecessor, Dilma Rousseff, was impeached last year in part because of big protests against her. Few Brazilians demonstrate against Mr Temer. Apathy is an ally. “Muddling through until next year's election remains the likely scenario,” argued Paulo Sotero of the Brazil Institute at the Woodrow Wilson Centre in Washington. The chief prosecutor will try to prove him wrong. ■

Latin American media

Entering the morgue

English-language newspapers in Latin America are struggling

THE Buenos Aires Herald had a reputation for fearlessness. During Argentina's “dirty war” in the 1970s it was the only newspaper that denounced the disappearances of thousands of Argentines under the military regime. The editor, Robert Cox, and news editor, Andrew Graham-Yooll, went into exile. Mr Graham-Yooll wrote “A State of Fear”, a harrowing account of the descent into dictatorship. But the *Herald*, the capital's English-language newspaper, could not survive technological progress. On July 31st the 141-year-old paper said it would close.

William Cathcart, a Scot, founded the *Buenos Ayres Herald* for Britons drawn to Argentina to work on the country's expanding railways. Its first edition was a single sheet, with advertising on the front and shipping news on the back. As its coverage expanded, it sometimes scooped richer Spanish-language rivals.

It had counterparts across Latin America. Argentina's first English-language paper was the *Buenos Ayres Standard*, started by two Irish brothers in 1861; it stopped publishing 98 years later. The Daily Jour- ►



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►nal, founded by an American, served readers in Caracas from 1945 until 2008. The Peruvian Times, launched in 1908, survives in digital form. The News in Mexico City, established in 1950, still has a paper edition.

The English papers were sometimes outspoken when the Spanish-language press was censored, perhaps partly because their writers could easily take refuge in their home countries. Many British and American journalists who went on to cover the region as foreign correspondents got their start at the local English papers.

As the number of Anglophone immigrants fell, tourists and expats became the

papers' main readers. English-medium news became less necessary for visitors when the internet let them browse their hometown papers from abroad.

The *Herald* changed owners several times in the 2000s before ending up in 2014 as part of Grupo Indalo, whose owners are close to Cristina Fernández de Kirchner, Argentina's populist president until 2015. Government advertising (and dedicated journalists) kept the paper alive; its editorial line became more left-wing, but not slavishly supportive of Ms Fernández. But the government of her centre-right successor, Mauricio Macri, hit Grupo In-

dalo with a tax demand for 10bn pesos (\$570m). With estimated monthly losses of 2m pesos, the *Herald* briefly became a weekly before saying it would close.

The *Herald* and its kind are being replaced by publications run by nimbler entrepreneurs, providing information on local events mainly to tourists and expats. In Bogotá, Colombia's capital, two English-language newspapers have been founded in the past decade. The Bubble, a website based in Buenos Aires, has plans to expand to Brazil and Mexico. Today's Cathcart's are bullish. But few expect their publications to last 141 years. ■

Bello | Venezuela's fantasy voting

Nicolás Maduro emulates Latin America's bygone dictators

“IT WAS a result that was so big, so surprising,” said Tibisay Lucena, the head of Venezuela’s electoral authority, late on July 30th. She was announcing that 8m people had voted in an election for a new, all-powerful constituent assembly dreamed up by President Nicolás Maduro. In fact, it was not surprising and probably not big. A fortnight earlier the opposition had got more than 7m to vote to reject the new assembly in an unofficial plebiscite. So it was predictable that Mr Maduro’s regime would claim a higher turnout. No matter that the electoral authority’s own count—leaked to Reuters—showed that only 3.7m had voted before the polls were due to close. Many said that they did so only because they feared losing government jobs or food rations. The firm that runs the electronic voting system said it had been “tampered with”.

Vote inflation on this shameless scale is “without precedent” in Latin America, according to Carlos Malamud, a historian at the Elcano Institute, a think-tank in Madrid. To the outsider, the region may seem synonymous with electoral fraud. That has not been the case since the return of democracy in the 1980s. Recent elections have generally been free and fair, organised by independent electoral authorities and watched over by qualified observers.

Where there have been claims of fraud, they have been mainly small-scale, though that may have been enough to sway close contests. Ecuador’s opposition cried foul in a presidential election in April this year in which Lenín Moreno, the government candidate, won by barely two percentage points. In Argentina Mauricio Macri’s victory in 2015 may have been wider than the official margin of three points. But in neither case can that be proved. The opposition denounced as fraudulent Mr Maduro’s vic-



tory in Venezuela in 2013, with 7.6m votes and a margin of 1.5 percentage points. He rejected calls for an inquiry.

Since then Mr Maduro has lost his majority. The opposition won 7.7m votes in a parliamentary election in 2015, to the ruling party’s 5.6m. Venezuela’s economy continues to deteriorate. A section of the ruling chavista movement opposes the constituent assembly. To conceal popular rejection, he appears to have revived and expanded a defunct tradition in Latin America: the artificial election.

The region stands out in the developing world (and from much of Europe) for its long history of constitutionalism—the Spanish-American countries secured independence by rebelling against Bourbon absolutism. Elections were the norm since the late 19th century (though usually with restricted suffrage). Electoral fraud was the traditional means of political control. It featured stuffed ballot boxes, voting by the dead and vote-buying, notes Mr Malamud.

Such methods were not enough for outright dictators. Several, such as Porfirio Díaz in Mexico and Jorge Ubico in Guatemala, resorted to election by acclamatory

vote, without opposition. In the Dominican Republic Rafael Leónidas Trujillo, a brutal megalomaniac, arranged things to secure between 90% and 100% of the vote. Perhaps he offers the closest electoral parallel to Mr Maduro: after only 55% of voters participated in his first election in 1930, on later occasions he inflated the turnout.

Although Venezuela’s regime claims to be socialist, its practices are similar to those of the old-school dictators. Their rule featured patrimonialism (capture of public resources by the ruler’s clan) and nepotism. So does Mr Maduro’s: his regime is stuffed with relatives of its leaders.

Mr Maduro’s Venezuela has a partner in reviving bad old habits. In an election last year in Nicaragua, Daniel Ortega secured a third term partly by barring the main opposition. That was an expedient used against populist parties by military-backed governments in Peru in the 1940s and 1950s and in Argentina between 1955 and 1973. It may be what Mr Maduro has in mind for Venezuela’s opposition.

He would be wise to study his country’s political history. General Marcos Pérez Jiménez was proclaimed as president in 1952 by a constituent assembly. Five years later, to secure an (unconstitutional) second term, he organised a plebiscite. The tame electoral authority declared that his plan had the backing of 2.4m voters, with only 364,000 against. As now, the opposition did not recognise the exercise and staged protests. A month after the vote, Pérez Jiménez was ousted in a civilian-military uprising.

Mr Maduro’s regime may be more resilient. But few in Venezuela or in the outside world are fooled by his fantasy voting. A constituent assembly designed to legitimise his suppression of the opposition has further discredited a regime that is now an open dictatorship of the few.



Kenya

The rematch

NAIROBI

Another tumultuous election, with a renewed fear of violence

WHAT does it say about the fairness of a vote when a senior election official is murdered a week before polling day? On August 8th Kenyans will pick a president, governors, MPs and senators. Yet instead of being excited about the chance to elect a new government, many are terrified. On July 31st Chris Msando, the chief technician in charge of the electronic voting system, was found dead in Nairobi, the capital, his arm broken and his body displaying signs of torture.

Who killed Mr Msando is far from clear. The opposition blames the government, and several analysts suspect they are right. The killing removes one of the few people trusted to ensure that the voting system works. It also sends a message to other electoral officials that they, too, are at risk.

Kenya's democracy is one of the most vibrant and competitive in Africa. But that comes at a price. Elections are bitterly fought and often violent. The results are nearly always disputed. This murder suggests that this year will be no different. At worst, it raises fears that violence of the sort that led to the deaths of perhaps 1,400 people and paralysed the country after the 2007 election could happen again.

The incumbent this year is Uhuru Kenyatta, the son of Jomo Kenyatta, Kenya's first president following independence in 1963. Mr Kenyatta took over in 2013, the first election after the violence, by making a

pact with William Ruto, a populist politician from the Rift Valley. After the 2007 election the pair were investigated and indicted by the International Criminal Court (ICC). Mr Kenyatta, who belongs to Kenya's biggest tribe, the Kikuyu, was accused of organising the mass killing of people from other tribes; Mr Ruto, who is from the Kalenjin, the third-biggest group, was accused of organising the murder of Kikuyus. Yet in 2013 they fought a joint campaign in which they claimed that the charges were part of a Western-led plot to take over Kenya. They won easily. The ICC charges were later dropped, after key witnesses vanished.

This time, Mr Kenyatta and Mr Ruto ought to be ahead again by a wide margin. As incumbents they have the power of patronage. Most Kenyans vote on tribal lines;

Also in this section

- 34 Hijacked buildings in South Africa
- 35 Nigerian verbosity
- 35 Israeli spy shows
- 36 Climate change and the Nile

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politicians win by delivering goodies to their ethnic kin. This is not only done by targeting government spending; many politicians use money looted from the state to pay off local leaders who deliver votes en masse. Well-funded ones can afford helicopters to whizz them around the country, and gifts for voters, as well as cars to take them to the polls. Per head, campaign spending in Kenya may exceed that of America, a country 40 times richer.

Yet their pitch seems have fallen flat, at least outside their strongholds, where they can still draw thousands. At a rally in Nairagie Enkare, a small town at the edge of the Masai Mara game reserve, your correspondent counted six helicopters and twice as many brightly branded SUVs. But the crowd, all sporting baseball caps in the red of Jubilee, Mr Kenyatta's party, was thin. "This is less people than a local council meeting," mocked Jackson Surun, standing at the edge of the crowd. "They bring these people from somewhere. No one here will vote for him."

The opposition meanwhile has unified. It is led by Raila Odinga, the son of another independence-era stalwart, Oginga Odinga. Mr Odinga is from the Luo, a tribe ➤

The choice

Kenya's presidential candidates

Name	Uhuru Kenyatta	Raila Odinga
Age	55	72
Tribe	Kikuyu	Luo
Position	President	Ex-prime minister, leader of opposition
Family	Son of Kenya's first president	Son of Kenya's first vice-president
Indicted by ICC?	Yes*	No
Election history	Lost in 2002, won in 2013	Lost in 2007, lost in 2013
Business interests	Banking, agriculture, media	Ethanol, gas canisters
USP	Claims to be a "digital president"	Promises to serve only one term

*Charges of stoking ethnic violence following 2007 election subsequently dropped after key witnesses disappeared

whose members feel they have been underrepresented in government since independence. He spent much of the 1980s in prison, accused of organising a failed coup. He lost elections in 2007 and 2013, in each case claiming to have been cheated. At 72 years old, this is (presumably) his last chance to be president.

Mr Kenyatta's first term has not been a complete disaster. A new Chinese-built railway connecting the coast to Nairobi opened in May; new roads have stretched across the country; electrification and internet access have spread quickly. But corruption is still endemic; Kenya remains tied up in a vicious war in next-door Somalia, and growth has not created many formal jobs. And this year the cost of food has spiked, thanks to a drought. As a result, though most polls still put Mr Kenyatta ahead, they are a lot closer than expected.

This heightens the tension. Mr Odinga "is desperate to achieve victory", says Murithi Mutiga, an analyst with International Crisis Group, an NGO. "Not only him but his own ethnic community, the Luos, who feel unfairly excluded, marginalised for five decades, their best leaders assassinated...they feel this is their last chance." Conversely, if Mr Kenyatta loses, it will threaten his family's substantial business interests. For Mr Ruto, who wants to stand for president in 2022, it would be worse: "His career will almost certainly be over."

In the 2013 election Mr Kenyatta was accused of rigging the vote to ensure he did not have to fight a second round (under Kenya's constitution, if no candidate wins more than 50% there is a run-off). But few doubted he was genuinely ahead. And though Mr Odinga disputed the result, he did so at Kenya's Supreme Court, while encouraging his supporters to stay at home.

This time things could be bumpier. In January Mr Odinga told reporters "we are not going to take it lying down" if the election is rigged. Some of his allies go further. "If they steal this election, this country will burn," says Ledama Olekina, a candidate in Narok County. Mr Odinga and co refuse to say what they will do if they deem the election to have been stolen—but they have made it clear that this is what they expect. For over a year, they have claimed to reveal ever more dastardly plots to rig the vote. At their rallies, a popular chant is "no Raila, no peace".

In Nairobi's slums, where some of the worst violence was concentrated in 2007, people are already nervous. "I will be leaving very soon," says Catherine Kalekye, sitting braiding a child's hair at the edge of Mathare, a neighbourhood of tin-roofed shacks in the east of the city. Many people are going to the countryside; others have moved within the slum to be closer to their kinsfolk. "We will go to Kiambu and leave the men to fight," says Jane Wambui, a 40-year-old Kikuyu clothes trader. She fears

Luos will seize the opportunity of protests to take revenge on their (typically Kikuyu) landlords. "It is not safe...they could come and rape me, rape my daughter."

Yet despite the fears, there are reasons to hope the fallout will be manageable. Some 180,000 soldiers, police and even national-park rangers have been drafted in to maintain security. In 2007 the worst violence happened in the Rift Valley, where a host of tribes live side by side, nursing deep resentment over the allocation of land that dates back to colonial days. Today, the two most powerful groups, the Kalenjin and the Kikuyu, are in an uneasy peace.

Unfortunately, even a peaceful election is unlikely to bring much relief in the long run. If Mr Kenyatta wins, his second term will be dominated by a succession battle. Corruption will persist. And, come 2022, the country will witness the same vicious battle over the spoils of government. ■

Urban redevelopment in South Africa

Reclaiming hijacked buildings

JOHANNESBURG

Developers are evicting gangsters and transforming blighted neighbourhoods

BACK in 2010, Gerald Olitzki could only survey his new building from a safe distance across the street. He bought the downtown property for redevelopment, even though criminals still controlled it, extorting rent from poor tenants. Squatters peered warily out of broken windows; inside, a warren of shacks faded into the gloom. At that time, he did not dare approach to give your correspondent a closer view. Fast-forward seven years, and Mr

Olitzki now strides proudly towards a building that, like many in Johannesburg's inner city, has been transformed. What was a vertical shantytown is now a bright, clean shopping arcade bustling with small businesses—a nail salon, a bridal shop, a penis-enlargement clinic—along with floors of office space.

Downtown Johannesburg remains pockmarked with dangerous, dilapidated "hijacked" buildings, where armed gangs have wrested control from legitimate owners. The living conditions in such places are squalid. The problem began in the 1980s as apartheid crumbled. White flight from the inner city left a vacuum filled by job-seeking black migrants who had previously been barred from living there. Many property owners simply abandoned their buildings.

But the days of "hijacked" buildings may now be numbered. Johannesburg has undergone impressive changes in recent years, led by entrepreneurs and private developers who see opportunity in the neglect. Newly gentrified areas are home to snazzy apartments, stylish new bars and weekend markets that attract middle-class visitors from the suburbs. Mr Olitzki has focused on developing affordable office and retail space, much of it for new businesses. Ensuring safe, clean streets was essential, so he convinced the city to give him 45-year leases on public areas, which are now guarded by his private security officers. "It's a slow process," he says. "You start right at the bottom and you slowly elevate the whole market."

Herman Mashaba, Johannesburg's fiercely pro-business new mayor, sees the revitalisation of the inner city as crucial to his strategy of creating jobs and stimulating economic growth. In July he declared war on building-hijackers. The city has since launched raids to push back the slum ►



A column of Red Ants prepares for battle

lords, while identifying 85 hijacked buildings that could be taken over by the municipality and converted into low-cost rental housing.

Un-hijacking a building is no easy task. The structures are often in such poor condition as to be only a shell; everything must be rebuilt. There are mountains of rubbish to remove (which have occasionally been found to conceal dead bodies). Water, electricity and sanitation are usually lacking. Rats are plentiful. Floors may be covered in faeces. Such dangerous conditions can easily turn buildings into death traps. In July a fire at a hijacked building in Johannesburg called the Cape York left seven people dead and hundreds homeless. Some residents only escaped the flames by knotting together blankets and lowering themselves from windows.

The big challenge is how to deal with il-

legal tenants who have nowhere else to go. Mr Olitzki negotiated cash settlements with the squatters and paid them to leave. Other developers call in the Red Ants, a feared eviction squad so named for their red jumpsuits and helmets. After one recent eviction, residents' possessions—blankets, beds, toys—were left dumped in the street. Evicting residents requires a court's permission. In a landmark decision in June, South Africa's left-leaning Constitutional Court ruled that evictions may not be granted if they lead to homelessness.

A lack of alternative housing is a serious stumbling block to Mr Mashaba's plan. Johannesburg has a housing backlog of 300,000 units. Recent evictees are being housed in tents. But the mayor also sees an opportunity for the private sector to step in and redevelop buildings into affordable housing. Unhelpfully, Mr Mashaba has

supplemented this with attacks on human-rights lawyers who advocate for the poor, while scapegoating foreigners for the problems of the inner city—worrying rhetoric in a country that has seen xenophobic attacks on poor African migrants.

Stuart Wilson of the Socio-Economic Rights Institute of South Africa, a group that aims to "challenge inequality", argues that private developers have free rein to exploit the inner city. He would rather see a mix of housing for different income brackets, as well as subsidised housing and homeless shelters. Mr Wilson talks of islands of gentrification amid a sea of poverty. "In Johannesburg, there's no overarching vision," he says. "There is simply a beautification project that is entirely dependent on the private sector for its implementation." But so far only the private sector has been willing to step up. ■

Nigerian verbosity

Get the gist?

LAGOS

Urban Nigerians speak a fantastic blend of languages

NO COMPLIMENT was too flowery at the launch in May of "Antidotes for Corruption", a book by Dino Melaye, a Nigerian senator who has fended off numerous allegations of graft. "What is being launched today is, ipso facto, a new potent Intercontinental Ballistic-cum-Cruise missile—an unassailable Assault weapon against, arguably, Mankind's Enemy Number One: Corruption," read the opening sentence of a leaflet handed out at the event. The 43-year-old politician was described as a "unique, strong-willed, opinionated, stubborn, determined, intelligent, prolific and even sexy young man in his prime".

It is not just Nigerian politics that is prone to verbal flourishes. In December Arik Air, an airline, blamed flight cancellations on the "epileptic" supply of aviation fuel (it was bailed out by the government soon after). Nigerians have taken English, the former colonial language, and made it their own. Many switch back and forth between standard English and Pidgin, peppering their speech with local words and colloquialisms. For example, "gist" is often used both as a noun and a verb meaning "gossip". Someone going out for the night is "catching fun". Traffic jams are "go-slows". A younger girlfriend is a "smallie".

In a country with more than 500 languages Pidgin English is the lingua franca. Pop culture depends on it. Fela Kuti, one of the most popular Nigerian singers of the 1970s and 1980s, argued that, "You cannot sing African music in proper English." Many Nollywood pro-



ducers feel the same about the action films and convoluted romantic dramas that they export all over the continent. The Pidgin phrase *Naija no dey carry last*, roughly meaning "Nigerians strive to finish first", has become an unofficial national motto (as well as the title of a book satirising the country).

Many English-language radio hosts talk in accents that indicate they have lived in Britain or America. But Nigerians can also tune in to the Pidgin "people's station" Wazobia FM and, soon, BBC Pidgin. The celebrated novelist Chinua Achebe's defence of writing in English, rather than his native Igbo, would ring true today whether spoken by politician or pop star. "We intend to do unheard-of things with it."

Israeli entertainment

Carrie on watching

JERUSALEM

Israeli TV shows are conquering the world

THREE are only about 9m Hebrew-speakers, yet Netflix, an online video service, now offers a dozen Hebrew-language shows to its subscribers. Most Hebrew-speakers will have already seen them on Israeli television, but Netflix is betting that, subtitled, they will attract viewers around the world. Like other television companies, it is excited about drama from Israel. As well as investing in television series, it is behind a new Israeli film, "The Angel", based on the life of an Egyptian spy run by Mossad. Most of the Israeli shows on offer deal with terrorism, espionage or the Israeli-Palestinian conflict. There is irony here. While Israeli politicians grumble that their country is unfairly portrayed by the media, its television producers are cashing in on Israel's reputation for spymastery.

The best-known Israeli series to date is "Prisoners of War", which lasted only two seasons on Israeli screens, but was remade as the American blockbuster "Homeland", starring Claire Danes. In this guise it has already broadcast its sixth season, with series seven in production. "Homeland" generated much controversy, thanks to its remarkably bloodthirsty portrayal of Muslims. But it also focused interest on Israel's television industry, which has become a growing exporter both of series and formats for production abroad. According to the Israeli Export Institute, the country's global TV and cinema sales have quadrupled over the past decade, to \$268m in 2016. Dramas full of ruthless terrorists and



What's "Allahu akbar" in Chinese?

► brilliant-but-flawed secret agents still predominate, but local producers boast that they are now exporting other kinds of show, too. Avi Armoza, the boss of a firm that has sold over 60 Israeli television formats abroad, says his biggest hit is "Still Standing", a general-knowledge quiz show in which unsuccessful contestants are dropped through a trapdoor in the studio floor. It has sold 5,000 episodes in 15 countries. "The Israeli market is so small," he explains. "Producers here work much harder at adapting to the world."

One of the industry's proudest exports is "Yellow Peppers", the story of a family of farmers in the Arabah Valley who struggle to come to terms with their young son's autism. The BBC remade it as "The A Word", set in Britain's equally scenic Lake District.

The first Israeli series that both made lots of money and wowed critics outside Israel was "In Treatment", which revolves around a psychologist and his patients. It was recreated from an Israeli original by HBO in 2008. It did not have any bearded terrorists in it, but it did have something else that has become a hallmark of Israeli television—a complex psychological drama played out by a few actors on a small set. This was born of necessity: modest budgets mean that Israeli shows seldom involve big casts or flashy locations.

Just as dark Scandinavian crime dramas have enthralled global audiences, Israel has come to specialise in "complex series created in frugal conditions, making the most of them," says Einav Schiff, an Israeli TV critic. He likens this to the way that so much Israeli technology (from missiles to cyber-security software) sprang from the need to defend a small, beleaguered country cheaply. But whereas Israeli defence firms tend to make their customers feel a little safer, Israeli television shows often leave them scared out of their wits. ■

Climate change and the Nile

Flood and famine

CAIRO

The countries in the Nile basin will suffer if they do not learn to co-operate

TO THE untrained eye, the satellite photos of north-west Ethiopia on July 10th may have seemed benign. They showed a relatively small pool of water next to an enormous building site on the Blue Nile, the main tributary of the Nile river. But the project under construction is the Grand Ethiopian Renaissance Dam, which is more than halfway complete. And the water is why it is so controversial.

Since Ethiopia announced its plan to build the dam, it has inspired threats of sabotage from Egypt, which sits downstream and relies on the Nile for electricity, farming and drinking water. Egypt claims that it is entitled to a certain proportion of the Nile's water based on colonial-era treaties. Ethiopia dismisses those agreements. The pool of water in the photos suggested that it was beginning to fill the reservoir behind the dam, reducing the river's flow.

That turns out not to have been the case. The pool was deemed by Egypt to be a result of construction and seasonal Nile flooding. But the alarms it raised are indicative of how sensitive negotiations between Egypt, Ethiopia and Sudan have become. Talks over such things as how fast to fill the reservoir and how to operate the dam have stumbled. And a potentially huge complication looms over any discussion of the Nile's future: climate change.

By 2050 around a billion people will live in the countries through which the Nile and its tributaries flow. That alone will put enormous stress on the water supply. But according to a study by Mohamed Siam and Elfatih Eltahir of MIT, potential changes to the river's flow, resulting from climate change, may add to the strain. Messrs Siam and Eltahir conclude that on current trends the annual flow could increase, on average, by up to 15%. That may seem like a good thing, but it could also grow more variable, by 50%. In other words, there would be more (and worse) floods and droughts.

There is, of course, uncertainty in the projections, not least because differing global climate models give different numbers. But the idea that the flow of the Nile is likely to become more variable is lent credibility, the authors argue, by the fact that trends over decades seem to agree with them, and by consideration of the effects of El Niños. These colossal climatic oscillations, driven by changes in the temperature of the Pacific, are correlated with the Nile's flow, and climate-change studies

suggesting more extreme El Niños in years to come thus bolster the idea of a more variable Nile.

More storage capacity will be needed to smooth out the Nile's flow. But unlike Egypt's large Aswan Dam, which was built with storage in mind, the new Ethiopian one is designed for electricity production. Once water starts gushing through its turbines, it is expected to produce over 6,000 megawatts of power. It is unclear, though, if the structure has the necessary flexibility to meet downstream demands in periods of prolonged drought.

The talks between the three countries seem to be glossing over the potential effects of climate change. The filling of the reservoir is being negotiated in terms of years, but nature may not co-operate with their timeline. The countries would be better off focusing on how much water is needed downstream, which will vary in wet and dry years, say experts. Similar considerations will need to be taken into account when running the dam. "Nowhere in the world are two such large dams on the same river operated without close co-ordination," says another study from MIT. But so far co-operation is in short supply. The latest round of talks has been postponed. Even the methodology of impact studies is cause for wrangling.

Once the dam is up and running, the Nile's variability will be controllable for some 60 years, say Messrs Siam and Eltahir. That assumes the dam is flexible enough and that the countries work together. Even then, storage would have to be increased by about 45% to keep things steady for the next 60 years. So the countries have time to build new dams; but that will need even greater co-operation. ■





Sanctions on Russia

The punishment continues

MOSCOW

Do economic restrictions change Russian behaviour?

IN LATE June Daimler, a German carmaker, broke ground on a new Mercedes-Benz plant north-west of Moscow. "We are confident in the long-term potential of Russia," Markus Schäfer, a board member, said at the ceremony. The €250m (\$296m) factory marked the first investment by a Western carmaker since America and the European Union slapped sanctions on Russia as punishment for its aggression in Ukraine three years ago.

After more than two years of recession, Russia is projected to return to growth this year. Until recently, the chill that sanctions put on the investment climate seemed to be thawing. "People had begun to forget about them," says Chris Weafer of Macro-Advisory, a Moscow-based consultancy. But in late July America's Congress voted to expand the sanctions. Vladimir Putin responded by demanding that America reduce its diplomatic staff in Russia by some 750 people. (Most of those affected are likely to be Russian employees.) He also shut down the American diplomatic dacha in Moscow's Serebryany Bor forest—even the barbecues had to go.

The new offensive has revived arguments over whether sanctions work. Proponents say they helped stall Russia's military intervention in Ukraine. Naysayers reckon they just let politicians look tough. The truth is more complicated. So far they have not changed Mr Putin's behaviour abroad, and have helped him consolidate

power at home. Yet in the long term they may undermine the stability of his rule.

The first sanctions came in response to the takeover of Crimea in March 2014, and targeted individuals with travel bans and asset freezes. In July that year, as Russian-backed separatists rampaged in eastern Ukraine, "sectoral sanctions" followed, restricting credit to a host of Russian energy and defence firms and banks. The measures were calibrated to avoid rocking global markets and to win support from the European Union, which passed sanctions of its own. "The purpose was never to bring down the Russian economy," says a former American official.

After the oil price collapsed in late 2014, Russia's economy fell into crisis. Sanctions

Also in this section

38 Will America arm Ukraine?

38 The migrants Poland likes

39 Urban planning in France

40 Charlemagne: Deutschland is dozing

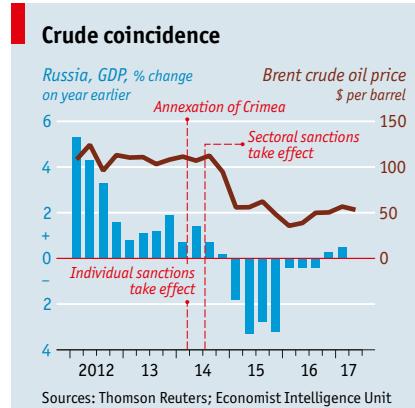
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made things worse. A credit crunch led the government to dip into reserves to bail out banks and firms. Uncertainty made foreigners cautious about dealing with anyone in Russia, not just those on the lists. These "silent sanctions" chilled the business climate, says Natalia Orlova, chief economist at Alfa-Bank, Russia's largest private bank. Foreign direct investment fell from \$69bn in 2013 to just \$6.8bn in 2015.

American officials seized upon this as proof that sanctions work. "Russia is isolated, with its economy in tatters," President Barack Obama declared in January 2015. At the time Western leaders fretted that Russia might push deeper into Ukraine. Supporters of the sanctions argue that they helped prevent this, underpinning the signing of the Minsk peace agreements in February 2015.

Nonetheless, the sanctions have not altered Mr Putin's strategy. Russia continues to support the separatist republics in Ukraine, and Crimea's annexation has become a fait accompli. "The honest truth is that [sanctions] have yet to change their policies," says Evelyn Farkas, the former Russia point person at the Pentagon. Russia went on to intervene in Syria and, in 2016, meddle in America's elections.

At home, the government used the sanctions to blame the economic downturn on conniving foreigners. By cutting Mr Putin's cronies off from global markets, sanctions "inadvertently made them more dependent on the Kremlin", argues Andrew Weiss of the Carnegie Endowment, a think-tank. In 2015, according to the Russian version of Forbes, Arkady Rotenberg, Mr Putin's judo buddy and a sanctioned construction magnate, received 555bn roubles' worth of government orders. Sanctions became an object of public ridicule. A patriotic T-shirt captured the mood: a drawing of a nuclear missile captioned ➤



► “The Topol is not afraid of sanctions.”

With time, business came to fear them less, too. In 2014 United States Treasury officials warned American companies off attending the St Petersburg International Economic Forum, Russia's equivalent of Davos. By 2016 many CEOs had returned. Russia successfully placed a \$1.25bn sovereign Eurobond in September 2016, with more than half bought by Americans. The United Nations reckons that 280 greenfield investment projects in Russia in 2016, below the ten-year peak of 596 announced in 2008, but an improvement over the nadir of 194 in 2014. IKEA, Leroy Merlin, Pfizer and Mars Inc all have plans for stores or factories.

The new sanctions may give foreign investors pause. That worries the Kremlin. As Mr Putin looks towards his fourth term (he is expected to win next year's election), Russians are more concerned with their wallets than with Crimea. Growth this year is projected to be 2% or less. For the elite, the prospect of long-term stagnation and endless standoff with the West raises questions about the country's direction. “The sense of an historic dead-end evokes panic,” writes Vladimir Frolov, a Russian analyst. Sanctions will not cause Mr Putin to reverse course, but they do make it harder for him to drive his way out. ■

American-Russian relations

Arming Ukraine

America may at last be willing to offer Ukraine weapons

WHEN Russian members of parliament uncorked champagne to celebrate the electoral victory of Donald Trump, they hoped that America would stop meddling in the former Soviet backyard and ease sanctions imposed in response to its war in Ukraine. But as some Russians are now saying, it was too early to drink it. On August 2nd Mr Trump reluctantly signed a law which heaps new sanctions on Russia and limits his ability to lift them. A few days earlier, Mike Pence, America's vice-president, went to Estonia and Georgia and warned against further aggression from “your unpredictable neighbour to the east”. And America may soon supply Ukraine with lethal weapons, a step that Barack Obama refused to take.

Mr Obama's inaction was heavily criticised at the time by many Republicans, including Kurt Volker, a former ambassador to NATO and a close associate of John McCain, a hawkish Republican senator. Last month Mr Volker was appointed by the State Department as America's special

representative to Ukraine. It is up to Mr Trump's administration to approve the supply of arms to Ukraine, but most members of his cabinet are said to be on board. A decision could come within weeks.

American officials and their European counterparts are also discussing whether to begin using the terms “aggression”, “war” and “Russian forces” in place of “conflict” and “separatists” with regard to the fighting in eastern Ukraine. One reason Russian aggression got as far as it did, the argument goes, was that neither the West nor Ukraine was prepared to call it by its proper name. America and its allies restrained Ukraine from fighting when Russia invaded and annexed Crimea—and a weak, post-revolutionary Ukrainian government acquiesced.

Following Russia's interference in its elections last year, America seems willing to push back more robustly. Members of the Trump administration calculate that Russia has limited scope to escalate. Mr Putin will try to persuade them otherwise. One option might be to occupy Belarus, a former Soviet republic. Another might be to stir political instability in Ukraine.

Awkwardly, America is increasing its support for Ukraine just as Ukraine's leaders are becoming more focused on their own economic and political fortunes, rather than the good of the country. Last week Petro Poroshenko, Ukraine's chocolate tycoon-turned-president, stripped Mikheil Saakashvili, a radical anti-corruption reformer, of Ukrainian citizenship. Mr Saakashvili, a former president of Georgia who was forced out of his native country by Bidzina Ivanishvili, its richest oligarch, came to Ukraine after the Maidan revolution in 2014 to carry on with his fight against the post-Soviet malaise.

After serving as a governor of Odessa, he fell out with Mr Poroshenko, accusing him of corruption and collusion with oligarchs. In an interview with *Ukrainska Pravda*, an independent Ukrainian news site, Mr Saakashvili said Mr Poroshenko's main motivation was making money. Other activists have criticised Mr Poroshenko for lacking the political will to tackle corruption. Government prosecutors have inadvertently provided evidence for that charge by launching attacks on anti-corruption activists.

The prosecutors' latest target is Oleksandr Danyliuk the reform-minded finance minister. Mr Danyliuk has tried to make the country's system of VAT refunds (a major source of corruption) more transparent. He has also tried to prune the budget of the prosecution service. On July 31st the prosecutor general's office said it was probing his income and property.

In fact, the finance minister's problems stem from a fight between Mr Poroshenko and his own government. Last month, while Mr Danyliuk was in London discuss-

ing Ukraine's economic reforms, the country's budget was re-carved by the Rada, the parliament, with the help of a close associate of Mr Poroshenko. Some of the changes introduced in Mr Danyliuk's absence make the budget impossible to fulfil, and resemble dodgy schemes used under the previous regime. The budget also overestimates the expected tax collection from businesses, creating even more room for extortion.

No amount of weapons supplied by America will defend Ukraine from the internal malaise which made it vulnerable to Russian aggression in the first place. ■



The migrants Poland likes

Plugging the gap

**KALISZ
Ukrainians are powering Poland's economy**

POLAND'S most visible labour market begins shortly after dawn. About 30 women and a similar number of men wait in separate groups beside a road half an hour's drive south of Warsaw. The eager stand at the kerb, craning their necks to search for cars. The more resigned slump in the shade of a tree or pace about, smoking. When a Volvo pulls up they dash towards it, awaiting offers of work. The youngest is 20, the oldest a gap-toothed 53-year-old. All of them are Ukrainian.

The number of Ukrainians in Poland has soared since fighting began in eastern Ukraine in 2014. There is no definitive figure, but around 1m are estimated to be working in Poland at any given time. Most did not flee the war but its economic consequences: a recession that lasted two years, unemployment and a plunging currency. ►

► They can earn five times more than at home, picking tomatoes, mixing cement or driving for Uber, the ride-hailing firm. Companies can register them to work for six months at a time, but some, like those at the roadside, work illegally. Ivan, 28, knocks back an energy drink as he waits to choose his next boss. "No sleep!" he explains. "Work, work, work."

Employers are chipper. A tumbling birth rate and the emigration of 2m Poles to other European Union countries has shrunk the labour supply. Unemployment is at its lowest since 1991 and the economy is surging. The Union of Entrepreneurs and Employers (ZPP) says 5m more workers are needed to sustain growth over the next three decades. As Katarzyna Sidlo of Warsaw's Centre for Social and Economic Research points out, Ukrainians alone will not be enough to plug the gap, but they help. One businessman says he hires Ukrainian plumbers because they cost half as much as Poles and are "very respectable".

In 2013 there were only 527 temporary foreign workers in the central Polish town of Kalisz. Now there are nearly 10,700. Most are Ukrainian. In March a Ukrainian priest arrived to minister to the migrants in their own language, one of 15 being posted across Poland. Karolina Pawliczak, the deputy mayor, welcomes the newcomers. "Poles can pick and choose" jobs, she says. Ukrainians "are saving our labour market".

Voters are ambivalent about the newcomers. In a survey in 2016, 63% told CBOS, a pollster, that Ukrainians are good for the economy. But a similar number said the government should restrict the flow of migrants from the east. Meanwhile, government ministers invoke the influx of Ukrainians as an excuse for defying EU demands to accept refugees from the Middle East, saying their country is already shouldering the burden of migration from a war-torn country. In fact, most of the Ukrainians are economic migrants from the country's peaceful areas. Only a few hundred apply for refugee status in Poland each year, and in 2016 just 16 received it.

Firms now fret that the stream of cheap labour could soon dry up. Rules introduced in May allow Ukrainians to travel in the EU (but not Britain and Ireland) for 90 days without a visa. They cannot work, but Polish employers worry that will change, and that many will find black-market jobs in the meantime. In the past few weeks, plenty have visited the Polish offices of Work Service, a temporary staffing agency, asking for help getting work further west.

ZPP wants the government to induce Ukrainians to stay in Poland by granting an amnesty to those working illegally. Alternatively, jokes its president, Cezary Kazmierczak, it should cut off power two nights a week to keep Poles at home in the evening. When a curfew was imposed in the 1980s, the birth rate soared. ■

Urban planning in France

We'll always have Val d'Europe

VAL D'EUROPE

Outside Paris, a Disneyfied Paris

ONE of the newer attractions at Disneyland Paris is "Ratatouille: The Adventure", a ride through Paris as seen by Rémy, the movie's rodent gastronome hero. Located in a twee movie-set version of the city, complete with a fountain, café and overpriced bistro, it could easily pass for the real thing, were it not for the diminutive scale and cheerful waiters. (Disneyland is a realm of fantasy after all.)

Disney has experience building replicas of Paris. At the EPCOT theme park in Florida, the "French pavilion" recreates a Parisian market, wine bar and a mini-Eiffel Tower. But the company's most ambitious *faux Paris* is not in a theme park at all. A few kilometres down the road from Disneyland is the commercial heart of Val d'Europe, a cluster of imitation belle époque housing blocks with mansard roofs surrounding a giant shopping centre. All of it is built to design guidelines lifted from Baron Haussmann, the architect of Paris's mid-19th-century reconstruction.

The development was part of the deal Disney made in 1987 to build its European theme park in Val d'Europe, a then empty part of Marne-la-Vallée, one of France's "new towns" planned in the 1960s. Disney had learned the importance of controlling the land surrounding its parks from Anaheim, California, where a rash of cheap hotels and low-quality restaurants spread around the original Disneyland. In Florida, and then in France, Disney insisted on buying up huge chunks of land. It controls 2,230 hectares of Val d'Europe, or about two-thirds of the total area. About half of that has been developed into two theme parks (a third is in the works), a "nature village" resort set to open this summer, public

services including a high school and a hospital, and some 12,000 new homes.

Val d'Europe is one of two full-fledged towns Disney built under Michael Eisner, the company's boss from 1984 to 2005 and an urban-planning enthusiast. In Florida it was Celebration, an idealised community of picket fences and front porches that promised a return to 1950s America. Val d'Europe shares Celebration's principle of "new urbanism", which promotes mixed zoning, density and walkability. But the design decisions came from the French bureaucracy. "The last thing they wanted to see was a new idea," says a former Disney executive involved in the negotiations.

This was, in part, a reaction against suburbanisation, says Brian Shea, an architect who worked on Val d'Europe's master plan. But it was also a rejection of the high postmodernism of Ricardo Bofill's housing estates in nearby Noisy-le-Grand. Though spectacular to look at—they formed the backdrop to such alarming movies as "Brazil" and "The Hunger Games"—they failed as experiments in urban housing. Nobody, it turned out, actually wanted to live on the set of a retro-futuristic dystopia.

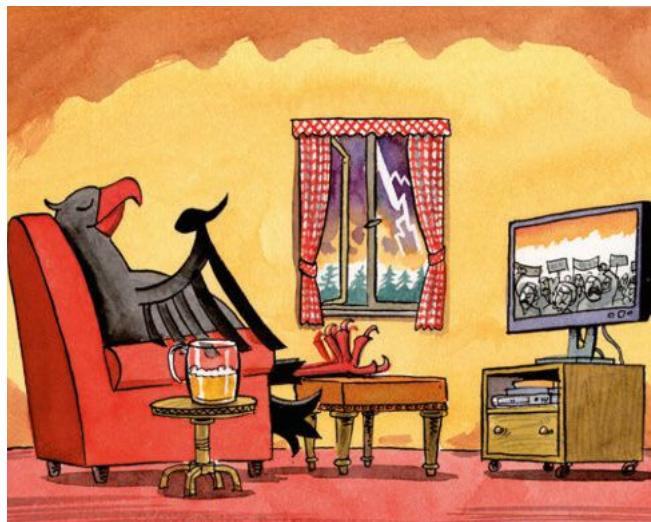
Val d'Europe has been a commercial success. Under the terms of its agreement with the state, Disney retains the option to buy more land at 1987 prices—€1.69 (\$2.00) per square metre—which it can then sell on at market price or develop. The region's population grew from 5,000 in 1989 to 30,000 in 2016 (about a fifth of working-age adults are employed by Disney). That is expected to double by 2030. Arnaud de Belenet, the mayor of Baully-Romainvilliers, a village south of the commercial centre, says taxes from Disney and the non-tourist economy have paid for schools and infrastructure. He hopes to attract more companies to the region. But not everyone is pleased. Hacène Belmessous, whose book "The New French Happiness, or The World According to Disney" is a study of Val d'Europe, criticises it as a privatised space run by a multinational corporation. It is, he says, "the death of the public city". ■



There's a new chef in town

Charlemagne | Deutschland is dozing

Germany's placid election ignores the country's deeper challenges



THESE are political times. American democracy produces more drama in a week than it used to in a year. In France the forces of globalism and nationalism are locked in combat. In Britain nation-changing votes have become annual events. Brenda, a Bristol pensioner interviewed by the BBC in April, spoke for millions on learning of the early general election: “You’re jokin’! There’s too much politics going on!”

Germany is different. It goes to the polls on September 24th, but of politics red in tooth and claw there is little evidence. It is a country calm and comfortable, closer in spirit to Brenda than to Wagner. Angela Merkel’s centre-right Christian Democrats (CDU) are coasting to victory on an inoffensive manifesto offering something for everyone. Martin Schulz, her Social Democratic (SPD) rival, has a tough choice: be confrontational and risk losing voters to Mrs Merkel’s big tent, or echo her soothing overtures, leaving voters with little reason to pick him over her.

At the moment Mr Schulz seems to be combining the worst of both options. His bids to draw the chancellor into combat, for example by claiming that Germany is ill-prepared for future refugee crises, make him look panicky while underlining her Zen-like confidence. At the same time both parties’ posters and slogans are determinedly bland. The CDU calls “for a Germany in which we live well and happily”. The SPD proclaims that “the future needs new ideas and someone to implement them”. The Green party and the liberal FDP have been a bit more stimulating, but a *Schlafwahlkampf*, or “sleep election campaign”, looms.

In a sense, this is to Germany’s credit. With the exception of the chaotic nationalists in the Alternative for Germany (AfD) party, German politicians and journalists are less prone to emotionalising politics and manufacturing conflict than those in other countries. Mrs Merkel is a consummate difference-splitter who for eight of her 12 years as chancellor has governed comfortably with the SPD. With some minor differences of emphasis, she and Mr Schulz share the same worldview: internationalist, business-friendly and social democratic. The country is stable and prosperous, a land of whirring factories, sleek trains and bustling lake-side beer gardens. If it ain’t broke, why fix it?

But that would be a mistake. In the long term, Germany faces enormous challenges, ones which will force its leaders to make

difficult and divisive choices. “The next three or four years will be the most demanding since reunification,” predicts Timo Lochocki of the German Marshall Fund of the United States.

Take geopolitics. Germany may be largely happy with the structure of the European Union, but others are not. France’s president, Emmanuel Macron, wants to deepen the integration of the euro zone in ways that Germans see as reaching into their pockets. America is insisting that German defence spending rise from 1.2% to 2% of GDP. German citizens, meanwhile, seem hesitant even to endorse their existing military obligations, such as their deployment in Lithuania. In May just 40% told the Pew Research Centre that they would back using military force to defend a NATO ally in a serious conflict with Russia.

Economic shifts will also be wrenching. The mighty German car industry is plagued by cartelism. It will pay a high price for its ill-advised gamble on diesel engines and it faces further disruption from the dash towards electrification and self-driving vehicles. The country’s low investment rate and high energy costs have hurt its rankings on digital and infrastructural competitiveness. That trend is compounded by a conservative attitude to certain kinds of new technologies. Germans are even more hostile than the French to a free-trade treaty with America and to big-data giants like Google. In another backwards-looking move, Mrs Merkel’s government decided to cut the retirement age. All told, says Stephan Richter, a pundit, Germany’s “anaesthetic” political class has not used the country’s golden decade to equip it for the future: “past performance is no indication of future success.”

The fabric of German society is also in flux. The work of integrating the 1.2m refugees who arrived during 2015 and 2016 is still at an early stage. Yet the country is not really debating how it should go about the job. The left avoids the subject, while the right proposes simply to stamp a traditional German identity on the newcomers. Few people are hashing out a more realistic vision for a hybrid, melting-pot form of Germanness. Meanwhile, as German society has grown more fluid and international, it has become harder to police. Recent terror attacks in Berlin and Hamburg, both committed by migrants who should have been deported but slipped through gaps in the system, have exposed serious security failings. That poses urgent questions in a country that is, for historical reasons, neuralgic about state surveillance.

The election season proper will not begin until late August. But current signs—party manifestos, early rallies and anodyne television interviews with politicians—suggest that Germany’s sleepy campaign will leave most of these big issues unattended.

Time to flush the Ambien

To find this worrying is not to belittle the success and stability of Germany today. But the dramas of 2015, including the rise of the AfD, show that deep political insecurities lie below the surface, and that anger can erupt quickly. “The 1,000 most influential people in [Berlin] know there’s a tough time ahead; they need to communicate that to voters,” argues Mr Lochocki. Christian Ude, a former SPD mayor of Munich, goes further, warning in a new book that the “flight from politics” by the mainstream abandons terrain to the political extremes.

With much of the world riven by political strife, it may sound odd to plead for more of it in one of the few countries that has remained placid. But Mr Ude is right. That Germany is doing well is not a reason to avoid a little discord. Quite the opposite: it is a window in which to embrace it constructively. ■



Housing

A nation of homebodies

A little-noticed trend in Britain's housing market spells trouble for everyone

THE market looked ready for a correction. On the eve of the Brexit vote last June the median house price in England was 7.7 times median annual earnings, probably the highest ratio ever recorded. Many assumed that in the uncertainty that followed the referendum, house prices might at last slump. They have not. The market for London's fanciest properties looks weak and overall price growth has slowed, but Britain's housing market hardly appears to be in freefall.

Poke beneath the surface, however, and it looks as if trouble is brewing. Britons are buying and selling houses less frequently than they once did. Official data suggest that the rate of residential transactions this year is set to be the lowest since 2013. The number of sales in parts of London is approaching an all-time low as home-buyers become more cautious about their personal finances.

The post-referendum stagnation in the number of sales merely reinforces a long-term trend. Few have noticed, but in recent decades Britons have become markedly less inclined to move house (see chart). The decline in residential transactions may seem unimportant in comparison with the high cost of housing. But it leaves all Britons worse off.

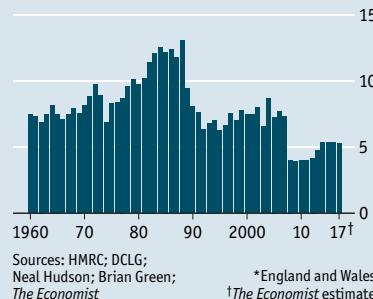
The 1980s were a golden age of housing turnover. Margaret Thatcher's government encouraged people to buy their rented council homes; many then sold them and

moved elsewhere. Credit boomed as banks jumped into the mortgage market alongside building societies. This made it easier for Britons to take out big home loans and to move up the housing ladder. Yet the rate of home-moving tumbled to its lowest level ever in 2009. At that rate, a typical house would change hands once every 25 years. Few wanted to sell as prices plunged after the onset of the financial crisis in 2008; no one wants to get less for their house than they paid for it.

The causes of the current stasis are numerous. One factor is almost certainly the long-term decline in housing construction. Restrictive planning policy means house-builders struggle to find open land to develop. Some 50,000 fewer new-build

Who'd be an estate agent?

Britain, housing-market transactions
As % of privately owned dwellings*



Also in this section

- 42 Tories and housing
- 43 Brexit contingency planning
- 43 Investment in skyscrapers
- 44 Bagehot: A history lesson

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houses come to market each year now than in the 1980s.

Demographic changes are also at work. An ageing population is a less mobile one. The way council tax is levied also gives elderly folk less incentive to downsize. It was last updated in 1993 and the priciest homes are taxed lightly. Meanwhile, more Britons live alone. Since 1981, the share of households with one occupant has risen from 20% to nearly 30%. Singletons are less likely than those with children to need extra space, so they may not need to move up the housing ladder.

Another influence is the rising burden of stamp duty. Two decades ago the tax was hardly significant. Yet in the last decade, the average amount of stamp duty charged per residential transaction has risen by 30% in real terms (though recent changes have lightened the load slightly for some). The need to pay thousands of pounds upfront makes upping sticks harder. According to a recent paper from Christian Hilber of the London School of Economics and Teemu Lyytikäinen of the VATT Institute for Economic Research, stamp duty reduces the rate of home-moving by about a fifth. It partly explains why home-owners in Britain move home half as frequently as they do in America, where the equivalent tax is usually less onerous.

The biggest reason of all for the slump in sales, however, may be Britons' squeezed living standards. In a recent paper Neal Hudson and Brian Green, two property analysts, point out that people can only move up the housing ladder if they have the money to pay the estate agents and have enough for a deposit.

Unfortunately, since the 1980s, the growth rate of real household disposable income has fallen from about 3% a year to 1%. Things have worsened since Britons voted to leave the EU as higher inflation ➤

► has eaten away at wages. With poor income growth it becomes harder for homeowners to amass the savings necessary to move up the housing ladder. Indeed, the household savings rate recently reached its lowest level since records began in 1963.

Cheap borrowing offsets weak income growth somewhat, making it easier for Britons to afford a home. Since 2007 the Bank of England has cut the base rate, causing the rate on the average variable mortgage to fall from 7% to 4%. But in other ways borrowing is harder than it was. Interest-only mortgages are a thing of the past and regulators have put limits on high loan-to-income mortgages. Home-owners must instead stump up bigger deposits, say Messrs Hudson and Green. The average deposit for first-time buyers, meanwhile, is now roughly equal to the average annual salary.

Broken ladders

A slow housing market leads to all manner of ills. When people find it hard to offload a house or to acquire a new one, they are less likely to move to a better job or a more productive part of the country. Instead they waste time on long commutes. Our analysis of the labour-force survey suggests that between 2011 and 2016 the number of people who spent at least two hours a day commuting rose by a fifth. All this hits labour productivity, which in Britain has seen measly growth in recent years.

Another consequence is inefficient use of the housing stock. One in three of Britain's houses has two or more spare bedrooms. Yet overcrowding (as measured by the number of people relative to the number of bedrooms) is rising. With grandparents hogging the bigger, better properties, their children struggle to move up the housing ladder.

An ultra-slow property market is also bad for future generations. For reasons that economists do not yet understand, there is a tight correlation between the number of property transactions and the number of homes built each year (at a ratio of about 10:1). One possible explanation is that those building houses focus their efforts on the top 10% of the market, perhaps because large houses are especially profitable. A low rate of property transactions, therefore, leads to few houses being built. That will do nothing for Britons priced out of the housing market entirely.

Unfortunately, nothing suggests that the rate of housing transactions will rise any time soon. The government has made noises about trying to get more oldies to downsize. Yet in a recent policy paper on housing, there was no mention of any serious policies to encourage them to do so. Meanwhile, inflation will continue to erode incomes. And the uncertainty of Brexit will deepen. The problems caused by Britain's gummed-up property market look set only to get worse. ■

Tories and housing

March of the YIMBYs

Some Conservatives grasp the need for more homes

AFTER losing its majority, its housing minister and a clutch of seats in the suburban south-east, the Conservative Party seems at last to have reached the limit of its NIMBYism. "The penny didn't drop until now," says Rob Wilson, a Tory MP who lost his seat in Reading, a commuter town 40 miles west of London. But the view that the Conservatives should urge the building of more houses is at last filtering throughout the party. The alternative, according to the *Daily Telegraph*, the unofficial journal of NIMBYism, is "Marxist social engineering".

A shift is long overdue. A much-trailed white paper on housing in February—when the party was riding high in the polls—was gutted of any radical proposals. Still, cannier parts of the party have long argued for more housing. And from a political perspective, the Tories' unwillingness to boost the supply of homes for people to buy seems increasingly imprudent. Building such houses may breed Tories: the party boasted a huge lead among owner-occupiers and a slimmer one among voters with mortgages at the last election, according to Ipsos MORI, a pollster. By contrast, Labour had a 23-point advantage among private renters. As home-ownership falls, such a gap could become an existential problem for the Tory party.

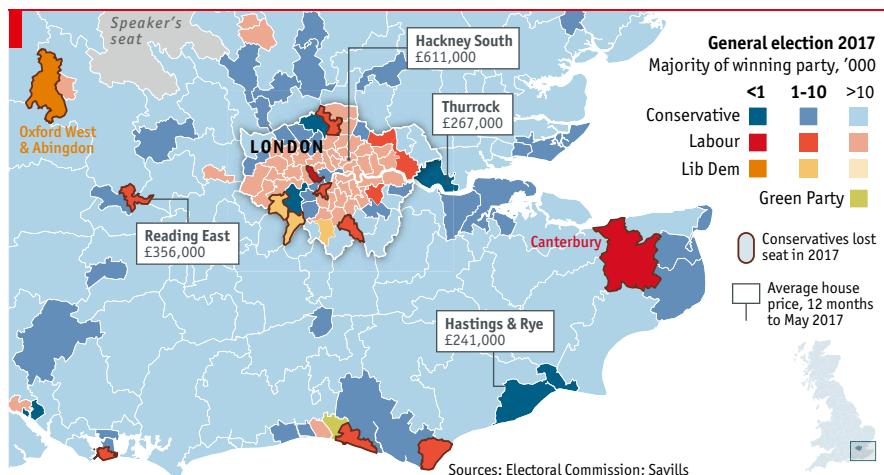
Better-off young people, who might otherwise lean towards the Tories, are most aggrieved about housing, according to Torsten Bell from the Resolution Foundation, a think-tank. It is among this group that the gulf between the "vision of the home they expected to own and the reality of the home they find themselves renting is

most acutely felt," says Mr Bell.

The political pressure is most intense in the south-east, where prices have rocketed. Cheaper housing and better transport links may tempt Labour voters away from the capital's heart where the party dominates, into more marginal constituencies such as Reading, reckons Mr Wilson. For now, they are piled up harmlessly in inner London. Six of the ten biggest majorities are in Labour-held seats in the capital, often in once dodgy but now desirable areas such as Hackney. But even a small diaspora of lefties could take a bite out of the blue doughnut of Conservative constituencies that make up London's outer suburbs and nearby towns (see map). Hastings welcomed 800 exiles from the capital between 2015 and 2016, who presumably delighted in being able to buy a four-bedroom house for the price of a two-bedroom flat in some of the dingier parts of south London. Its Tory MP, Amber Rudd, hung on to her seat by 346 votes.

Nonetheless, some Conservatives are still channelling St Augustine: Lord, give me housing—but not here. Building more homes may win over future Tory voters, but it risks upsetting the current batch. Sajid Javid, the minister responsible for housing, insists that councils must persist with such developments, however unpopular. He has indicated that he will not obstruct those that permit some building on the green belt—where construction is almost non-existent.

But today's Tory housing policy amounts to tinkering when compared with those of previous Tory governments. Harold Macmillan was tasked with—and just about achieved—the job of building 300,000 houses a year from 1951. The Conservatives were in power for 13 more years. Current policies fall far short of that sort of ambition. One Labour wag jokes that: "The best hope for the Tories is for Labour to win and enact its policy of mass council house building, so that they have a big stock of council houses to sell off when they get back in." ■



Brexit contingency planning

The sucking sound

Businesses are insuring against a hard Brexit, often overseas

IT IS a truth universally acknowledged that business abhors uncertainty, and nothing is more uncertain than Brexit. Yet investment decisions must be made, new products developed and staff hired, even as March 2019, the date for the end of the Article 50 negotiations, looms ever closer.

Many companies, therefore, are investing heavily in contingency planning. Such is the concern that the financial-services industry has been obliged to do so by regulators. Some are now acting on those plans. Given the chaos in the government over Brexit, that involves preparing for the worst and pining for the best, including a transitional deal. In practice, this means starting to shift jobs and functions out of Britain. The sucking sound is now audible.

Banks, which had to have their plans in place by July 14th, have the most to worry about in terms of “passporting rights” and EU-wide regulations. Several have confirmed that some operations will move out of London to other EU capitals. Bank of America (BOA) has picked Dublin as its main base for EU investment banking and markets operation after Brexit; a small number, for now, of the 4,500 staff who currently work in London will move to new offices there, as well as new hires. Barclays will also be beefing up its existing office in Dublin to use its EU banking licence there, again with a mixture of newbies and transfers from London.

Goldman Sachs, which employs about 6,000 in Britain, will add hundreds of staff to its existing EU offices, bringing new people and some from London. Some were cheered by news from Deutsche Bank on August 1st that it had signed a lease for a new London headquarters. But it also confirmed that it will move parts of its business to Frankfurt. Japanese banks, such as Nomura and Daiwa, have said that they intend to make Frankfurt the main base for EU clients. Lloyd’s of London, an insurer, will open a new subsidiary in Brussels.

“Everyone is planning around a hard Brexit,” says Matthew Austen of Oliver Wyman, a consultancy which reckons the wholesale-banking sector is on course to lose 12,000-17,000 jobs. Banks are keeping these first moves to a minimum, to avoid disruption, but that number could double.

Such shifts will lead to losses elsewhere. Fintech, worth about £7bn annually, is particularly vulnerable to post-Brexit restrictions on the movement of EU labour because an unusually high proportion of

**Planning their next move**

its executives, coders and designers are European. Some of the most prominent companies are implementing their own contingency plans for the post-Brexit world. Taavet Hinrikus, the Estonian co-founder of Transferwise, a tech unicorn (a startup valued at more than \$1bn), says that its global headquarters will remain in London but the company will open a new headquarters somewhere else in Europe. Azimo and PPRO, both online money-transfer businesses, will open offices in Dublin and Luxembourg respectively.

Smaller fintech businesses are also getting ready. Cypriot-born Alex Loizou co-founded Trouva two years ago when, he says, London was “ten steps ahead” of anywhere in Europe. It provides a platform for boutiques to sell online. The company em-

ploys 30 people in London, but Mr Loizou is opening an office in Lisbon, where he will recruit about five more. “It’s insurance,” he says, giving him access to EU talent and the protection of EU regulation.

Companies in other industries are preparing for life outside Britain, too. Julian Sarkar runs Zanos Aromas, which imports ingredients for fragrances. It trades mostly outside the EU, but Mr Sarkar is opening a new company in Dublin to keep his European business free from any post-Brexit regulatory tangles.

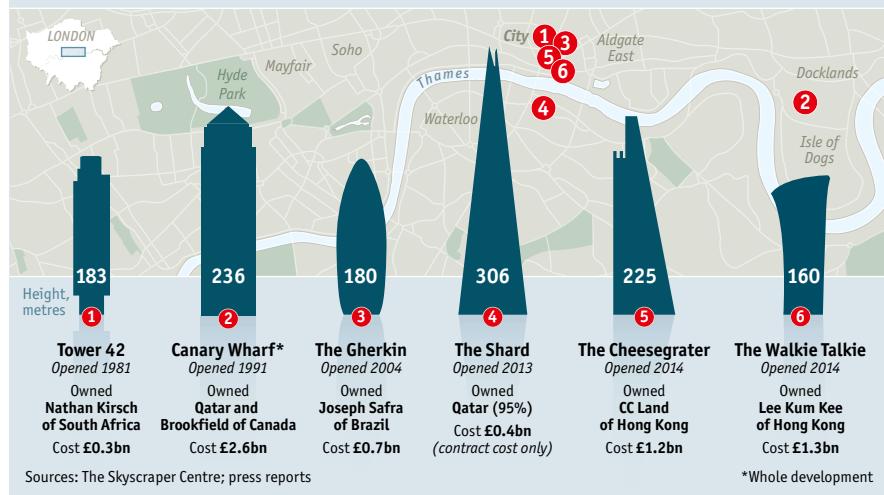
Or take European Pubs, which operates bars and restaurants in French resorts frequented by British skiers. The chief executive, Charles Owen, has built his firm on the back of one bit of EU regulation, the Posted Workers Directive, which enables him to send British staff to work in the Alps for up to ten months a year on British pay and conditions. Employing EU workers would add about 40% to his wage bill, he says, and destroy the business. Mr Owen wants to open a subsidiary in Dublin so that he can continue operating in the EU.

In all these cases, money and resources that would have been invested in Britain are now being redirected overseas. And contingency planning itself costs money that could otherwise be spent on the core business. HSBC is the first bank publicly to put a price on Brexit. On July 31st it said that the associated staff moves, legal fees and more could add up to \$300m.

Businesses have been lobbying more actively for a soft Brexit since the election in June. Nonetheless, wise bosses are still preparing for the harder version. ■

Reach for the skyscraper

The “Walkie Talkie”, a London skyscraper, was bought in July by Lee Kum Kee, a Hong Kong food company, for £1.3bn (\$1.7bn), the most paid for a British building. The tumbling value of the pound in the wake of the Brexit vote has attracted bargain-hunters from abroad. With Britain’s departure from the EU looking chaotic and the possibility of a Labour government that could penalise foreign investors, it remains to be seen whether this is a good long-term bet. Lee Kum Kee could yet be left with sauce on its face.



Bagehot | A history lesson

The same mindset that lies behind Brexit also lay behind the Iraq war



ONE of the striking things about the Brexiteers is how keen they are on history. Many studied it at university, usually Oxford: Bill Cash, John Redwood and Chris Grayling from the older generation and Daniel Hannan, Dominic Cummings and Douglas Carswell from the younger. They rest their argument for Brexit as much on historical exceptionalism as on economic logic. Britain is simply too different from continental European powers, with their Napoleonic codes and *Verfassungspatriotismus*, to fit in. And they relish historical parallels: between Brexit and Henry VIII's break with Rome; between the Brexiteers and the anti-Corn Law activists who destroyed 19th-century England's equivalent of the Common Agricultural Policy; and between the legislation that will translate European law into British law and the 1832 Great Reform Act. Nigel Farage, the least cerebral of the Brexiteers, has encouraged young Britons to see "Dunkirk", a new film, to stiffen their spines for the struggle ahead.

Bagehot would like to point to a more recent historical analogy: between the Brexiteers and the American neoconservatives who persuaded George W. Bush to invade Iraq. The comparison might sound provocative—a bloody war and a peaceful referendum differ hugely. Nevertheless, striking parallels exist between the way that the neoconservatives and the Brexiteers think about the world. Indeed, there is even an overlap in personnel. Michael Gove wrote an essay on "the very British roots of neoconservatism and its lessons for British conservatives", and Liam Fox is a familiar figure in Washington's neocon circles.

The neoconservatives were a group of maverick intellectuals who exercised influence out of all proportion to their numbers. Ditto the Brexiteers. The neocons worked their magic by focusing on a single aim (regime change in the Middle East, starting with Iraq) and pursuing it with tireless energy. Ditto again. The Brexiteers are in some ways more remarkable than the neocons, who had only to outmanoeuvre the American defence-and-intelligence establishment, which preferred containment to regime change. The Brexiteers had to outmanoeuvre their own side. The young ones understood that Brexit was doomed so long as it was associated with ageing monomaniacs like Bill Cash, and flame-flowing populists like Nigel Farage. They were as brilliantly ruthless in sidelining their soulmates as they were in outmanoeuv-

ring their opponents, meeting in Tate Britain because they knew that nobody from the Westminster village would ever go there.

All very impressive. But the parallels also have a darker hue. The neoconservatives sold the Iraq war on the basis of dodgy claims about weapons of mass destruction and direct links between al-Qaeda and Saddam Hussein. The Brexiteers sold Brexit on the basis of dodgy claims about giving "our NHS the £350m the EU takes every week". The neoconservatives insisted that regime change in Iraq would be easy—and would set off a chain reaction across the Middle East. Kenneth Adelman called it a "cake-walk". Kanan Makiya, a leader of the Iraqi National Congress, predicted that American troops would be "greeted with sweets and flowers". Brexiteers have made strikingly similar claims about an easy divorce leading to a chain reaction across Europe. Boris Johnson justified his belief that Britain could leave the EU while preserving all the benefits of membership on the grounds that his "policy on cake is pro having it and pro eating it".

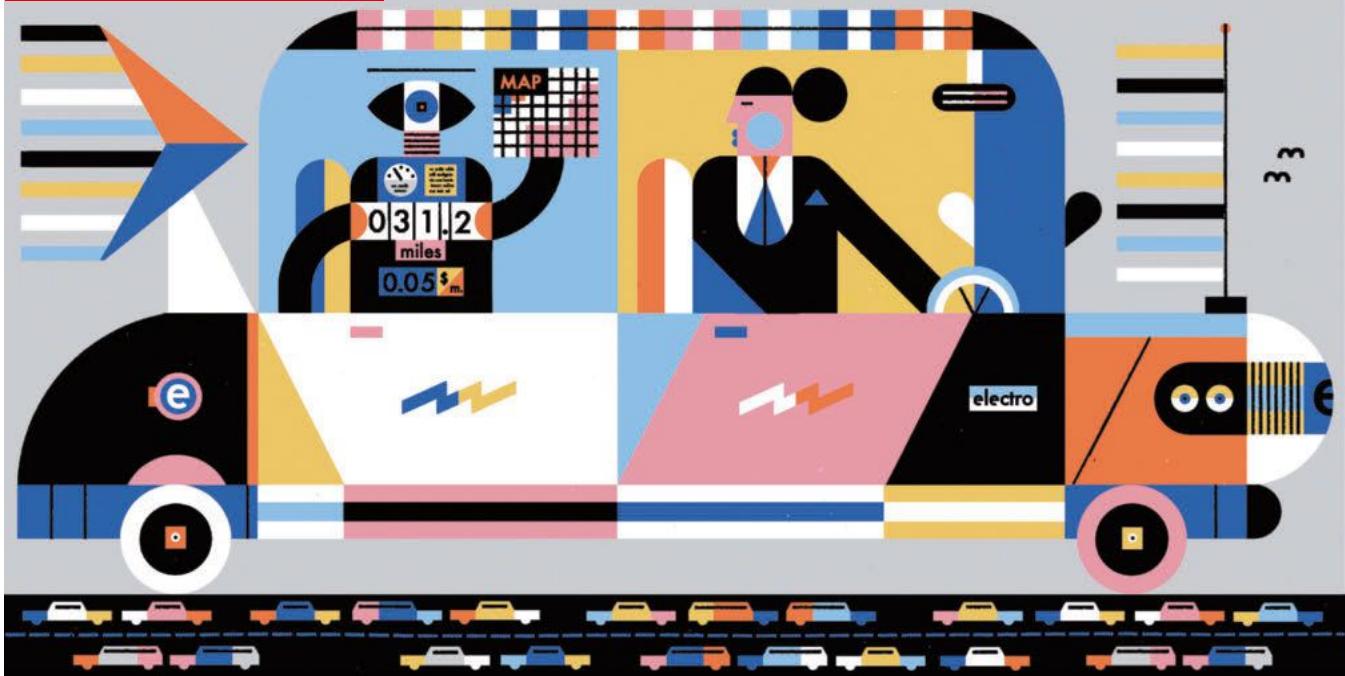
In both cases overconfidence led to a lamentable lack of planning. The Americans were so certain that Iraqis wanted regime change that they did not plan for prolonged resistance or social breakdown (John Bolton suggested that, having deposed Saddam, the Americans could give the Iraqis a copy of the *Federalist Papers* and scarper). The Brexiteers are so sure that Britain's destiny lies outside the EU that they have not planned for the sheer difficulty of undoing 45 years of legislation. Charles Moore argued in the *Spectator* during the Brexit campaign that "it is crucial to the 'leave' cause that it resist the temptation to set out a plan". One of the best books on the Iraq war is entitled "Fiasco". The title could well suit an account of Britain's Brexit negotiations.

Philip Hammond, Britain's chancellor, is doing his best to tame Brexit, much as Colin Powell tried to tame the Iraq war. He is urging a "long transition" of two or three years after Britain leaves the EU during which trading relations will remain much as they are and Britain will continue to pay into the European budget much as it does now. He has ruled out adopting "the Singapore option" of radically reducing taxes and regulations. He has also argued that "literally nobody" wants to see a dramatic fall in migration immediately after Brexit. Prominent Labour figures, such as Sadiq Khan, London's mayor, also want continuity, arguing that Britain should remain a member of the single market.

Look back in anger

Perhaps these moderates have hit on a formula that will allow Britain to disentangle itself painlessly from Europe. But William Hague, a former Tory leader, is probably closer to the truth when he worries that Brexit may become "the occasion of the greatest economic, diplomatic and constitutional muddle in the modern history of the UK". Both the main parties are split over crucial questions such as membership of the single market. When Parliament returns, the government faces weeks of angry debates and nail-biting votes over the "Great Repeal Bill". In the longer term it will probably face a rebellion by Conservative ultras who would rather see their party destroyed than Brexit diluted.

The real problem with the Brexiteers is that they don't spend enough time studying history. Since the mid-17th century the British have had a marked suspicion of radical change. They prefer their revolutions to be "glorious"—that is directed from above and dedicated to gradual change. And they insist that the popular opinion should be qualified and diluted by constitutional constraints. Leaps in the dark are supposed to be for foreigners. ■



Transport

The price of jam

Road-pricing has long been a good idea. Today it is an urgent one

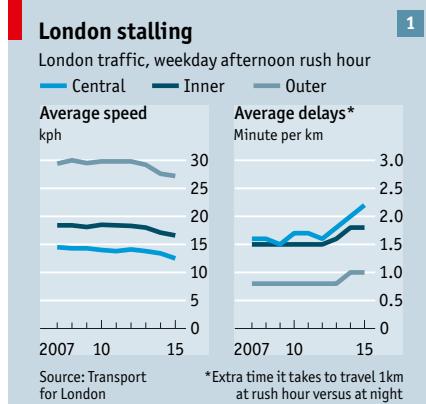
IN 1868 the world's first traffic light was installed outside the Houses of Parliament. The gaslit signal controlled the flow of London carriages—at least for a few weeks. For, soon enough, the gas ignited. The resulting explosion knocked the helmet off a policeman's head, and left him badly burned.

Efforts to ease congestion no longer literally blow up in your face, but recent schemes have run into trouble, too. In 2003 Ken Livingstone, then London's mayor, introduced a congestion-charging zone (ccz). Motorists pay up to £11.50 a day (\$15.20) to drive into the centre of the city. Since 2000 the number of cars entering central London has fallen by nearly a quarter. But congestion is rising again (see chart 1), a result of vans and taxis clocking up more miles within the zone, as well as new lanes for buses and Lycra-clad commuters that have reduced the road space for cars. More minutes are lost to delays than before the ccz. The average vehicle speed has fallen from 19.9 miles (32.0km) per hour in 2013 to 17.7mph (28.5kph) in 2016.

In response, London, like other heaving parts of the world, is looking at a more radical approach to reduce congestion. In January the London Assembly, the elected body that oversees the mayor, published a report calling for the city to develop a system of road-pricing that varies by when,

how much and where drivers use the roads. Singapore, which already has the world's most comprehensive road-pricing system, is introducing a new one in 2020 that uses cars' global positioning systems (GPS) to charge motorists more precisely. Other schemes are being tried out in American states such as California and Oregon.

All of which pleases economists. Using prices to ration a scarce resource, such as space on busy roads at busy times, makes sense. Those who consume a good should pay for it. Road-pricing is also more efficient than the typical ways drivers are charged for imposing costs on others: taxes



on fuel and on car ownership. Neither penalises driving in congested conditions, which causes extra pollution and crimps productivity by delaying workers and deliveries, and disrupting supply chains. And although congestion zones help, they are blunt instruments; ideally, road pricing would adjust to traffic flows in real time.

Yet economists are not normal people. Most voters hate taxes on driving. Even if they grudgingly accept existing ones, they squeal about any increases. In Britain, which Margaret Thatcher called a "great car-owning democracy", duties on fuel have been frozen since 2011 following pressure from drivers' groups. Nineteen American states have not raised their "gas taxes" in at least a decade; Oklahoma's levy has been frozen for 30 years.

The not-so-fast and the furious

Many drivers would rather "pay" by queuing than through road-pricing. The Netherlands hoped to run a 60,000-vehicle trial of road-pricing in 2011, on the way to a nationwide scheme. But opposition politicians and motoring organisations fought so hard that the plans were dropped.

Governments will nevertheless soon have to find new ways of making drivers pay. That is not because congestion will worsen otherwise—though it will. Rather, tax revenue from motoring is drying up.

One reason for this is the spread of ride-hailing and ride-sharing. In London drivers for firms like Uber can circulate all day inside the ccz, picking up fares, while being exempt from the charge. The number of private-hire vehicles that entered the zone at least once rose from 50,000 in March 2013 to 85,000 in November 2016. The number of licensed drivers rose from ➤

► 67,000 to 115,500 over the same period. (In the future self-driving cars may replace these workers, further depleting government coffers, since there will be fewer car owners to tax.) In total private-hire vehicles make up 38% of car traffic in central London, almost double the share of traditional black taxis.

The second reason for dwindling revenue—increasingly efficient cars—is even more important. Cars' fuel efficiency has roughly doubled in the past 25 years (see chart 2). Partly as a result, the tax take from fuel and vehicle duties in Britain has declined by £812m per year in real terms over the past five years, according to Gergely Raccuja, an economist who on July 13th won the Wolfson prize, an economics competition run by Policy Exchange, a British think-tank, for a paper on road taxation. During the same period the total amount of miles driven increased.

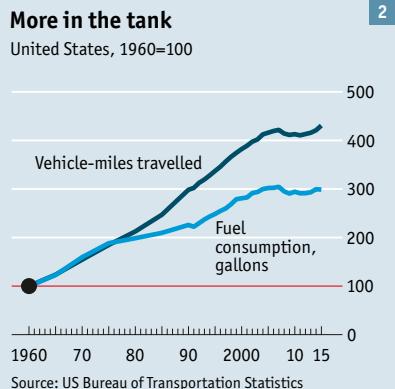
Electric vehicles will further widen the gap between traffic and taxes. Paal Brevik Wangsness of the Institute of Transport Economics in Norway, the country where electric-car ownership is highest, points out that electric vehicles not only incur no fuel duty, but often attract government subsidies. British drivers, for example, can get £4,500 off the cost of electric cars such as a Nissan Leaf or a Tesla Model X. Even if these types of subsidies fall as cars become cheaper, they will require infrastructure such as charging points and cables.

Get your motor runnin'

For Mr Raccuja, a fair and radical way to pay for the costs of car use would be to scrap duties on fuel and ownership, and replace them with a "road tax". His new levy would be a per-mile charge that varied depending on a car's weight and emissions, thereby making drivers with road-crushing and air-polluting vehicles pay more. Mr Raccuja notes that the charge could also be higher in more congested places.

Such schemes will doubtless infuriate motorists. But there are reasons to believe that a shift toward road-pricing is not just increasingly urgent, but also more plausible. London's CCZ was brought in against stiff opposition. Today just one-fifth of Londoners oppose the idea of a more sophisticated road-pricing scheme, according to the London Assembly. After a seven-month trial in 2006, Stockholm residents voted narrowly by 53% to 47% to make the city's congestion zone permanent. But by 2011 polls showed that about 70% of residents backed the scheme.

Car owners may become less of a political force, at least in cities, as people opt against getting behind the wheel. In many rich countries the share of 20-somethings with driving licences is falling. The number of car-less households in America declined from 1960, when the US Census began tracking it, until 2010, since when the



tally has begun to tick up. McKinsey, a consultancy, estimates that one in ten vehicles sold by 2030 will be for ride-sharing.

Technology will also make it easier to try road-pricing, including in poorer cities like Jakarta and Bangkok, where traffic is horrific. In the past, schemes might have relied on cameras to recognise number plates. Today transponders can ping a radio signal used to track a car's movement. But even that gizmo will soon be obsolete. Many premium vehicles are already connected to the internet using mobile-phone networks. By 2020 most new cars will come with these connections as standard. Together with GPS technology that means it will become easier to track the use of vehicles wherever they are.

Singapore is the model others will try to follow. The world's first CCZ was introduced there in 1975. It used paper permits to control access to a central zone until switching to electronic sensors in 2008. If average speeds are deemed too slow over a three-month period, then the city raises the cost of entrance. According to Woo Sian Boon of Singapore's Land Transport Authority, congestion has fallen as motorists

have switched to less busy routes or to the city-state's public transport, or travelled at off-peak times when charges are low.

From 2020 Singapore will take an even more sophisticated approach. It will use GPS to vary the amount drivers pay based on distance, time, location and vehicle. The scheme will reduce the need for the unsightly gantries that log drivers in and out. Drivers will receive real-time information about the cost and busyness of roads, encouraging them to consider other routes.

Although less ambitious than Singapore's plans, several American states are using technology to experiment, too. The likes of California and Colorado have accepted federal grants for trials of various pay-to-drive schemes. The biggest, OREGO in Oregon, started in 2015. Around 1,500 people have signed up. Drivers have devices fitted in their cars that take data from the engines' computers. The gadgets record the amount of fuel used and distance driven, and transmit the data via mobile networks. Motorists are charged based on how far they drive, with each mile costing 1.5 cents, whatever the location or time. Any state fuel tax they have paid (30 cents a gallon) is refunded.

The aim of OREGO is relatively narrow: to find a way to protect state taxes on motoring, even as cars become more fuel-efficient. Whether it will replace the state fuel tax is unclear. Nevertheless, innovative schemes such as OREGO may start to weaken the taboo against new taxes.

They also raise concerns about how motorists' data are used. Tech firms and carmakers are competing for access to the reams of data that drivers create. This can be used to sell them additional services based on location (take a journey on a hot day and your car may tell you where to pull in for an ice cream), the state of their vehicle (by using sensors to suggest maintenance) or the way they drive (by sharing data with insurance companies). Firms can also aggregate data to help create the algorithms for driverless vehicles.

Although Singapore's authorities may not fret much about privacy, others do. The American Civil Liberties Union, an advocacy group, has been active in Oregon; it worries about data leaking or being stolen. In 2015 the Texas A&M Transportation Institute, a think-tank, pointed out that it is often unclear who owns drivers' data and whether they are anonymised.

Head out on the highway

Clearing this up is possible. And once motorists have become used to the idea of paying for the road space they take up, rates could be tweaked to account for the noise, pollution and the risk of collisions in each location. For the time being governments, national and metropolitan, are proceeding cautiously. But as fuel-tax revenues dry up, that is sure to change. ■





Privatisation in France

National treasures

PARIS

The French state is mismanaging its valuable corporate assets

ONE reason for Italian anger over the decision on July 27th by Emmanuel Macron, France's president, to stop Fincantieri, a shipbuilder from Trieste, winning control of a French shipyard at Saint-Nazaire, was that recent cross-border deals have mostly gone France's way. Italian businesspeople have grown nervous about French firms' "colonisation" by means of acquisitions in luxury goods, media and telecoms, including the €46bn (\$55bn) merger between Luxottica, an Italian maker of spectacles, and France's Essilor, announced in January (the group's headquarters will be in Paris). The bad taste will linger even if the two governments strike a deal over Saint-Nazaire by the autumn, as they have pledged.

Yet Mr Macron's move has been even more dismaying for those at home who want the state to get on with privatisation. During his presidential run Mr Macron promised to raise €10bn from sales of some of the state's sprawling portfolio of holdings in firms. The aim was to pay for a new fund to help other companies invest in innovation. His threat to nationalise the Saint-Nazaire yard (rather than cede control to Fincantieri) is a retrograde step.

The direction of travel was supposed to be towards sell-offs. For the past few years the French state has been quietly disposing of its stakes in various regional airports, including Lyon, Nice and Toulouse. It was Mr Macron, as economy minister in 2015-16,

who oversaw the sales and who pressed for the disposal of Groupe ADP, a large company that owns the main airports in Paris, at Charles de Gaulle and Orly.

Mr Macron left office before he could finish the job and ADP remains 50.6% state-owned. But under his economic team, led by politicians drawn from the centre-right, its sale looks all but inevitable (and should raise some €7bn). An obvious bidder is Vinci, a French infrastructure firm. Yet privatising airports only goes so far. The question is what comes next. Mr Macron's government will soon, probably after the

Also in this section

48 Scripps Networks, discovered

49 Pharma firms unite

49 Profiting from the Belt and Road

50 Europe goes out-of-office

51 Schumpeter: King Kong

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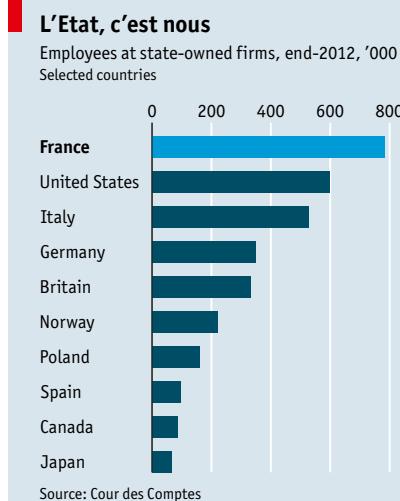
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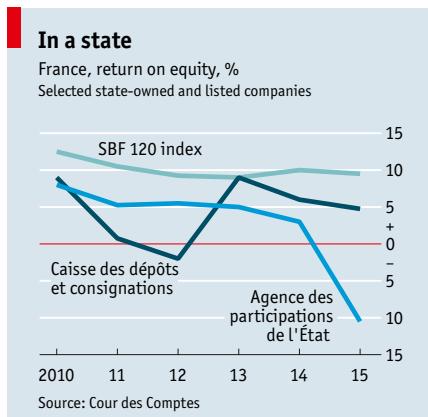
summer, announce its plan for ADP and say which other stakes are to be sold off.

A smaller role for the state in business is long overdue. A couple of decades after most countries in western Europe sold off many of their corporate holdings, France still has a huge portfolio. According to a report in January by the Cour des Comptes, an independent public auditor, the state has investments in nearly 1,800 firms, holdings which together are worth almost €100bn. The state-owned sector in France employs nearly 800,000 people, the most of all the countries surveyed by the Cour des Comptes (see chart). The number of firms in which the state has a majority stake has been rising since around 2006.

Public holdings are mainly managed by the Agence des participations de l'Etat (APE), by Bpifrance, a public-investment fund and the Caisse des Dépôts et Consignations (CDC), a state investment bank. The Cour des Comptes reckons the trio are doing a poor job; its report was scathing about public management of corporate assets over the decades (while recognising some recent improvements). It laments a lack of purpose in ownership and chronic failures of supervision, for example in the collapse of Areva, a nuclear firm 92% owned by the state. One curse for EDF, an energy utility that is another big holding, was being made to absorb some of Areva's struggling business last year.

The auditor also sees confusion between the three agencies, describes overall financial losses in recent years, poor governance and concludes that "the state has difficulty being a good shareholder". Even more damning is the verdict of a former boss of APE, David Azéma, who ran it until 2014. His experience, he explains, taught him that lumbering, publicly owned companies always lose value to nimbler competition. Political meddling hurts, he says, ►





► as when ministers rather than boards pick chief executives—who cannot be sacked however badly they perform.

Politicians also bully, he says, citing pressure last year on EDF, forcing it to agree against managers' wishes to finance and build Hinkley Point C, a nuclear power station in Britain that risks becoming a huge financial liability. Mr Azéma urges France "massively" to reduce the state's stakes in all listed companies, or at least create proxy boards to block political meddling.

All these problems help explain why the value of the 13 listed companies managed by the APE, worth some €66bn as of mid-July, has declined in recent years. The performance of a few big firms, notably nuclear and energy companies, was particularly awful. Most striking is the withering of EDF, 83.4% owned by the state. The utility's share price was €86 in 2007 and has fallen to under €9. Despite generating over €71bn in annual revenue, the company, which has enormous liabilities, is valued at less than €26bn.

Politicians do show a new readiness to divest public holdings, partly because the national budget needs revenue. Trade unions, too, are likelier to accept at least limited change. Support for hardline unions has declined, notably with the emergence this year of the reform-minded CFDT as the single-largest union. Asked about sales of public assets, its leader, Laurent Berger, says it would be "idiotic" to separate the state from strategic sectors, but that his members could accept changes on a "case-by-case basis".

Yet some politicians are said to be lobbying to delay sales of public assets, arguing that innovation funds could instead be raised by setting aside cashflow from the firms. State bodies have grown cannier in finding ways of preserving their influence over companies, even as they reduce ownership. The APE's holding in Safran, a big aeronautical and defence firm that has thrived in recent years, for example, has been cut from 30% in 2010 to just 14% this year. Yet the state retains nearly one-quarter of voting rights. It keeps other leverage, especially in the defence industry where it

is a huge customer. It might further cut its holdings in Safran and could reduce its current 26% in another defence firm, Thales (that stake is worth just over €5bn). But it is less likely that the state would sharply reduce its 11% holding in Airbus, a plane manufacturer, that is worth some €6bn.

Mr Macron is not entirely hands-off in his attitude to public assets and his decision about Saint-Nazaire shows a willingness to meddle in private ones too. As economy minister in 2015 he increased the state's stake in Renault, a big carmaker, by 4.7 percentage points, to nearly 20%, in order to force the firm to obey a new law giving double-voting rights to long-term shareholders (ie, the state). That infuriated Nissan, Renault's other big shareholder. Government officials now talk about selling some of the stake.

Will Mr Macron and his team dare introduce radical changes? Probably not. A likelier outcome is a gradual slicing away of parts of public holdings. Bruno Le Maire, the finance minister, talks of the state stepping back slowly from holding corporate assets. That would probably mean trimming its €5bn stake in Orange, formerly France Telecom, for example.

The chairman of two large companies, one with a large state stake, suggests that in the end the role of state is "too important in French economic life" to be changed quickly. An official at the state-owned railways firm, SNCF, concurs. That firm devours billions in subsidies, but is popular with the public who would not countenance its privatisation, or that of any other firm seen as "strategic". Outright privatisation of airports might soon be inevitable, but other changes are likely to come one step at a time, with some in the wrong direction. ■

Discovery and Scripps

Fuzzy signal

NEW YORK

Discovery's purchase of Scripps means American TV could get a lot cheaper

FORGET your subscription to Netflix. Would you pay \$5 a month for a collection of TV channels that gave you programmes such as "90 Day Fiancé", "Pit Bulls and Parolees", "My Cat from Hell", "Worst Cooks in America" and "Shark Week"? Irresistible as this may seem, it is not yet on offer. But many believe that it has come closer. Discovery, a cable-network group, agreed on July 31st to buy another: Scripps Networks Interactive, owner of Food Network and HGTV, among other channels, in a \$14.6bn deal. The combined firm will have 19 lifestyle- and reality-television-oriented channels including



Another fat bundle

Animal Planet, DIY Network, Travel Channel and the flagship Discovery Channel (home of "Shark Week").

The impetus for the combination is the declining market in America for expensive pay-TV bundles of 200 channels, which can cost close to \$100 a month. In the past few years millions of consumers have spurned such bloated packages for cheaper streaming services like Netflix and Amazon Prime video. Sales of digital-TV antennae, used to receive broadcast networks without a cable subscription, have surged to 7.4m last year. Discovery Channel has lost more than 8m subscribers in five years, a decline of about 8% (chiefly because of the decline of fat bundles).

It might seem unwise to add more cable networks by buying Scripps. Discovery offered a 34% premium on its price. Viacom, another channel group, had also been bidding, which is likely to have increased the price. "Scripps picked the right time to sell and Discovery picked the wrong time to buy," notes Michael Nathanson of Moffett-Nathanson, a research firm. Executives at Discovery argue, though, that distributors such as Charter and Comcast should be able to entice consumers with much cheaper pay-TV options. The total wholesale cost of Discovery and Scripps' 19 channels is \$3 per subscriber a month, less than half of the cost of just one of Disney's channels, ESPN. "We're really good value," says David Leavy, a Discovery executive.

Yet he will face significant hurdles in persuading distributors or consumers of that worth. Distributors have struck agreements with large competitors of Discovery, such as Time Warner and 21st Century Fox, that limit the selling of too many alternative bundles (such as the kind that Discovery would like to sell) that exclude their channels. In addition, pay-TV providers believe that customers want live entertainment, especially sport, and that if they do not offer networks such as ESPN, consum-

ers will have all the more reason to drop cable for Netflix. Streaming services like YouTube, Hulu and Sling sell "skinny" TV bundles that include the more expensive sports networks, and mostly exclude Discovery's cheap channels.

A \$5-a-month option may yet emerge, however. Rich Greenfield of BTIG, a research firm, believes the growing antennae sales indicate a hunger for inexpensive options. Non-sports bundles of cheaper channels, from the likes of Discovery and Viacom, are inevitable. In the future, Mr Leavy says, Discovery may even wish to sell direct to the consumer.

But will the offering be compelling enough to stand out? Netflix and Amazon can make the sort of reality shows that Discovery and Scripps offer. Some producers of their content are being directly approached by streaming services to make content for them. It does not cost much to make "Cupcake Wars" or "House Hunters". "It all comes down to what are your barriers to entry," Mr Nathanson says. "What moats have you built? How defensible are those moats?" At least Discovery can infest them with sharks. ■

Drug firms

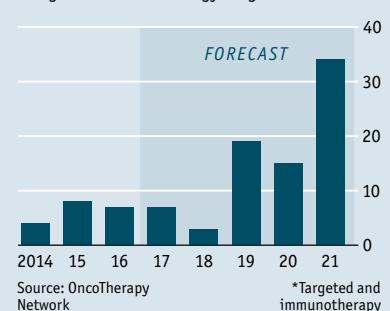
Pharma frenemies

A rush for immunotherapy drugs means new bedfellows

THE modern pharmaceutical firm lives or dies on the strength of its drug portfolio. As patents expire on lucrative medicines, they must replace the income that has been lost by inventing new drugs, or buying them in from outside. Both paths are expensive. But the costs of failure are greater, and this is how it was possible for a large and successful firm—such as British-based AstraZeneca—to shed 15% of its mar-

Ganging up on cancer

Expected combinations of the two major categories of new oncology drugs*



ket value in a single day last week. Around £10bn (\$13.2bn) was lost on news of disappointing results in one of its clinical trials (its shares have since rebounded by 4%).

The trial was to find out if a pair of drugs would treat a form of lung cancer. The drug, Imfinzi, and the experimental drug tremelimumab, belong to a new category of immunotherapy medicines called "checkpoint inhibitors". Similar drugs are made by Bristol Myers Squibb (BMS), by Merck in America and Roche, a Swiss firm. In an interim finding, it was reported that Astra's combination did not offer an improvement over therapies already on the market. John Rountree, a partner with Novasecta, a consultancy, says the results suggest it is still early days for immuno-oncology R&D, not that there is something wrong with the technology. Last year, BMS lost 16% of its market value after a failed trial of Opdivo, another checkpoint inhibitor, in lung cancer.

The promise of these drugs means the market has become crowded. It is harder for later entrants such as AstraZeneca, whose drug Imfinzi is the fifth checkpoint inhibitor that came to market, but it has a wide portfolio of good immuno-oncology drugs, which means it can offer these in combinations—something that is expected to offer a therapeutic benefit to patients.

Yet as the number of checkpoint inhibitors and immunotherapy drugs rises, the number of such potential combinations of treatments is growing (see chart), which could mean many expensive clinical trials for pharma companies. They must decide how to obtain the best sets of drugs. Mergers and acquisitions to get the right treatments look expensive (research from Novasecta found that last year the median price of a pharma firm was 39 times its revenue, compared with 19 times in 2015 and 8 times in 2014).

Instead, pharma firms that have competed fiercely for decades have decided that sometimes it is better to co-operate. Last week, Merck bought half the rights to AstraZeneca's Lynparza in a deal worth \$8.5bn. The firms will co-develop and sell a drug known as a "PARP inhibitor". It will

be developed in combination with checkpoint inhibitors made by both firms. In January this year Merck also expanded its existing collaboration with Eli Lilly to study how the drug Lartruvo, a targeted cancer drug, acts with Merck's Keytruda. On July 25th Eli Lilly said it will out-license or co-develop one-third of its oncology pipeline. There are many more examples.

The industry is convinced that collaboration is needed in immuno-oncology, reckons McKinsey, a consulting firm. Working together is an effective way to mix laboratory talent and to bring medicines to patients, adds Mr Rountree. It is evidence of this drive to find combinations of drugs that most of the hundreds of trials of the top two checkpoint inhibitors on the market are led by firms or institutions other than the company that actually owns the drug, says McKinsey.

If the collaborations turn out to work, the industry will have advanced in two important ways. First, it would mean that pharma has found a way to create value for its shareholders aside from the expensive and unpredictable route of M&A. Second, the deals could drive efficiency in an industry that is struggling with productivity. Studies show that pharma productivity (measured by the number of new molecular entities created per billion dollars of investment) has been declining for most of the industry's history. There is no denying that the deals are complex to arrange, legally speaking, but being awkward frenemies could be worth it. ■

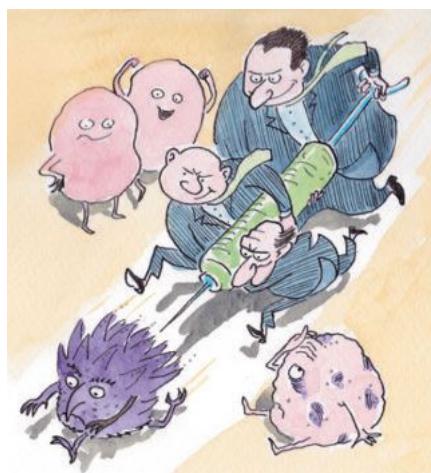
China's grand project

Where the twain shall meet

Western multinationals are coining it along China's One Belt, One Road

"MUTUAL benefit, joint responsibility and shared destiny," sings a choir of enthusiastic schoolgirls in a music video called "The Belt and Road, Sing Along" from Xinhua, a news service run by the Chinese government, that mixes shots of cranes and shipping containers with people enjoying foreign landmarks. Western firms are scarcely less optimistic. Launched by China in 2013, the One Belt, One Road policy, known as OBOR, has two parts. There is a land-based "belt" from China to Europe, evoking old Silk Road trade paths, then a "road" referring to ancient maritime routes.

OBOR will span 65 countries (see map on next page), and China has so far invested over \$900bn in projects ranging from highways in Pakistan to railway lines in Thailand. Western multinationals, spot-►





ting a bonanza, are selling billions of dollars of equipment, technology and services to Chinese firms building along it.

America's General Electric (GE) made sales of \$2.3bn in equipment orders from OBOR projects in 2016, almost three times the total for the previous year. John Rice, the firm's vice-chair, expects the firm to enjoy double-digit growth in revenues along OBOR in coming years. Other firms, such as Caterpillar, Honeywell, and ABB, global engineering giants, DHL, a logistics company, Linde and BASF, two industrial gas and chemicals manufacturers, and Maersk Group, a shipping firm, rattle off lists of OBOR projects. Deutsche Bank has structured eight trade deals around it and has an agreement with the China Development Bank, one of China's policy lenders, to fund several OBOR schemes.

All the activity has confounded early sceptics. They noted that in the past 15 years as China industrialised, the country's companies ran construction projects over an expanse approximately equivalent to the built area of all western Europe with very little help from foreign firms.

Yet OBOR has highlighted that Chinese groups have little experience abroad, and that their Western counterparts offer a technological edge and thorough knowledge of local conditions across the OBOR region, from Tajikistan to Thailand. Partnering with Western multinationals also gives Chinese companies credibility, particularly with financial institutions. One Western executive admits that Chinese companies make liberal use of his firm's name in OBOR project presentations to raise finance even though it is only marginally involved.

Below the belt

Some executives worry that OBOR may have its downsides in the longer term. China wants to open up new markets for Chinese firms in sectors that are currently dominated by Western companies, across industries ranging from engineering and telecoms to shipping and e-commerce. Western firms are profiting handsomely from OBOR itself, but Chinese ones even more so. A database of open-source infor-

European productivity

Le long layoff

Europe's no business as usual summer

DON'T you know about our summer?" asks a spokesperson of a Swedish multinational, himself presumably on holiday as kids chirp in the background. Almost everyone is gone until September, he says. At a German multinational, "the whole board is away for August," admits a spokesperson. Faced with a slew of out-of-office messages across corporate Europe, there seems little choice for a business correspondent but to report on the phenomenon itself.

The practice of collectively taking July or August off dates from the Industrial Revolution, when it made sense to send off all assembly-line workers simultaneously. In England's north entire factories used to descend on the same resorts. As any tourist who has found themselves in front of an cream shop that is closed during a sizzling southern European summer will know, it has spread beyond factory jobs.

Until 2015 France had a rule that mandated some bakeries to stay open in August, so that Parisians—or rather tourists, because no chic Parisian wants to be seen in town during the summer—wouldn't be deprived of baguettes. So empty is the city that month that the average speed of cars on a key ring road jumps from 38kph (24mph) to 52kph. Some of the best restaurants in Cyprus close in the tourist season. "Summer is near and Frankie will take a nap for a while," says the site of Frankie's Social, a trendy bar in Limassol.

Much of Milan becomes deserted as well. In the artsy district of Brera, Rita Zubelli runs an ice-cream parlour with her parents and brother. It will close shop

mation collated by the Reconnecting Asia Project, run by the Centre for Strategic and International Studies, a think-tank in Washington, DC, shows that 86% of OBOR projects have Chinese contractors, 27% have local ones and only 18% have contractors of foreign origin.

Chinese firms are moving beyond contract work to become operators of projects and investors too. Their Western competitors may win lots of business in the OBOR countries only for as long as their technological advantage lasts. That lead in turn will be eroded as Western companies work with Chinese partners on OBOR. In 2016 alone, ABB did business with more than 400 Chinese enterprises, helping them adjust for huge differences in construction and engineering standards

for two weeks shortly. Why not hire someone to serve tourists? Italian law has stricter rules for firms with non-family members—the staff toilet would have to be moved from the basement.

It is not only the south that goes in for summer sloth. Production workers at Porsche, a German carmaker, are on a compulsory three-week break. In Norway *fellesferie* refers to a period of collective leave in July, when many firms shut and services including banks run on summer hours. In the Netherlands the *bouwvak* still means that many construction workers must take three weeks off in July and August. The timing is doubly puzzling for the industry because demand is strong and summer is the best time to build in a wet country. Even some police stations are shut in August. Presumably crime takes a break, too.

Though Europe's appetite for summer holidays is easy to mock, of the ten most productive countries in the world (judged by per-hour productivity) only one—America, in fifth place—is not in Europe. Still, in several countries including Germany and the Netherlands, workers and trade unions have begun to press for more flexible leave policies; not everyone wants to go on holiday at a set time when prices are highest.

Firms that trade globally have had to adapt to demand from those parts of the world—especially Asia—that do not slow over summer and that expect someone in Europe to answer the phone. But though the European summer may spread itself out a little more over the year, there is scant sign that Europeans will cut down on their beach and mountain time.

across countries. Such firms will learn and advance in the process.

Yet for now, Western companies are focused on the opportunities. Jean-Pascal Tricoire, the Hong Kong-based chief executive of Schneider Electric, a French energy-services firm, says that for his company OBOR is one of the most important plans of the early part of this century. Honeywell has recently formed a team called "East to Rest" that manages sales and marketing to mainland firms that are expanding abroad. As a goated singer in Xinhua's music video promises Chinese viewers, "when Belt and Road reaches Europe, Europe's red wine is delivered to the doorstep half a month earlier". For years to come, OBOR looks likely to be the toast of Western boardrooms, too. ■

Schumpeter | King Kong

Hong Kong, the global capital of hustle, has a rare moment of self doubt



OF THE world's three great commercial centres—New York, London and Hong Kong—two are on the defensive. London faces a rupture with the European Union, which wants to seize the City's euro-related activities and shift them inside the currency zone. In Hong Kong the fear is of deeper assimilation by mainland China, followed by irrelevance.

Entrepots, after all, can become obsolete. Venice once teemed with merchants, not tourists. Yet while London's problem is complacency, Hong Kong's pessimism seems overdone. It remains vital both to China and to the country's trading partners—the adaptor that converts the mainland's financial and legal voltage into the one used by the rest of the world.

Today's gloom partly reflects a fear of Chinese autocracy. During Schumpeter's recent visit, Xi Jinping, China's president, in town for the 20th anniversary of the resumption of mainland rule, warned that, while the constitutional structure of "one country, two systems" remains intact, Hong Kong must not cross any political "red lines". Business folk have three worries: that Hong Kong will be usurped by Shanghai; that it can no longer claim to be a pan-Asian hub; and that it is a laggard in technology.

Hong Kong has serious clout. It hosts the world's fourth-biggest stock exchange and currency market. It is a hub for cross-border loans. About half of China's outward direct investment flows through it. After 2000 the city's lawyers, bankers and consultants helped scores of China's big state-owned firms list shares there. Hundreds of private mainland firms also use Hong Kong to list and as a springboard for foreign expansion. There have been a few scandals—regulators have halted trading in 13 private mainland firms since 2011—but these make up less than 1% of total market capitalisation. The overall quality of supervision is strong.

In 2009 China said that Shanghai would be a global financial centre by 2020 (presumably, displacing Hong Kong). But while its stockmarket is almost as large as Hong Kong's, economic liberalisation has stalled on the mainland. China's financial and legal systems are isolated. Foreign banks are all but excluded—they have underwritten just 8% of mainland securities issued so far this year. Mainland financial firms have too little muscle outside China and most have boards that lack international experience.

As well as being cut off, the mainland's financial system is not

trusted by foreigners. The banks are assumed to fudge their figures. Property rights are fluid, as evidenced by crackdowns on tycoons in the past three years. Deng Xiaoping said that some people should be allowed to get rich first. In mainland China under Mr Xi, to be rich is perilous. The result is that few multinationals would domicile a big holding company on the mainland under its opaque laws and tax code. Wall Street's five biggest banks have cut their total credit exposure to the mainland by 20% since 2014. China wants the yuan to be a more important currency, but its "three steps forwards, two steps back" approach to lifting capital controls gets in the way. The pool of yuan deposits held offshore has fallen by 47% since 2014. All this will hold back Shanghai.

China's trade and corporate footprint is growing but with regard to finance and law, "it is no longer interested or able to change itself to fit the world", says a finance firm's chief. That is why Hong Kong's role as an adaptor is so important, and one that China appears to accept. Take "stock connect", a newish link between the Shanghai and Hong Kong exchanges. Instead of a riot of free trading by individuals, buy and sell orders are aggregated by the authorities on both sides of the border, and settled bilaterally once a day. China can keep tabs on mainland investors and it requires them to repatriate the proceeds of share sales, in yuan.

The authorities in Hong Kong want more multinational firms to list in the city, enabling mainland citizens to invest in them, with China's approval. To attract them, Hong Kong intends to alter its rules to allow firms with dual-share classes (such as Alphabet and Facebook) to list. The change should also attract startups.

What about the second worry, that Hong Kong is no longer a pan-Asian hub? It is true that firms in India and South-East Asia look to its long-standing rival, Singapore. It does not help that Mandarin is challenging English as the language of business in Hong Kong. And China's "One Belt, One Road" (OBOR) policy to strengthen its regional links is being led by state banks with their headquarters in Beijing, not by Hong Kong institutions (see page 49). Yet Hong Kong has good regional links. Two of the three biggest global banks in Asia—Citigroup and HSBC—run operations from the city. It is through its arm in Hong Kong that China's most global bank, Bank of China, is expanding in South-East Asia.

The city has become a pan-Asian life-insurance hub in the past decade, hosting the two large regional competitors, AIA and Prudential as well as FWD, an upstart worth several billion dollars. One of Indonesia's largest foreign investors, Jardine Matheson, has its headquarters in Hong Kong. As for the OBOR project, private firms doing business will need contracts and financing.

New territories

Hong Kong's true weakness is technology. Singapore has two unicorns—unlisted firms worth over \$1bn—Sea, a shopping and online-gaming firm, and Grab, a ride-hailing company. It hosts the Asian headquarters of several big Silicon Valley firms. Of China's technology giants, only Tencent is listed in Hong Kong. The city could, however, become the laboratory where Chinese and Western financial innovation meet. Ant Financial, China's fintech giant, is launching its first foreign mobile wallet in Hong Kong. Citi Asia is leading Citi's charge to win digital customers.

Perhaps China will ignore its own economic interests and rip up Hong Kong's rule of law. Or perhaps the city's decline will be more insidious, with its regulators and courts decaying. Still, one of Hong Kong's biggest problems is its own lack of confidence. For a rock that was made rich by refugees, that is unbecoming. ■

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Human capital

The people's champion

Gary Becker made humans the central focus of economics. The second in our series on big economic ideas

WHY do families in rich countries have fewer children? Why do companies in poor countries often provide meals for their workers? Why has each new generation spent more time in school than the one that came before? Why have earnings of highly skilled workers risen even as their numbers have also increased? Why should universities charge tuition fees?

This is an incredibly diverse array of questions. The answers to some might seem intuitive; others are more perplexing. For Gary Becker, an American economist who died in 2014, a common thread ran through them all: human capital.

Simply put, human capital refers to the abilities and qualities of people that make them productive. Knowledge is the most important of these, but other factors, from a sense of punctuality to the state of someone's health, also matter. Investment in human capital thus mainly refers to education but it also includes other things—the inculcation of values by parents, say, or a healthy diet. Just as investing in physical capital—whether building a new factory or upgrading computers—can pay off for a company, so investments in human capital also pay off for people. The earnings of

In this series

- 1 Coase and the firm
- 2 **Becker and human capital**
- 3 Say's law
- 4 Pigouvian taxes
- 5 The natural rate of unemployment
- 6 Overlapping generations

well-educated individuals are generally higher than those of the wider population.

All this might sound obvious. As far back as Adam Smith in the 18th century, economists had noted that production depended not just on equipment or land but also on peoples' abilities. But before the 1950s, when Becker first examined links between education and incomes, little thought was given to how such abilities fit with economic theory or public policy.

Instead, economists' general practice was to treat labour as an undifferentiated mass of workers, lumping the skilled and unskilled together. To the extent that topics such as training were thought about, the

view was pessimistic. Arthur Pigou, a British economist who is credited with coining the term "human capital", believed there would be an under-supply of trained workers because companies would not want to teach skills to employees only to see them poached by rivals.

After the second world war, when America's GI bill helped millions complete high school and university, education started to receive more attention from economists, Becker among them. The son of parents who had never got beyond the eighth grade but who filled his childhood home with discussions about politics, he wanted to investigate the structure of society. Lectures by Milton Friedman at the University of Chicago, where Becker completed his graduate studies in 1955, showed him the analytical power of economic theory. Doctoral degree in hand, Becker, then in his mid-20s, was hired by the National Bureau of Economic Research to work on a project calculating returns on schooling. What seemed a simple question led him to realise that no one had yet fleshed out the concept of human capital. In subsequent years he developed it into a full-fledged theory that could be applied to any number of questions and, soon enough, to issues previously seen as outside the realm of economics, from marriage to fertility.

One of Becker's earliest contributions was to distinguish between specific and general human capital. Specific capital arises when workers acquire knowledge directly tied to their firms, such as how to use proprietary software. Companies are happy to pay for this kind of training because it is not transferable. By contrast, as Pigou suggested, firms are often reluctant to stump up for general human capital: teach employees to be good software programmers and they may well jump ship to whichever company pays them the most.

But this was just the beginning of his analysis. Becker observed that people do acquire general human capital, but they often do so at their own expense, rather than that of employers. This is true of university, when students take on debts to pay for education before entering the workforce. It is also true of workers in almost all industries: interns, trainees and junior employees share in the cost of getting them up to speed by being paid less.

Becker made the assumption that people would be hard-headed in calculating how much to invest in their own human capital. They would compare expected future earnings from different career choices and consider the cost of acquiring the education to pursue these careers, including time spent in the classroom. He knew that reality was far messier, with decisions plagued by uncertainty and complicated motivations, but he described his model as an "economic way of looking at life". His ➤

► simplified assumptions about people being purposeful and rational in their decisions laid the groundwork for an elegant theory of human capital, which he expounded in several seminal articles and a book in the early 1960s.

His theory helped explain why younger generations spent more time in schooling than older ones: longer life expectancies raised the profitability of acquiring knowledge. It also helped explain the spread of education: advances in technology made it more profitable to have skills, which in turn raised the demand for education. It showed that under-investment in human capital was a constant risk: young people can be short-sighted given the long payback period for education; and lenders are wary of supporting them because of their lack of collateral (attributes such as knowledge always stay with the borrower, whereas a borrower's physical assets can be seized). It suggested that there was no fixed number of good jobs but that highly paid work would increase as economies produced more skilled graduates who generated more innovation.

The backlash

Human capital could also be applied to topics beyond returns to individuals from education. The idea was a powerful variable in explaining why some countries fared far better than others: to promote income growth over many years, heavy investment in schooling was necessary. It shed light on why firms in poor countries tended to be more paternalistic, providing dormitories and canteens: they reaped immediate productivity gains from rested, well-fed workers. It informed big increases in the numbers of women studying law, finance and science since the 1950s: the automation of much household work meant that women could invest more in building their careers. And it helped explain the shrinkage of families in wealthy countries: if increasing value is placed on human capital, parents must invest more in each child, making large families costly.

But any theory that attempts to explain so much is bound to encounter pushback. Many critics bristled at Becker's market-driven logic, which seemed to reduce people to cold, calculating machines. Although "human capital" is an unsightly term—in 2004 a panel of German linguists deemed *Humankapital* the most offensive word of the year—it is the task of social science to identify and refine concepts that would otherwise be fuzzy. It took Becker's framework to make the importance of education explicit, and to put people at the heart of economics.

Within the discipline, some objected that Becker had overstated the importance of learning. Education matters not because it imparts knowledge, critics said, but because of what it signals about the people

who complete university, namely that they are disciplined and more likely to be productive workers. In any case, people of greater abilities are the ones who are most likely to get higher degrees in the first place.

Yet increasingly sophisticated empirical analyses has revealed that the acquisition of knowledge is in fact a big part of what it means to be a student. Becker himself highlighted research findings that one quarter of the rise in per-person incomes from 1929 to 1982 in America was because of increases in schooling. Much of the rest, he insisted, was a result of harder-to-measure gains in human capital such as on-the-job training and better health.

He was also fond of pointing to the success of Asian economies such as South Korea and Taiwan, endowed with few natural resources other than their populations, as proof of the value of investing in human capital—and in particular of building up education systems. Becker's original analysis focused on the private benefits to students, but economists who followed in his footsteps expanded their field of study to include the broader social gains from having well-educated populations.

The importance of human capital is now taken for granted. What is more controversial is the question of how to cultivate it. For those inclined to support a bigger state, one interpretation of Becker's analysis is that the government ought to pour money into education and make it widely available at a low cost. For a conservative, the conclusion might be that the private gains from education are so big that students should bear the costs of tuition.

Although Becker's academic writings rarely strayed into policy prescriptions, his popular writings—a monthly *Businessweek* column that began in the 1980s and blog posts in later years—offer a measure of his views. For starters, he talked of "bad inequality" but also "good inequality", an unfashionable idea today. Higher earnings for scientists, doctors and computer pro-

grammers help motivate students to tackle these difficult subjects, in the process pushing knowledge forward; from this perspective, inequality contributes to human capital. But when inequality gets too extreme, the schooling and even the health of children from poor families suffer, with their parents unable adequately to provide for them. Inequality of this sort depresses human capital, leaving society worse off.

As for the debate about whether government-funded universities should raise tuition fees, Becker thought that only fair, given that their graduates could expect higher lifetime earnings. Rather than subsidising students who go on to become bankers or lawyers, he argued that it would be more productive for the government to fund research and development. Yet, concerned by mounting inequality in America, he thought that more should be done to invest in early childhood education and improve the state of schools.

The knowledge economy

Becker applied his own prodigious reserves of human capital well beyond education. He used his "economic approach" to look at everything from the motives of criminals and drug addicts to the evolution of family structures and discrimination against minorities. In 1992 he was awarded the Nobel prize for extending economic analysis to new spheres of human behaviour. He remains one of the most cited economists of the past half-century.

Mr Becker's way of doing economics, initially a radical challenge to convention, came under attack as it went mainstream. The rise of behavioural economics, with its emphasis on limits to rationality, undercut his depiction of people as rational agents seeking to maximise welfare. Improvements in data collection and analysis also gave rise to more detailed empirical research, instead of the wide-ranging concepts that he favoured.

Yet precisely because Mr Becker's analysis touched on so much, it still has a lot to offer. Consider the debate on how governments ought to respond to disruptive technological change. From the standpoint of human capital, one answer is obvious. Technological advances mean that the knowledge that people acquire in school is becoming obsolete more quickly than before. At the same time, longer life expectancies mean that the returns on mid-career training are higher than in the past. It is therefore both necessary and possible to replenish human capital by designing better systems for lifelong learning.

This is just one element of the response to technological disruption but it is a vital one. Becker never intended that his theory of human capital explain everything in economics, only that it explain a little about a lot. On this count his work remains indispensable. ■





Phoenix economies

When the news gets better

How badly run economies are transformed into investment darlings

NAWAZ SHARIF is the ex-prime minister of Pakistan again. His third stint in the job ended on July 28th after the Supreme Court disqualified him from office. Yet he could justifiably claim that he left Pakistan's economy in a better state than he found it. When Pakistan last went to the polls, GDP had been growing at around 3%, a dismal rate for a poor country with a burgeoning population. Inflation was above 10%. The budget deficit had ballooned. A crisis loomed. Four years on, inflation is in the low single digits. The budget deficit has shrunk to a little above 4% of GDP. The GDP growth rate is closing in on 6%. Investors too have taken notice. Since 2012, Pakistan's stockmarket capitalisation has doubled in dollar terms (see chart).

Pakistan is not Sweden. It remains at the wrong end of global rankings of security, corruption and human development. At the last count, almost 30% of the population were living in poverty. Yet a crisis-prone economy has at least been put on a steadier footing. In the process, Pakistan has become something of an investment darling. It is thus a template for a particular kind of turnaround, one that reflects an upgrade in macroeconomic policy.

Bounce-back stories of this kind are quite rare, because the reforms needed are initially painful. They are typically found in what are called "frontier markets",

which lie beyond even emerging markets at the riskiest edge of the investment universe. Not all such markets will follow the path taken by Pakistan. A more apt description for one that has come back from the near-dead to a tolerable life might be "phoenix economy".

Which places fit the bill? The spectrum runs from disaster zones, such as Zimbabwe (or even Venezuela), which might one day bounce back; through early-stage recovery stories that may yet falter, such as Argentina, Egypt and perhaps Nigeria; to graduates, such as Pakistan or the Philippines, which has been "flavour of the month for about ten years" in the words of

Also in this section

55 Buttonwood: Money for nothing

56 Private equity

57 LIBOR's future

57 Bitcoin's fork in the road

58 Genetic testing and insurance

Free exchange is away

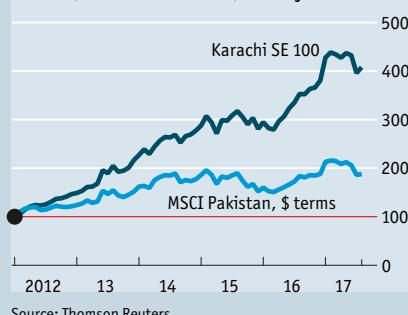
For daily analysis and debate on economics, visit
Economist.com/economics

one frontier investor. Not much unites such economies beyond a history of bad management. But there are some common themes. Politics are usually unstable. The army lours over Pakistan, Egypt and Nigeria, for instance. And phoenixes tend to go through the same three phases: a crisis, or "ashes" stage, as trouble comes to a head and capital flees the country; a "response" stage, where a politician grasps the reform nettle, often with IMF support; and a third "rebirth" stage, as capital is lured back by the prospect of economic recovery.

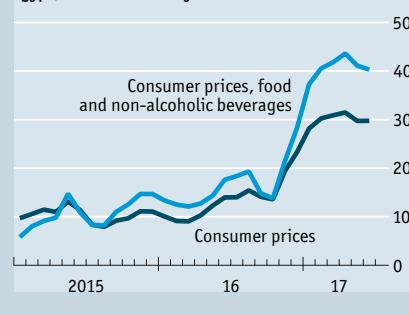
Start with the ashes. Circumstances will differ from country to country but the general pattern is quite similar. The economy hits a financial constraint: sometimes it is the budget deficit; more often the trade deficit. Investors become loth to offer financing. Interest rates shoot up. The flow of foreign capital dries up or—worse—capital begins to flee. The currency is propped up by intervention: foreign-exchange reserves are run down to sustain the illusion that it is worth more than it really is. Reserves grow thin. Hard currency is ra-

Taking flight again

Pakistan, stockmarket indices, January 1st 2012=100



Egypt, % increase on a year earlier



tioned, creating shortages of essential imports. The economy falters.

The triggers for crisis vary. A weak spot in Pakistan, for instance, was its reliance on oil imports to fuel much of its electricity supply. When the price of crude rose above \$100 a barrel in 2013, the cost of the government's fuel subsidies blew out its budget deficit. In Egypt the constraint was its current-account deficit, which widened from 0.8% of GDP in 2014 to 5.6% by 2016. The descent in the oil price hit fees from the Suez canal and crimped the value of remittances from oil-rich neighbours. Security fears led to a drop in revenue from tourism.

The second stage of a turnaround sees the realisation that orthodox exchange-rate, monetary and fiscal policies are required. This usually means allowing the currency to fall, cutting the budget deficit by trimming wasteful subsidies, and using monetary policy to control inflation rather than to finance the government.

It is not enough for senior technocrats to argue for such changes. The head of government must back the reforms. Andrew Brudenell, of Ashmore, a fund manager, says that once an example is set from the top, the effect trickles down to other institutions. A big plus is a high-profile champi-

on for policy changes, such as Mauricio Macri, Argentina's president, who was elected on a platform of economic reform. Often the IMF will be brought in to lend hard-currency reserves and policy advice. Egypt began a three-year IMF programme last November. Pakistan signed up to its most recent one in September 2013.

That is often the cue for the rebirth, during which capital flight goes into reverse. Attracting capital back is "somewhere on the scale between pretty important and absolutely crucial", says Paul McNamara, of GAM, a fund-management firm. It takes a while to shrink a big current-account def-

Buttonwood | Money for nothing

Comparing national and corporate balance-sheets

THE easiest way to get an economist to laugh sardonically is to compare a country's finances to those of a family. It is both simplistic and wrong, they will argue, for politicians to say that a country "must live within its means".

But in a new working paper* from the National Bureau of Economic Research, Patrick Bolton and Haizhou Huang make a different comparison; between the finances of a government and those of a company. A business can finance itself in three ways: through internal funds (its revenues); through borrowing; and through equity (the issuance of new shares). In the first two cases, it is easy to see the analogy with a nation state; governments can raise money from taxes or borrow in the form of government bonds.

But the paper's most striking idea is that the national equivalent of equity is fiat money. Governments are able to issue money that can be used to settle debts and pay taxes—the term "fiat" comes from the Latin for "let it be done". Equity gives its holders a claim on the assets and profits of a company; money gives its holders (citizens) a claim on the goods and services produced by a country.

Inflation can be explained with another analogy. If a company issues shares to new investors for less than their true value, the holding of existing shareholders is diluted. "Similarly when a nation issues more money to new holders while adding less real output than the purchasing power of money, then existing holders of money are also diluted in proportion to the transfer of value," the authors write.

The authors draw a parallel with a well-known concept in corporate finance—the Modigliani-Miller theorem. Franco Modigliani and Merton Miller proposed that, in the absence of a range of complex factors like taxes and bankrupt-



cy costs, the value of a company should be unaffected by how it is financed.

To spell this out: the enterprise value of a company represents the combined value of its shares and bonds. The bondholders have first claim on its cashflows. If the company suddenly issues a lot of bonds, its shares will become more risky and will fall in value, but the overall enterprise value will be unchanged.

With the help of some fancy maths, the authors say that a similar argument can be applied to national finances. Assume that a country wants to invest to improve its productive capability. It can choose to finance these investments by borrowing in foreign currency or issuing fiat money. In an economy without "frictions", it should not matter which of these options it chooses. A version of the Modigliani-Miller theorem thus applies.

In the real world, of course, there are bound to be frictions. One of these is a side-effect of inflation. This may not be a problem in an ideal economy. Consider a stock split; some companies with high nominal share prices issue new shares on a pro-rata basis. So a company with 10m

shares trading at \$500 each could issue another 10m shares; the price should fall to \$250 and the overall value of the company would be unchanged. No one loses.

If governments issuing new fiat money could distribute it equally to each citizen, the same arguments would apply. Instead, however, governments tend to use new money to buy financial assets, or goods and services. So the gains are not evenly distributed. This is the real cost of fiat-money issuance—the transfer of wealth from some citizens to others.

But borrowing also brings risks. A country with too high a debt ratio may default on its foreign-currency obligations. The result may be a shock: much higher interest rates or lost access to the credit markets that may damage the economy. So when a rational government finances investments, it is choosing between the redistribution risks caused by inflation and the risk of default on foreign debts.

It is an intriguing way of formulating the debate, particularly in the light of the extensive use of quantitative easing by central banks since the financial crisis broke in 2008. This has caused less inflation than many feared, which has led some economists to argue that there is little constraint on the ability of rich-world governments to finance their spending, provided a central bank is willing to issue fiat money at will. But what counts is confidence. Countries can find eager takers for their debts and willing holders of their money. Until, at some point, they won't accept them any more. Predicting when that point occurs is the tricky task, for economists and non-economists alike.

* The Capital Structure of Nations, NBER working paper 23612

icit, even with a cheaper currency. Capital inflows are thus needed both to finance the residual deficit and to rebuild foreign-exchange reserves.

The first people to tempt back are those citizens who shifted money offshore ahead of the crisis. The lure of high interest rates (needed to curb inflation) and the diminished currency risk that follows a big devaluation will tempt others, too. For instance, foreign investors now hold almost a quarter of Egypt's treasury bills, according to JPMorgan Chase. Tax amnesties are another way to tempt money back. Argentina raised \$117bn in 2016-17 in that way.

The hope is that within, say, two years of the crisis, inflation has peaked, the economy is growing at a decent rate and the current-account deficit is manageable. That then provides a platform for more reform and a period of crisis-free economic growth. But lots can go wrong.

A danger is that hardship and social unrest derail the reform process. Cuts to subsidies on top of big devaluations in both Argentina and Egypt have pushed up inflation rates to 22% and 31% respectively. In Egypt food-price inflation is close to 40% (see chart on previous page). Even so, in both places the economy is starting to pick

up steam. Optimists hope Nigeria is in the very early stages of another turnaround, but there have already been a few false dawns. Nigeria bounced back impressively from a slump in the price of oil, its principal export, in 2009. Its reform champion was Lamido Sanusi, the central-bank governor, who won plaudits for taming inflation and cleaning up the banks. The stock-market boomed. But the reforms dried up. Mr Sanusi was sacked. By 2016, Nigeria's economy was deep in trouble again.

There are risks even for graduates of the phoenix-economy school. Once a modicum of stability returns, the impetus for further reform often fades. Take Pakistan. Since it reached the end of its IMF programme last year, there has been a slackening of fiscal and monetary discipline and a re-emergence of old problems in its power companies. The prospects for faster growth now rest on Chinese investment in a 3,000km (1,875-mile) China-Pakistan Economic Corridor, or CPEC. But that also puts Pakistan in a familiar spot: a reliance on foreign capital, which can turn out to be fickle and expensive. Trouble would take a while to surface. By then, investors may be talking about the big turnaround in Zimbabwe or Venezuela. ■

bought out €1.2bn (\$1.4bn) from investors in a 2012 fund of BC Partners, a London-based firm, while committing €600m to that firm's newest fund.

Perhaps the greatest novelty of GP-led deals, however, has been to ease the ten-year straitjacket. Private-equity managers often reckon they could make a better return by holding some assets for longer. But investors usually want their money back as promised, and are reluctant to stick around for much more than an additional year or two. GP-led fund restructurings and spin-outs try to close this gap.

The restructuring market had a rocky start in around 2011. Some of the earliest deals involved poorly performing managers with no plans to set up any new funds. Investors were understandably unhappy at being stuck in "zombie funds", or even being asked to chip in more.

But as the market has grown, restructuring and spin-out deals have become a way to provide investors with the liquidity they want, while allowing assets to be managed for longer. The deals now nearly always involve new capital, usually from specialist investors in the private-equity secondary market, such as HarbourVest or Neuberger Berman. So existing investors can be offered choices ranging from cashing out to staying put to investing more.

Such deals are not necessarily just for strugglers, but have become a tool for fund managers to pursue other goals. For instance, Investindustrial, a firm focused on southern Europe, in March 2017 put some assets into a new fund, largely because it expected better returns from managing its prize asset, PortAventura, a Spanish theme park, for longer. In 2016, Bridgepoint, a British private-equity firm, sold several smaller firms from its 2005 fund to a new fund, as it wanted to focus its efforts on a few investments, such as its crown jewel, Pret A Manger, a sandwich chain, which it wished to take public.

The recent boom has been in part cyclical. In private equity's core markets of Europe and America, where investors expect continued growth, secondary stakes are selling on average at just a 5% discount to their net asset value, making restructurings look attractive. In South America, by contrast, where the economic outlook is cloudier, the going discount is about 30%, and negotiations over several GP-led restructurings have collapsed.

David Atterbury of HarbourVest, however, argues that GP-led deals are far from a temporary phenomenon: investors prize the liquidity they bring, and managers appreciate the newfound flexibility. Credit Suisse reckons private-equity secondary transactions may approach \$40bn this year. But according to Preqin, a data provider, private-equity assets stood at nearly \$2.6trn worldwide at the end of 2016. The new market has plenty of room to grow. ■

Private equity

Secondary education

NEW YORK

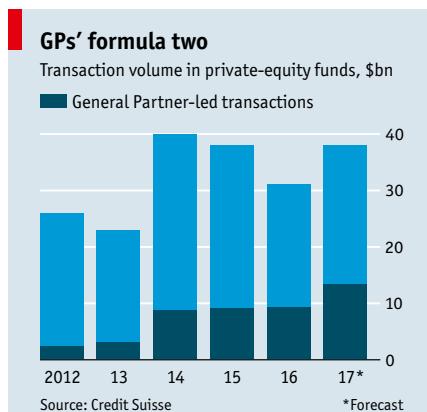
Financiers used to changing others' business models tinker with their own

THE private-equity business presents a paradox. Its barons like to boast of revamping the companies they buy. But they themselves have been steadfast to their own business model, centred on funds with a ten-year life. Within this time span, fund managers, known as "general partners" (GPs), commit to buy, manage and sell a clutch of companies; investors commit to lock up their money for the duration. Sometimes GPs or investors chafe at the time constraint. A new segment of the secondary market, "GP-led" deals, has sprung up to help them.

Investors wanting to exit a fund early need to find a buyer for their stake in the secondary market. But sometimes none will offer an attractive price. Sometimes also, a fund nearing its expiry date may find itself still holding a large number of its investments. GP-led deals place the onus on fund managers to find buyers.

Such transactions have quickly grown from just 10% of the secondary market in 2012 to over one-third this year, according to estimates from Credit Suisse, a bank (see chart). Some such deals offer liquidity to in-

vestors during a fund's "normal" lifetime. For instance, when many investors want to sell out of a fund early, a manager may solicit offers from buyers through a tender process, often getting investors a better price, as in a 2015 deal by Palamon Capital Partners, a British firm. A variant is a "stapled" deal where a firm ties a secondary-market sale to a primary fundraising. In June, Lexington, a secondary investor,



Interest rates

LIBOR pains

Regulators are nudging financial markets towards new benchmark rates

EVERY working day, shortly before noon, British time, the London Interbank Offered Rate, or LIBOR, is published. For five currencies and seven maturities, from overnight to 12 months, it is the average, trimmed of outliers, of up to 20 banks' estimates of the interest rate at which they can borrow from other banks. It is also the benchmark for financial contracts reckoned to be worth \$350trn. Derivatives depend on it most. But plenty of asset-management products, as well as corporate loans and mortgages, are based on LIBOR and similar rates, notably EURIBOR, an interbank rate for euros.

Yet LIBOR's days may be numbered. Regulators are promoting other benchmarks. On July 27th Andrew Bailey, the head of Britain's Financial Conduct Authority, said that the FCA had spoken to

banks about sustaining LIBOR until the end of 2021, but no longer. In April a working group set up by the Bank of England concluded that SONIA (the Sterling Overnight Interbank Average Rate), which the central bank administers, was its preferred alternative. In June a committee convened by the Federal Reserve proposed a broad Treasury repurchase or repo rate, to be published by the New York Fed, as a replacement for dollar LIBOR. Rival rates are also being pushed in Japan and Switzerland.

Outside the financial world, LIBOR is best known for scandal: in 2012 it emerged that banks had been manipulating their reported borrowing costs for years. In 2015 and 2016 five traders were jailed for conspiracy. Until 2013, when the FCA started overseeing the market, LIBOR was not even regulated. In 2014 ICE Benchmark Administration (IBA), a subsidiary of Intercontinental Exchange (which owns the New York Stock Exchange, among other marketplaces), took over the running of LIBOR from the BBA, a British bankers' trade body. IBA's boss, Finbarr Hutcheson, says that surveillance, using clever software, has been stepped up. Banks and regulators have also sharpened their act.

But regulators' enthusiasm for alterna-



tives is founded on technical rather than moral concerns. LIBOR's underlying markets have worn thin. Although the shortest dollar, sterling and euro rates are based largely on actual loans, others rely on banks' "expert judgment"—ie, informed guesses. In one currency-term combination, Mr Bailey noted, banks on the LIBOR panel mustered just 15 transactions in all of 2016. Another worry is that LIBOR implicitly includes banks' own credit risk. Something closer to a risk-free rate would be a better benchmark for some markets, especially in derivatives.

Hence the push for alternatives based, like SONIA and the American broad repo rate, on transactions. (Efforts to rebase EURIBOR on transactions have stumbled.) Such benchmarks should also be hard to manipulate—and thus immune to the rigging that befell LIBOR.

The alternatives also have their flaws. Joshua Roberts of JCRA, a financial-risk consultancy, agrees that LIBOR is likely to be replaced by transaction-based rates. But he points out that SONIA, for example, being an overnight rate fixed daily, does not reflect the dependence of rates on the term of a loan. A borrower pegged to three-month LIBOR knows his interest payments for the next quarter. With SONIA, he won't.

Even if LIBOR survives for several more years, some contracts based on it will outlive the benchmark. For that reason, says the International Swaps and Derivatives Association, a trade body, substitutes (possibly the new benchmarks) will have to be written in. It may anyway be too soon to write off LIBOR. Mr Hutcheson at IBA welcomes the competition, but argues that LIBOR will continue to suit multinational corporate borrowers, among others. "I feel very confident", he says, "that LIBOR will be here for a long, long time to come." Let's see in four years. ■

Bitcoin's civil war

Knives and forks

The first split of the digital currency may not be the last

COMPARED with Brexit, Bitexit seems a piece of cake. On August 1st, without much agonising or awkward negotiations, a group of Bitcoin activists and entrepreneurs managed to create a second version of the crypto-currency. It immediately gained a following: as *The Economist* went to press, a unit of "Bitcoin Cash" had a price of \$460 and tokens worth \$7.6bn were in circulation (although that is still much smaller than Bitcoin classic, which stood at about \$2,700 and nearly \$45bn).

This "fork", as such events are called, came earlier than expected. But it is how insiders had expected a two-year-old conflict over the future of Bitcoin to end. At the heart of this "civil war" was the question of how to increase the capacity of the system, which can handle only up to seven transactions per second. The new version is able to process more than 50 per second, but otherwise works much like the original one.

Will Bitcoin Cash be more than just another "altcoin", as the many existing clones of the crypto-currency are called? It is backed by Chinese "miners", firms that provide the computing power to confirm payments and mint new digital

coins. They have been unhappy with how the original system has been managed by its developers—and made some further technical tweaks to ensure that the new Bitcoin survives. The followers of the two versions will now fight over which can claim to be the "real" Bitcoin.

More interesting is what the fork might mean for the broader ecosystem of crypto-currencies, of which there are now hundreds. It has long been assumed that crypto-land would be dominated by one currency, Bitcoin, because of network effects: the more existing users it has, the more attractive it becomes to new ones. But Emin Gun Sirer of Cornell University says the split shows that this need not be true. Provided a group of crypto-cognoscenti has the will, the skills and oodles of computing power, it can conjure a new digital currency into existence—and, perhaps, even create value.

This week's fork has made Bitcoin holders richer: they get an amount of the new version equal to their holdings of the old sort; and at least for now, both together are worth more than the old one alone. For this reason alone, expect another split in November when the old Bitcoin system may get an upgrade.

DNA and insurance

The gene is out of the bottle

Insurers worry that genetic tests might one day ruin their business

IF A genetic test could tell whether you are at increased risk of getting cancer or Alzheimer's, would you take it? As such tests become more accessible, more and more people are saying "yes". The insurance industry faces a few headaches as a result.

Once used only for medical reasons, basic predictive genetic tests can now be ordered online for a few hundred dollars. One company, 23andMe, in California, has collected some 4,000 litres of sputum since 2007, enlightening 2m people on their ancestry, health risks and what they may pass on to offspring. In April it received regulatory approval to screen for risk factors connected to ten diseases and genetic conditions, including late-onset Alzheimer's and Parkinson's. The ruling could open the floodgates for others to sell direct to consumers.

"Information is power", argue many who take such tests. But insurers fear that without equal access to such information, they will lose out to savvy customers. Consumer groups, on the other hand, fear that if underwriters did have access to such information, people with "bad" genes might find themselves unfairly excluded from cover. Either way, the scientific advances could well disrupt insurance significantly.

Unlike diagnostic genetic tests, predictive ones are conducted on people without symptoms. The best-known example was provided by Angelina Jolie, an actress who discovered she had a gene mutation that markedly raised her risk of breast cancer.

She underwent a double mastectomy.

Tests might influence financial as well as medical decisions. A person at increased risk of dying young may want to buy life insurance. Someone likely to contract cancer may buy cancer or critical-illness cover, which pays a lump sum upon diagnosis. Because predictive tests—unlike diagnostic ones—often need not be disclosed, the customer can secure an advantage over a future insurer.

So underwriters warn that predictive genetic testing could well lead to adverse selection. The *New York Times* recently reported on a woman who bought long-term care insurance after testing positive for *APOE4*, a mutation of a gene related to increased risk of Alzheimer's. The insurer had tested her memory three times before issuing the policy, but could not know about the genetic result. Robert Green, at Harvard University, found that people told they have the mutation were five times more likely to buy long-term care insurance than those without such information.

Asymmetry of information—when the customer knows more than the insurer—is the industry's nightmare. If predictive tests further improve and become more common while non-disclosure rules stay in place, some insurance products might eventually die out. Either insurers would go belly-up, or premiums would become prohibitively expensive. Hence, argue some insurers, if the customer knows something relevant about their health, so

should the insurer.

But tests might also help insurers. Christoph Nabholz, from Swiss Re, a reinsurance giant, is most excited about tests that spot early signs of cancer or cardiovascular disease. For life and health insurers, who want to keep people alive and well, such information could be invaluable. Discovery, a South African health insurer, plans to offer customers a test that maps part of their genome. The focus is on "actionable data", where medical intervention or lifestyle change could mitigate risk, explains Jonathan Broomberg from Discovery.

This might help people who are already insured. But it worries those seeking new policies, who fear that underwriters may use predictive information to discriminate. Some might lose access to insurance. This raises ethical questions about when, if ever, genetic discrimination is acceptable. Moreover, since the relative role that genes play in the development of diseases is still being studied, some people might be unfairly and wrongly penalised.

Unpredictability rules

So regulations today often protect consumers from the mandatory disclosure of predictive tests. But the rules are patchy. In Britain the industry has agreed to a blanket moratorium, renewable every three years, on using predictive genetic information. The sole exception is Huntington's chorea, where a test of one gene is infallible and has to be disclosed to an insurer for life cover worth more than £500,000 (\$662,000). In America the Genetic Information Nondiscrimination Act bans health insurers (and employers) from using such results, but is silent on other types of insurance. In several countries life insurers may already ask for disclosure of predictive genetic tests for policies over a certain value.

But testing is rarely cut-and-dried. Ronnie Klein from the Geneva Association, an insurance-industry think-tank, says that, unlike Huntington's, most illnesses stem from a number of factors, including lifestyle and environment, and a combination of genes. For example, although the *APOE4* allele increases the risk of Alzheimer's, many without it still get the disease.

Some regulators, such as Germany's, have outlawed direct-to-consumer tests. But nothing stops Germans from ordering from abroad, and, just as it became normal for life insurers to ask for family history, so insurers will surely eventually have access to relevant genetic information. The question will be what they are allowed to do with it. When blood tests for AIDS first appeared, insurers also fretted about adverse selection. Many jurisdictions ruled they could not be used for calculating health premiums, as these were a basic good, but could be used for life policies. As genetic testing spreads, society and insurers may face many similar difficult assessments. ■



The knowledge premium



Genetic engineering

DNA and how to adjust it

Researchers are getting better at tweaking the genomes of human embryos

IT IS risky to predict who and what will win a Nobel prize. But some discoveries are so big that their receipt of science's glitziest gong seems only a matter of time. One such is CRISPR-Cas9, a powerful gene-editing technique that is making the fraught and fiddly business of altering the genetic material of living organisms much easier.

Biologists have taken to CRISPR-Cas9 with gusto, first with animal experiments and now with tests on humans. In March researchers in China made history when they reported its first successful application to a disease-causing genetic mutation in human embryos. But their results were mixed. Although they achieved 100% success in correcting the faulty gene behind a type of anaemia called favism, they tested the technique in only two affected embryos. Of four others, carrying a mutation that causes thalassaemia, another anaemia, only one was successfully edited.

Now, in a study just published in *Nature*, a group of researchers from America, China and South Korea have pulled off a similar trick, with striking consistency, among many more embryos, while avoiding or minimising several of the pitfalls of previous experiments. Their work suggests that, with a bit of tweaking and plenty of elbow grease, CRISPR-Cas9 stands a good chance of graduating, sooner or later, from the laboratory to the clinic.

The researchers involved, Hong Ma of

Oregon Health & Science University and her colleagues, obtained sperm donated by a man who carries a mutated version of a gene called *MYBPC3* that causes hypertrophic cardiomyopathy (HCM), a condition in which the walls of the heart grow too thick. As with the genes that cause thalassaemia and favism, inheriting even a single copy of the malformed version of this gene is enough to cause HCM.

These sperm, half of which would have been carrying the mutated version of *MYBPC3*, were then used to fertilise eggs containing a normal copy of the gene. The resulting embryos thus had a 50:50 chance of containing a defective copy. In the absence of editing, and had they been allowed to develop, those with a faulty version would have grown into adults likely to suffer from the disease.

Swords to ploughshares

CRISPR-Cas9 editing has been developed from a bacterial defence system that shreds the DNA of invading viruses. CRISPR stands for "clustered regularly interspaced short palindromic repeats". These are short strings of RNA, a molecule similar to DNA, each designed to fix onto a particular segment of a virus's DNA. Cas9 is an enzyme which, guided by CRISPRs, cuts the DNA at the specified point.

Modifying this arrangement for the purposes of genetic engineering is simple,

Also in this section

60 Better holograms

61 A wild idea to pay for conservation

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at least in theory. Since DNA and RNA work in essentially the same ways in all living organisms, designing appropriately customised CRISPR guide molecules can induce Cas9 to cut any cell's DNA wherever the designers choose, eliminating undesirable sequences of genetic "letters". Since cells will then try to repair this sort of damage, genetic engineers can, by providing corrected versions of the DNA that has been deleted for use as templates which a cell can copy, encourage the repair mechanism to fix the problem in the way they had intended.

The hope was that, by being given such templates, embryos could be purged of nascent genetic disease. That hope appeared fulfilled, at least in part. By the end of the experiment, 72% of the embryos were free of mutant versions of *MYBPC3*, an improvement on the 50% that would have escaped HCM had no editing taken place.

In achieving this, Dr Ma and her colleagues overcame two problems often encountered by practitioners of CRISPR-Cas9 editing. One is that the guidance system may go awry, with the CRISPR molecules leading the enzyme to parts of the genome that are similar, but not quite identical, to the intended target. Happily, they found no evidence of such off-target editing.

A second problem is that, even if the edits happen in the right places, they might not reach every cell. Many previous experiments, including some on embryos, have led to mosaicism, a condition in which the result of the editing process is an individual composed of a mixture of modified and unmodified cells. If the aim of an edit is to fix a genetic disease, such mosaicism risks nullifying the effect.

Dr Ma and her colleagues conjectured that inserting the CRISPR-Cas9 molecules into the egg simultaneously with the sperm might help. That way the process is ➤

► given as much time as possible to complete its work before the fertilised egg undergoes its first round of cell division. Sure enough, after three days (by which time the original fertilised egg had divided several times), all but one of the 42 embryos in which the technique had worked showed the same modifications in every one of its cells.

So far, so good. But a third problem that has bedevilled experiments with CRISPR-Cas9 concerns the quality of the repair. There are at least two ways for cells to repair DNA damage. One of them simply stitches the severed strands of DNA back together, deleting or adding genetic letters at random as it does so. Because it introduces mutations of its own, this process is not suitable for correcting DNA defects for medical purposes (though it might, for instance, be used to modify crops). Fortunately, the other mechanism patches the break with guidance from a template, and thus without introducing any additional mistakes. But cells seem to prefer the slapdash approach. In previous CRISPR-Cas9 research, the more precise method was involved only 2% to 25% of the time.

Running repairs

The researchers' cells were, however, much more diligent. That is, perhaps, to be expected. Any DNA damage to a fertilised egg which is not fixed properly will affect the entire organism, so embryos have an evolutionary incentive to get things right. But there was a surprise. Contrary to expectations, it was rarely the injected template that the cells used as a reference for repair. Of the 42 modified embryos, only one did so. The rest repaired the faulty gene by referring to the non-mutated copy they had inherited from their mothers. That contrasted with the results of control experiments the researchers carried out in parallel on human stem cells, in which the repair template they supplied was used much more frequently. This, they say, suggests a hitherto-unknown DNA repair mechanism may be at work in embryos.

If true, that is both good news and bad. It is good because it suggests embryos will often perform high-quality repairs without any extra prompting. It is bad because that repair will only be useful if the second copy of the gene is itself not harmful. Embryos that inherit two damaged copies of a gene, one from each parent, would simply replace one defective copy with another, to no overall benefit.

Jin-Soo Kim, of the Institute for Basic Science, in South Korea, who is another of the paper's authors, thinks that, with a bit more research, genetic engineers may be able to get around that problem. He points out that mouse embryos seem to have no difficulty using external genetic templates. It may be that there are biochemical cues which control how a cell effects DNA repair, and that these can be manipulated.

On the other hand, the difference may reflect an unbridgeable evolutionary divergence between mice and humans—species whose most recent common ancestor lived more than 60m years ago.

But that is a question for another paper. Over the coming months Dr Ma and her colleagues plan to replicate and extend their work using other mutations and other donors. One goal is to improve the process's efficiency still further. Shoukhrat Mi-

talipov, a colleague of Dr Ma's in Oregon, and yet another of the paper's authors, thinks the technique's rate of effectiveness can be boosted to at least 90%. The eventual objective, still a long way off, is full-blown clinical trials, in which modified embryos, purged of disease-causing genes, are reimplanted into their mothers and carried to term. If and when this is done successfully, human genetic engineering will truly have come of age. ■



Holograms

Winging the blues

A new way to solve an image problem

HOLOGRAPHY is a useful technology, but somehow faintly disappointing. The fantasy is of a "Star Trek" style holodeck, or even the less ambitious idea of three-dimensional television pictures. The reality, for the man or woman in the street, is smudgy images that act as security features on credit cards, passports and an increasing number of banknotes.

Holography does have many uses beyond this. These include projecting 3D art displays in museums, enabling measurements to be made with great precision using a technique called holographic interferometry, and accurately assessing the three dimensions of packages for shipping companies. But the difference between the high-quality holograms required for those applications and the quotidian credit-card variety is that a laser and special equipment are needed to project them. Indeed, if the hologram is in colour, three lasers are

needed, one for each primary: red, green and blue. The result is not always persuasive. Getting the primary holograms to overlap perfectly is hard. And to see the picture usually requires a darkened room.

All this led Rajesh Menon, an engineer at the University of Utah, to start eyeing up butterflies—notably the bright blue morphos found in Central and South America. The striking colour of a morpho's wings (see picture) is the product not of pigment, but of the structure and arrangement of the scales on those wings. These scales reflect light, splitting it into its component wavelengths, and also diffract it, causing those various wavelengths to interfere with one another. As a result, blue wavelengths are intensified and reflected back to the onlooker while those of other colours either cancel each other out or are scattered, and thus minimised. Moreover, unlike today's holograms, the colour and ►

► appearance of a morpho's wings remain the same, regardless of the angle they are viewed from.

Dr Menon and his team thought mimicking the way morphos refract and diffract light might thus let them create more realistic and usable holograms than today's. In a paper just published in *Scientific Reports*, they describe how they have done this.

A conventional hologram is made by splitting a laser beam in two, scanning one of the half beams over the object to be holographed, recombining the half beams and then capturing an image created by the recombined beams on a photographic film. The result is an interference pattern imprinted on the film by the interaction between the out-of-kilter half beams. Shine light (ideally of the same frequency as the original laser) on this pattern and the process is, in essence, reversed. That produces a 3D representation of the original object.

Dr Menon's approach differs from this established method in several ways. First, it dispenses with the laser. Second, the film on which the hologram is captured is not a smooth one but, rather, a sheet of transparent plastic with microscopic bumps and grooves in it. Third, the pattern of those bumps and grooves is created not photographically but as the product of calculations by a computer.

Instead of the laser, Dr Menon starts with multiple images, taken from different directions, of the object to be holographed. These can come either from a special, stereoscopic camera or, more prosaically, from a single camera moved around to different vantage points.

These images are then fed into a computer. Here, a special algorithm calculates how to shape the topography of the plastic sheet so that it will manipulate the light eventually used to illuminate that sheet in a way which creates the desired 3D image. In essence, the sheet's bumps and grooves act like the scales of a morpho's wings, refracting and diffracting the incident light to produce the desired effect.

Once the computer has calculated the topography needed to do this, that topography (or, rather, its inverse) is inscribed onto a master version using photolithography—a technique also employed to make computer chips. This master may then be used to stamp multiple copies of the hologram, in a similar fashion to that employed to make vinyl records.

Crucially, the result—having been created using ordinary light rather than special laser beams—does not require lasers to recreate the image. A beam of white light will do the trick. Even a torch will work. Using one, Dr Menon can generate holograms with a full spectrum of colours and with a richness which he estimates is up to ten times that of today's most sophisticated holograms. The new holograms may also be viewed from all angles with-

Paying for conservation

A wild idea

Might those who profit from images of wildlife be induced to help save it?

MEERKATS are endearing creatures. Indeed, they are so endearing that they have been turned into characters in a long-running series of advertisements on British television for a price-comparison website. But nothing comes from nothing. Thirty years ago, few non-zoologists would have heard of these social mongooses and the joke would not have worked. The animals were brought to public prominence by a television documentary, "Meerkats United", which described the doings of a group of them in the Kalahari, where they live. That documentary relied, in turn, on a research project run by David Macdonald, a zoologist at Oxford University. In essence, meerkats as a cultural phenomenon were created by this project.

Had that creation been purely artistic, it would be protected by copyright. Royalties derived from such copyright might then have been used for further study and conservation of the animals in question. Sadly for zoologists, the natural world is not covered by copyright and no royalties have ensued. But Dr Macdonald and two colleagues, Caroline Good and Dawn Burnham, writing in *Animals*, still wonder if those who profit by cultural representations of wildlife might sometimes be induced to contribute a sliver of their profits to the conservation of the animals so represented.

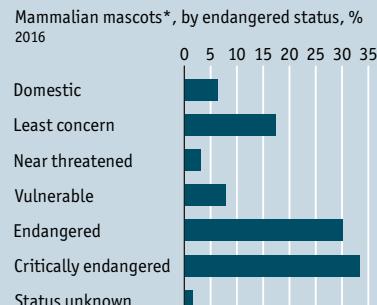
Rather than the meerkat, the three researchers take as their example a species with a longer history of public perception, the lion. Another project in which Dr Macdonald is involved is a study of lions in Zimbabwe. This was in the news recently when one of the animals being followed was shot, legally, by an American hunter after it had strayed out of a protected area. Lots of other lions are killed illegally, though—a phenomenon that might be reduced if more people were paid to protect them.

Going for the throat, as it were, the

three researchers observe that the English Premier League, the richest in soccer, has a crowned lion as its logo. They suggest that if the league chipped in, say, £1 (\$1.30), for each of the 5m t-shirts sold every year bearing this logo, that would buy a lot of local recruits to lion-protection schemes in places where lions are under threat. It would also, they imagine, buy a lot of good publicity for the league itself.

If the league were amenable, this idea might well work. But caution is advisable when choosing collaborators for such ventures. Conservationists thought they were onto a good thing in 2014 when, at the behest of local researchers, the mascot chosen for the Brazilian World Cup was a three-banded armadillo. At the outset, the proposal was that FIFA, the world governing body of football, and the Brazilian government would jointly pay for the protection of 1,000 hectares of armadillo habitat for every goal scored in the competition. The merchandising of the mascot, dubbed Fuleco, a portmanteau of "Futebol" and "Ecologia", raised millions of dollars. The conservationists are still, however, waiting for the promised forest to be set aside. Both FIFA and the government, beset by other woes, seem to have forgotten about the idea.

Rare breeds



*Of clubs in the ten wealthiest sports leagues worldwide
Source: Good, Burnham and Macdonald, *Animals*

out distortion. And they cost a fraction of those produced by existing techniques.

For now, Dr Menon and his colleagues are focusing on the kind of holograms used as security features, although they have also created holographic images of 3D objects in free space. Eventually, they hope to make holographic movies, using devices called phase spatial light modulators controlled directly by the output from the hologram-generating algorithm. Such modulators deploy liquid crystals instead of

bumps on a surface to manipulate light.

If that idea can be made to work, then fantasies such as holographic television might indeed be brought into being. A more immediate market, though, is replacing existing security holograms with ones that are clearer, harder to forge and viewable from any angle. Perhaps, if Dr Menon has his way, the portraits of heads of state and other worthies on banknotes will soon pop up to greet the user as they are pulled from his wallet. ■



Natural history

Crucibles of cosmopolitan creation

Extinctions ain't what they used to be

IN THE central hall of the Natural History Museum in London a dinosaur has been displaced. The skeleton, donated by Andrew Carnegie, had long dominated the nave of the imposing gothic pile intended by its founder Sir Richard Owen as a “cathedral to nature”. “Dippy”, as the *Diplodocus* was sometimes known, was not merely spectacular. He provided a dramatic illustration of one of the great discoveries of 19th-century science—that most of natural history is, indeed, history.

Until the end of the 18th century hardly anyone believed that the past contained creatures unknown in the present. By 1841, when Owen coined the term “dinosaur”, extinction was an accepted fact. Today it is clear that the species currently creeping, crawling, striding, swimming, photosynthesising—and sometimes just dawdling—across the face of the Earth represent a tiny fraction of those that evolution has created and discarded over the aeons.

Unfortunately, the fraction is shrinking still. Humans have been killing off species for tens of thousands of years, and continue to do so at an alarming rate. Palaeontologists have identified five horrendous “mass extinctions” in the past 500m years of the Earth’s history. Humans, it is now frequently asserted, are causing a “sixth extinction”—a phrase which, in 2014, became the title of an excellent book by Elizabeth Kolbert, a writer at the *New Yorker*.

It is in this context of quasi-existential

Inheritors of the Earth: How Nature Is Thriving in an Age of Extinction. By Chris Thomas. Allen Lane; 320 pages; £20. To be published in America in September by PublicAffairs; \$28

The Ends of the World: Volcanic Apocalypses, Lethal Oceans, and Our Quest to Understand Earth’s Past Mass Extinctions. By Peter Brannen. Ecco; 336 pages; \$27.99. To be published in Britain in September by OneWorld; £18.99

dread that the Natural History Museum has replaced Dippy with an arguably even more impressive skeleton (pictured). During the age of industrial whaling, oil-fired ships with explosive harpoons cut through the blue-whale population as a knife through blubber. The whales could easily have gone the way of the dinosaurs. But half a century ago humans decided to stop the killing, and today the whales’ numbers are increasing. The blue-whale skeleton freshly suspended from the museum’s vaulted roof commemorates this turnaround. The whale’s name is Hope.

This is the attitude that Chris Thomas espouses and engenders in his thought-provoking new book, “Inheritors of the Earth”. In 2004 Mr Thomas, an ecologist at the University of York, was one of the authors of a scientific report suggesting that a relatively small amount of global warming

Also in this section

64 Fiona Mozley’s fiction

64 How the affluent spend

65 Johnson: Game of tongues

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could see almost a fifth of the species that live on land “committed to extinction”. Though that estimate came in for some stick, Mr Thomas still reckons he was broadly correct. But at the same time he believes that humans are bringing about a great new age of biological diversity.

This is most obvious locally. Most people who take an interest can tell you of species that used to grace their local scene but no longer do, even though they are still to be found elsewhere. But despite all these losses biodiversity is, almost everywhere, higher than it used to be. New species have been introduced faster than old ones have vanished. Even the islands of the Pacific, where the Polynesian peoples, and the rats that travelled with them, wiped out 10% of the world’s birds, may now boast more species per island than they did before humans arrived. In most places where there are good data, Mr Thomas writes, there are currently between 20% and 100% more plant species than there used to be.

This, to most conservationists, comes as something between cold comfort and insult added to injury. The idea that imported species make up for extirpated ones feels like biodiversity bean-counting rather than real conservation (nothing, after all, has been conserved). And invasive introduced species, like those Polynesian rats, can drive natives extinct. But through argument and anecdote Mr Thomas shows that mix-and-match “novel” ecosystems, such as the unprecedently cosmopolitan forests now fringing Lake Maggiore on the Swiss-Italian border, have copious charms. He also argues that the threat of invasive species is overdone. Most introduced plant species, he says, never get beyond the farms or gardens they are introduced to; most that establish themselves in the wild remain thoroughly marginal; and of the few that thrive only a small minority ➤

▶ actually threaten the natives—a fraction of a fraction of a fraction. Invasives, he argues, are a smaller threat than either habitat loss or direct exploitation.

These points have been rehearsed in recent years in such books as “Rambunctious Garden” by Emma Marris and “The New Wild” by Fred Pearce, as well as by academics like Peter Kareiva of the University of California, Los Angeles, and Erle Ellis of the University of Maryland. They have attracted withering scorn from, among others, E.O. Wilson, a Harvard entomologist and the doyen of the belletrist arm of the conservation movement, who finds their hubristic ideas “as free of fear as they are of facts”. Where Mr Thomas goes further is in arguing that people are not merely rearranging more even-handedly a shrinking number of species. They are creating the conditions for the birth of a great many new ones.

Some scientists emphasise the scale of humankind’s redistribution of species by treating it as an undoing of the mighty work of plate tectonics. By mixing up the contents of the different continents people have recreated, in a virtual form, the world of 200m years ago—a world with but one sea, Panthalassa, and one vast continent, Pangaea.

Topsy-turvy

But, as Mr Thomas points out, the new Pangaea is best seen not as a continuous land mass, but as an all-encompassing archipelago—a mosaic of ecosystems in intermittent contact with each other. Charles Darwin realised, when looking at the finches of the Galapagos, that as island populations go their separate ways, new species spring up. (This is why the Pacific islands, which make up only 0.25% of the Earth’s dry land, were able to sport 10% of its bird species before the great day of the rat.) The world full of new contexts that humans have provided for old species, Mr Thomas argues, will see similar diversification.

Some examples: sparrows, which have spread from their Central Asian point of origin by adapting to life among people, are turning into different sorts of bird in different sorts of places; flies which until recently dined on the fruit of the American hawthorn have, since the arrival of European apples, split into spinophilic and pomophilic populations—forcing the parasitic wasps that prey upon them to do the same; a pretty ragwort brought to Oxford from the slopes of Mt Etna has, through a liking for the gravel beds of railways, spread from city to city in England, creating new varieties as it did so.

All around the world there is similar evidence of hybridisation and incipient speciation as separated populations go their different ways and get it on with different far-flung relatives. “I find it difficult”, Mr Thomas writes, “to imagine a period in the

entire history of terrestrial life on Earth when the speed of origination of new evolutionary lineages could have been faster.”

The idea of new species springing up at such a pace will seem incredible to readers taught, by childhood outings to visit dinosaurs such as Dippy, that evolution takes a million years or so just to get out of bed, let alone do anything constructive. But evolution takes its tempo from the world around it. When driven by slow geological change, evolution is slow. Faced with sudden change, such as that which comes from being plonked down in novel but not inimical situations, it ups its game accordingly.

This creative aspect to the current crisis calls into question the equation of today’s depredations with the mass extinctions of the past. In “The Ends of the Earth” Peter Bannen, a journalist, provides a fascinating account of these planetary paroxysms, in each of which more than half the

In terms of biodiversity, that is bad. But it is nothing like the near uninhabitability that characterised large parts of the planet during past mass extinctions. Ecosystems have been disturbed, diced up and in some cases badly damaged—but few have failed utterly. Humans are changing the climate, the carbon and nitrogen cycles and more, and those changes pose mortal risks to hundreds of millions of humans and existential risks to many other species. But they do not look like the cascading ecosystem collapses seen in mass extinctions. As Doug Erwin, a palaeontologist, explains to Mr Bannen, “If it’s actually true that we’re in a sixth mass extinction, then there’s no point in conservation”—because if things were that far gone the whole world would, in effect, be coming to an end. Again.

The idea that today’s decimation is qualitatively different to the mass extinctions of yore, and that a compensating mass speciation is already under way, seems at some level to be quite encouraging. But what does it mean in terms of practical action? For action is clearly needed; things are not fine as they are. Many extinctions do not have to add up to a certified mass extinction in order to be a parlous loss. The world needs to get its biogeochemical cycles back in balance and to halt the warming, the rising and the acidification of its oceans. The needs of biodiversity and human welfare are, in this respect, well aligned.

When it comes to coping with the damage already done, and that which cannot be averted, Mr Thomas suggests that people must get over their desire to conserve particular ecosystems in the form to which they are accustomed. He does not see much point in throwing resources at all endangered species—especially those, such as many of New Zealand’s predatory-mammal-beset flightless birds, that he deems unlikely to make it without constant assistance. Instead, he says, concentrate not on familiar landscapes but on their living components; create and embrace novel ecosystems in which creatures expelled or emancipated from their ancestral homes can find new life.

Such creative utilitarianism may inspire some. But it will make conservation a more fractious field than it was when it was mostly a matter of whales and hope. Who gets to create the new, and in whose name? Who gets to reject it, and by what right? Much of what people get from conservation is a sense of commitment to both the future and the past. That commitment does not have to be a rational allocation of resources for it to feel worthwhile; it is not necessarily diminished by scant chances of success. Indeed, its likely failure can give it a Sisyphean depth. If fighting for *in situ* species that Mr Thomas sees as doomed adds value to people’s lives, it is hard to begrudge them that boon. ■



They come and go

species living at the time were wiped out. Though there are common themes, such as changes in sea level and upsets in the carbon cycle, which resonate with what humans are doing to the Earth today, no two of these disasters were quite alike. And looked at in the round they leave a strong impression that today’s threat to species is, as yet, quite unlike those of the past.

In the “Big Five” mass extinctions whole chunks of the planet became deadly to most of their inhabitants as severe shifts in sea level, climate and ocean chemistry (along with, in one case, an asteroid impact) caused ecosystems to topple like dominoes. That is not what is happening now. Despite the fact that humans have contributed to the extinction of an estimated 177 species of large mammals—almost all of which were done in by Stone Age hunters—there are still vast numbers of large mammals wandering around. It is just that they are mostly pigs and cows.

Fiction

Strength and protection

Elmet. By Fiona Mozley. John Murray; 310 pages; £10.99

DADDY and Cathy and I lived in a small house that Daddy built with materials from the land here about." From this apparently simple premise, Fiona Mozley (pictured) unfurls a dark and delicate fairy-tale of contemporary Britain that has propelled "Elmet", the young author's debut novel, onto the longlist for this year's Man Booker prize for fiction.

The novel takes its title from the Celtic kingdom that once covered Yorkshire, where ancient forests harboured mythical green men and one "Robyn Hode". In Ms Mozley's vision, vestiges of that tooth-and-claw order still exist in today's world: the powerful prey on the weak in lawless pockets of the country. Her novel pits an odd family of squatters against the local landowner in an isolated copse that, like the depressed neighbouring towns, cannot be seen by passengers streaking by on the London-to-Edinburgh railway line.

Narrated with almost fanatical precision by Daniel, the 14-year-old son, the book draws readers into the family's "strange, sylvan otherworld" on the margins of society. "Daddy" has withdrawn with his teenage children—motherless, untutored, nearly feral—to the woods. A "bearded giant" who once served as the landowner's enforcer, Daddy is a towering figure, a Robin Hood with huge fists. He fights other men for cash in hidden remnants of the wild that are frequented by



Young and gifted

travellers and others scrabbling to survive.

Each carefully chosen detail illuminates the novel's themes of violence and exploitation. Yet far from being bleak, "Elmet" is beautiful. Ms Mozley writes with clarity and insight, and her descriptions of the natural world and human relationships are both specific and profound. Alongside the pervasive brutality there is innocence, intimacy and love. To his children, John Smythe stands as a defender and protector. "That, after all, was why Daddy had moved us here," Daniel explains. "He wanted to keep us separate, in ourselves, apart from the world."

Alas, the world will not let them be. With very few missteps, this accomplished novel builds to a devastating conclusion. Like another great work about a family on the margins, "Housekeeping", the 1980 debut by Marilynne Robinson, an American novelist and essayist, "Elmet" is a quiet explosion of a book, exquisite and unforgettable. It is hard not to feel that at 29, Ms Mozley has only just begun. ■

Expenditure among the affluent

How to spend it

The Sum of Small Things: A Theory of the Aspirational Class. By Elizabeth Currid-Halkett. Princeton University Press; 254 pages; \$29.95 and £24.95

STATUS symbols are as old as humanity itself. It was only once ancient Rome became rich enough for plebeians to decorate their homes that elites sought to do one better by installing mosaics in their villas; in Victorian England working-class women began to don worsted stockings to mimic the silk hosiery of the 1%. At the end of the 19th century Thorstein Veblen, an American sociologist, decried the "conspicuous leisure" of the robber barons of his age, who set themselves apart through their ability to avoid labour; he went on to bemoan the "conspicuous consumption" of the working classes seeking to imitate the wealthy's access to luxury goods.

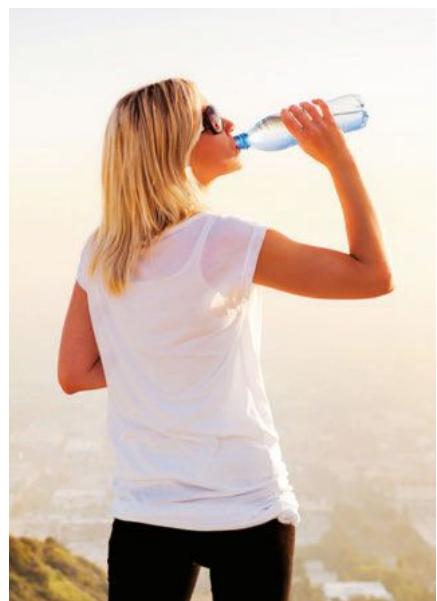
Conspicuous consumption persists today. But just as the patricians of classical times changed their habits once the masses gained the ability to copy them, so too have modern American elites recoiled from accumulating mere goods now that globalisation has made them affordable to the middle class. Instead, argues Elizabeth Currid-Halkett, a professor at the University of Southern California, in "The Sum of Small Things", they have begun consuming the fruits of "conspicuous production": socially worthy things like fair-trade coffee. They also emphasise "inconspicu-

ous consumption", of services like education. Far from making the world more egalitarian, this shift, in particular, threatens to entrench modern elites' privileged position more effectively than the habits of their predecessors ever did.

As inequality has increased over the years, so have researchers' attempts to grapple with its causes and consequences. Ms Currid-Halkett distinguishes herself by bridging the divide between qualitative and quantitative approaches. Her book has no shortage of anecdotes to illustrate cultural trends and it digs deep into the detail of the Consumer Expenditure Survey, administered by the Bureau of Labour Statistics. Using the survey's data from thousands of respondents, she paints a remarkably fine-grained portrait of how the spending habits of Americans have evolved over the decades.

Defining "conspicuous consumption" as "apparel, watches, jewellery, cars and other socially visible goods", she finds that even though the poor must dedicate much of their income to basic necessities, they devote a higher share of their total spending to conspicuous consumption than the rich do. And the trend is gaining steam. Between 1996 and 2014 the richest 1% fell further behind the national average in the percentage of their spending dedicated to bling. The middle income quintile went the other way: by 2014 they spent 35% more than the average as a percentage of their annual expenditure.

Rather than filling garages with flashy cars, the data show, today's rich devote their budgets to less visible but more valuable ends. Chief among them is education for their children: the top 10% now allocate almost four times as much of their spending to school and university as they did in 1996, whereas for other groups the figure ►



Keeping cool in LA

► has hardly budged. They also invest heavily in domestic services such as housekeepers, freeing up time that the less fortunate must spend on chores.

Rather than frittering away that precious leisure time on frivolities, as Veblen's leisure class did, they devote it to enriching experiences, like attending the opera, holidaying in far-off lands and working out at fancy gyms. Their children, by tagging along and thus absorbing this "cultural capital", develop the sophistication needed to win admission to selective universities, vastly increasing the odds that they will form the next generation's elite. The

modern equivalent of Victorian worsted-stocking wearers are hipsters, who imitate the wealthy's penchant for farmers' markets and fair-trade lattes, even if they cannot afford a cruise to Antarctica.

"The Sum of Small Things" both unearths evocative differences between big American cities—for example, Los Angeles leads in bottled-water consumption, while New York does in spending on shoes—and makes clear that the "aspirational class" Ms Currid-Halkett profiles is almost exclusively coastal and urban. However, that may yield a lopsided portrait of the top of the income pile: largely absent from her

tale are the business-minded rich in politically conservative states.

The reader learns that residents of Dallas and Houston dedicate unusually low shares of spending to housing costs and to fresh fruit, and a relatively high portion to textiles, furniture and beauty products such as wigs—but not whether the rich among them mimic their blue-state counterparts in seeking to project virtue via heirloom tomatoes and the like. Perhaps a sequel might explore the values of Sun Belt suburbanites, and how this other half of privileged Americans signal status through their spending. ■

Johnson | Game of tongues

"Game of Thrones" features the most fully developed linguistic universe since Tolkien

WINNING 38 Emmy awards is a good measure of success. "Game of Thrones" garnered that many for its portrayal of a world of sex, violence and politics. Westeros and Essos seem so real that some viewers could imagine moving there. Part of that detail has been the creation of the richest linguistic universe since J.R.R. Tolkien's Middle Earth.

Tolkien was a linguistic obsessive who spoke Greek, Latin, Anglo-Saxon and Gothic as a child and went on to study many other tongues. He started inventing languages in his teens, and said he created Middle Earth to help this, not the other way round. The most developed were two forms of Elvish, called Quenya and Sindarin. Tolkien gave Sindarin the same kinds of historical sound changes that had produced the European languages he loved: cw-sounds became p-sounds in Sindarin, just as had happened in the early history of Welsh. He rifled through Old Norse and Old English for inspiration, and Finnish was a particular favourite.

In the field of language-creation for fictional worlds, there is Tolkien, and there is everybody else. But David Peterson, the language-smith of "Game of Thrones", comes a close second for the amount of thought put into its two languages, Dothraki and Valyrian. The interest in these tongues is such that Living Language, a respected language-textbook publisher, has already produced a volume for learning Dothraki, while Duolingo, a popular online language-learning platform, now offers a course in High Valyrian.

In his book Mr Peterson describes his bafflement at the fictional languages of his youth. The "Star Wars" films featured foreign "languages" that were nothing more than a series of weird sounds. He wondered how on the planet of Tatooine the bounty hunter in "Return of the Jedi"



could express "50,000—no less" as *yotó yotó*. Decades later, with a master's degree in linguistics, he made Dothraki and Valyrian as rich and realistic as possible, a process he describes in his book "The Art of Language Invention", which was published in 2015.

Creating words is the easy part; anyone can string together nonsense syllables. But Mr Peterson, like Tolkien, took the trouble to give his words etymologies and cousins, so that the word for "feud" is related to the words "blood" and "fight". To make the languages pronounceable but clearly foreign, he put non-English sounds in high-frequency words (like *khaleesi*, or queen), put the stress in typically non-English places, and had words begin with combinations of sounds that are impossible in English, like *hr*.

Armed with a knowledge of common linguistic sound changes, he gives his languages the kinds of irregularities and disor-

der that arise in the real world. High Valyrian is a classical language with daughter languages. Mr Peterson took Latin's evolution into the Romance languages as an inspiration. Consonants soften from stops (where the airflow is blocked completely) to fricatives (where the air is merely slowed in the mouth). So *b* becomes *v*, *g* becomes a gurgled *gh*, and so on: High Valyrian's *obar* ("curve") becomes Astaporian Valyrian's *uvor*. Words' meanings—as in real life—drift, too, giving the system more realistic messiness.

The writers also deserve credit for storylines in which language plays a prominent role. Dothraki is the guttural language of a horse-borne warrior nation, but high-born Danaerys Targarean does not look down on it; methodically learning it is key to her rise. She also skillfully conceals her knowledge of the language when it proves useful. Tyrion Lannister is left to administer the city of Mereen despite his rosy command of Valyrian, leading to some comic moments. And a prophecy of a future hero is revealed to have new meaning when an interpreter explains that the word in question is ambiguous in Valyrian—it could be "prince" or "princess".

It might seem odd that a highly sexist society like the one of "Game of Thrones" would have languages where sex roles were not clearly marked: what, only one word for "prince" and "princess" when women are almost always barred from the throne? But Mr Peterson is good on this in his book. Languages are not always (or even usually) perfect and efficient vehicles for a culture; random change can leave them with too many words for one concept, and not enough for another. In this way, the flawed nature of language reflects the foibles of flawed humans and the imperfect worlds they strive to create.



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Economic data

% change on year ago

	Gross domestic product			Industrial production		Consumer prices		Unemployment rate, %	Current-account balance			Budget balance % of GDP 2017†	Interest rates, %	10-year gov't bonds, latest	Currency units, per \$ Aug 2nd	Year ago
	latest	qtr*	2017†	latest	latest	2017†	latest		latest 12 months, \$bn	% of GDP 2017†						
United States	+2.1 Q2	+2.6	+2.2	+2.0 Jun	+1.6 Jun	+2.0	4.4 Jun	-449.3 Q1	-2.6	-3.5	2.27	-	-	-	-	-
China	+6.9 Q2	+7.0	+6.7	+7.6 Jun	+1.5 Jun	+2.0	4.0 Q2‡	+169.5 Q1	+1.6	-4.1	3.59§§	6.72	6.64	-	-	-
Japan	+1.3 Q1	+1.0	+1.3	+4.9 Jun	+0.3 Jun	+0.6	2.8 Jun	+188.6 May	+3.6	-5.1	0.08	110	101	-	-	-
Britain	+1.7 Q2	+1.2	+1.6	-0.3 May	+2.6 Jun	+2.7	4.5 Apr††	-99.8 Q1	-3.1	-3.6	1.24	0.76	0.75	-	-	-
Canada	+2.3 Q1	+3.7	+2.3	+12.6 May	+1.0 Jun	+1.8	6.5 Jun	-48.4 Q1	-2.6	-2.4	1.94	1.26	1.31	-	-	-
Euro area	+2.1 Q2	+2.3	+1.9	+4.0 May	+1.3 Jul	+1.6	9.1 Jun	+388.6 May	+3.1	-1.4	0.49	0.84	0.89	-	-	-
Austria	+2.3 Q1	+5.7	+1.8	+3.6 May	+1.9 Jun	+2.0	5.2 Jun	+6.4 Q1	+2.3	-1.2	0.69	0.84	0.89	-	-	-
Belgium	+1.5 Q2	+1.6	+1.6	+2.0 May	+1.8 Jul	+2.2	7.6 Mar	-4.2 Mar	+0.3	-2.1	0.79	0.84	0.89	-	-	-
France	+1.8 Q2	+2.2	+1.5	+3.2 May	+0.7 Jul	+1.2	9.6 Jun	-22.4 May	-1.2	-3.1	0.74	0.84	0.89	-	-	-
Germany	+1.7 Q1	+2.4	+1.8	+4.9 May	+1.7 Jul	+1.7	3.8 Jun‡	+272.4 May	+8.0	+0.5	0.49	0.84	0.89	-	-	-
Greece	+0.8 Q1	+1.8	+1.0	+5.4 May	+1.0 Jun	+1.3	21.7 Apr	-0.9 May	-1.2	-1.3	5.49	0.84	0.89	-	-	-
Italy	+1.2 Q1	+1.8	+1.1	+2.8 May	+1.1 Jul	+1.4	11.1 Jun	+48.6 May	+2.1	-2.3	2.02	0.84	0.89	-	-	-
Netherlands	+3.2 Q1	+1.7	+2.2	+3.8 May	+1.1 Jun	+1.2	6.0 Jun	+68.4 Q1	+9.4	+0.7	0.60	0.84	0.89	-	-	-
Spain	+3.1 Q2	+3.6	+2.9	+4.6 May	+1.5 Jul	+2.0	17.1 Jun	+21.5 May	+1.8	-3.3	1.60	0.84	0.89	-	-	-
Czech Republic	+4.0 Q1	+6.3	+3.0	+8.1 May	+2.3 Jun	+2.3	2.9 Jun‡	+14.4 Q1	+0.9	-0.5	0.90	22.0	24.1	-	-	-
Denmark	+3.6 Q1	+2.5	+1.6	+6.2 May	+0.6 Jun	+1.2	4.3 May	+26.1 May	+7.7	-0.6	0.61	6.27	6.63	-	-	-
Norway	+2.6 Q1	+0.9	+1.8	-1.4 May	+1.9 Jun	+2.4	4.3 May‡‡	+22.4 Q1	+7.6	+4.2	1.69	7.88	8.43	-	-	-
Poland	+4.4 Q1	+4.5	+3.6	+4.5 Jun	+1.7 Jul	+1.8	7.1 Jun§	-2.2 May	-0.5	-2.2	3.37	3.59	3.86	-	-	-
Russia	+0.5 Q1	na	+1.4	+3.6 Jun	+4.4 Jun	+4.2	5.1 Jun§	+33.6 Q2	+2.2	-2.1	8.13	60.7	66.5	-	-	-
Sweden	+3.9 Q2	+7.1	+2.6	+8.0 May	+1.7 Jun	+1.6	7.4 Jun§	+22.0 Q1	+4.8	+0.3	0.72	8.10	8.52	-	-	-
Switzerland	+1.1 Q1	+1.1	+1.4	-1.3 Q1	+0.2 Jun	+0.5	3.2 Jun	+73.6 Q1	+9.9	+0.2	0.02	0.97	0.96	-	-	-
Turkey	+5.0 Q1	na	+3.4	+4.1 May	+10.9 Jun	+10.2	10.5 Apr§	-35.3 May	-4.4	-2.3	10.58	3.53	2.99	-	-	-
Australia	+1.7 Q1	+1.1	+2.4	-0.8 Q1	+1.9 Q2	+2.2	5.6 Jun	-25.0 Q1	-1.6	-1.8	2.65	1.25	1.31	-	-	-
Hong Kong	+4.3 Q1	+2.9	+3.0	+0.2 Q1	+2.0 Jun	+1.6	3.1 Jun‡‡	+14.8 Q1	+5.8	+1.7	1.50	7.82	7.76	-	-	-
India	+6.1 Q1	+7.2	+7.1	+1.7 May	+1.5 Jun	+4.2	5.0 2015	-15.2 Q1	-1.2	-3.2	6.47	63.6	66.8	-	-	-
Indonesia	+5.0 Q1	na	+5.2	+4.0 May	+3.9 Jul	+4.3	5.3 Q3§	-14.6 Q1	-1.7	-2.2	6.79	13,324	13,098	-	-	-
Malaysia	+5.6 Q1	na	+5.2	+4.6 May	+3.6 Jun	+3.9	3.4 May§	+6.6 Q1	+2.2	-3.0	4.00	4.29	4.04	-	-	-
Pakistan	+5.7 2017**	na	+5.7	+6.6 May	+2.9 Jul	+4.2	5.9 2015	-12.1 Q2	-3.8	-4.5	8.17†††	105	105	-	-	-
Philippines	+6.4 Q1	+4.5	+6.5	+5.8 May	+2.7 Jun	+3.0	5.7 Q2§	-0.4 Mar	+0.4	-2.8	4.99	50.4	47.0	-	-	-
Singapore	+2.5 Q2	+0.4	+2.9	+13.1 Jun	+0.5 Jun	+1.3	2.2 Q2	+59.0 Q1	+19.1	-1.0	2.15	1.36	1.34	-	-	-
South Korea	+2.7 Q2	+2.4	+2.6	-0.3 Jun	+2.2 Jul	+1.9	3.8 Jun§	+83.3 Jun	+6.0	+0.9	2.24	1,124	1,110	-	-	-
Taiwan	+2.1 Q2	+0.6	+2.4	+3.1 Jun	+1.0 Jun	+0.5	3.8 Jun	+69.1 Q1	+12.8	-0.9	1.06	30.2	31.7	-	-	-
Thailand	+3.3 Q1	+5.2	+3.4	-0.2 Jun	+0.2 Jul	+0.7	1.1 Jun§	+44.9 Q2	+11.5	-2.3	2.31	33.3	34.8	-	-	-
Argentina	+0.3 Q1	+4.3	+2.5	-2.5 Oct	+21.9 Jun‡	+24.2	9.2 Q1§	-16.8 Q1	-2.8	-5.9	na	17.6	14.8	-	-	-
Brazil	-0.4 Q1	+4.3	+0.6	+0.5 Jun	+3.0 Jun	+3.8	13.0 Jun§	-14.3 Jun	-1.0	-7.8	9.09	3.13	3.26	-	-	-
Chile	+0.1 Q1	+0.7	+1.5	-2.2 Jun	+1.7 Jun	+2.8	7.0 Jun‡‡	-5.0 Q1	-1.4	-2.7	4.25	653	655	-	-	-
Colombia	+1.1 Q1	-0.9	+2.0	-0.6 May	+4.0 Jun	+4.1	8.7 Jun§	-11.9 Q1	-3.6	-3.2	6.90	2,966	3,076	-	-	-
Mexico	+1.8 Q2	+2.4	+2.0	+1.0 May	+6.3 Jun	+5.4	3.3 Jun	-22.0 Q1	-2.2	-1.9	6.84	17.9	18.9	-	-	-
Venezuela	-8.8 Q4~	-6.2	-7.0	+0.8 Sep	na	+569	7.3 Apr§	-17.8 Q3~	-1.1	-19.5	11.02	10.1	9.99	-	-	-
Egypt	+4.3 Q1	na	+3.7	+25.1 May	+29.8 Jun	+22.8	12.0 Q1§	-18.0 Q1	-5.9	-10.8	na	17.9	8.88	-	-	-
Israel	+4.0 Q1	+1.4	+4.1	-1.5 May	-0.2 Jun	+0.5	4.5 Jun	+11.7 Q1	+4.1	-2.6	1.78	3.58	3.81	-	-	-
Saudi Arabia	+1.7 2016	na	-0.5	na	-0.4 Jun	+2.2	5.6 2016	-1.0 Q1	+1.3	-7.4	3.68	3.75	3.75	-	-	-
South Africa	+1.0 Q1	-0.7	+0.7	-1.9 May	+5.1 Jun	+5.5	27.7 Q1§	-7.9 Q1	-3.2	-3.2	8.62	13.3	14.0	-	-	-

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.

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Markets

	% change on			
	Index Aug 2nd	one week	Dec 30th 2016 in local currency terms	in \$
United States (DJIA)	22,016.2	+1.4	+11.4	+11.4
China (SSEA)	3,440.5	+1.2	+5.9	+9.5
Japan (Nikkei 225)	20,080.0	+0.1	+5.1	+11.0
Britain (FTSE 100)	7,411.4	-0.5	+3.8	+11.0
Canada (S&P TSX)	15,265.6	+0.6	-0.1	+6.5
Euro area (FTSE Euro 100)	1,185.6	-0.9	+6.6	+19.9
Euro area (EURO STOXX 50)	3,459.3	-0.9	+5.1	+18.2
Austria (ATX)	3,229.0	-0.4	+23.3	+38.6
Belgium (Bel 20)	3,938.2	-0.4	+9.2	+22.8
France (CAC 40)	5,107.3	-1.6	+5.0	+18.1
Germany (DAX)*	12,181.5	-1.0	+6.1	+19.3
Greece (Athex Comp)	826.0	-0.5	+28.3	+44.3
Italy (FTSE/MIB)	21,573.6	nil	+12.2	+26.1
Netherlands (AEX)	525.3	-0.5	+8.7	+22.7
Spain (Madrid SE)	1,060.3	-0.5	+12.4	+26.3
Czech Republic (PX)	1,010.6	-0.1	+9.7	+27.6
Denmark (OMXCB)	900.4	-0.2	+12.8	+26.7
Hungary (BUX)	36,041.1	+1.3	+12.6	+28.8
Norway (OSEAX)	810.1	+0.8	+5.9	+15.7
Poland (WIG)	62,409.5	+0.1	+20.6	+40.3
Russia (RTS, \$ terms)	1,021.4	+0.1	-11.4	-11.4
Sweden (OMX30)	1,563.2	-1.1	+3.0	+15.6
Switzerland (SMI)	9,122.7	+1.5	+11.0	+16.6
Turkey (BIST)	106,525.4	-0.6	+36.3	+35.8
Australia (All Ord.)	5,794.5	-0.5	+1.3	+11.9
Hong Kong (Hang Seng)	27,607.4	+2.5	+25.5	+24.5
India (BSE)	32,476.7	+0.3	+22.0	+30.1
Indonesia (JSX)	5,824.3	+0.4	+10.0	+11.2
Malaysia (KLCSE)	1,770.6	+0.3	+7.9	+12.9
Pakistan (KSE)	46,949.0	+2.3	-1.8	-2.7
Singapore (STI)	3,348.8	+0.4	+16.2	+23.7
South Korea (KOSPI)	2,427.6	-0.3	+19.8	+28.7
Taiwan (TWI)	10,519.3	+1.0	+13.7	+21.3
Thailand (SET)	1,580.5	-0.2	+2.4	+10.2
Argentina (MERV)	21,798.6	+2.8	+28.8	+16.2
Brazil (BVSP)	67,135.9	+3.3	+11.5	+15.9
Chile (IGPA)	25,449.2	+1.0	+22.7	+25.9
Colombia (IGBC)	10,961.0	+0.4	+8.5	+9.8
Mexico (IPC)	51,200.1	-0.8	+12.2	+29.0
Venezuela (IBC)	146,877.8	+9.1	+363	na
Egypt (EGX 30)	13,405.2	-2.8	+8.6	+10.4
Israel (TA-125)	1,289.9	-1.1	+1.0	+8.6
Saudi Arabia (Tadawul)	7,080.9	-1.7	-2.2	-2.1
South Africa (JSE AS)	55,200.5	+0.7	+9.0	+12.4

Manufacturing activity

The latest manufacturing data from IHS Markit, a research firm, paints a reasonably cheery picture. In Britain the purchasing managers' index (PMI) rose for the first time in three months, to 55.1 (anything above 50 indicates an expansion in activity). The weak pound helped British factories record the strongest rise in export orders since April 2010. Although the rate of expansion slowed in the euro area, activity still increased in all the countries surveyed. China's PMI confounded expectations of a slowdown, recording a four-month high of 51.4. In India, however, the new goods-and-services tax weighed on manufacturing: the sector contracted at its steepest pace in over eight years.



Sources: IHS Markit; CIPS; Nikkei; Caixin *Based on a survey of purchasing executives †Compared with the previous month

Other markets

	% change on			
	Index Aug 2nd	one week	Dec 30th 2016 in local currency terms	in \$
United States (S&P 500)	2,477.6	nil	+10.7	+10.7
United States (NAScomp)	6,362.7	-0.9	+18.2	+18.2
China (SSEB, \$ terms)	334.0	+1.3	-2.3	-2.3
Japan (Topix)	1,634.4	+0.8	+7.6	+13.7
Europe (FTSEurofirst 300)	1,487.7	-1.1	+4.2	+17.1
World, dev'd (MSCI)	1,970.3	+0.4	+12.5	+12.5
Emerging markets (MSCI)	1,070.0	+0.7	+24.1	+24.1
World, all (MSCI)	479.8	+0.5	+13.7	+13.7
World bonds (Citigroup)	945.0	+1.3	+6.9	+6.9
EMBI+ (JP Morgan)	826.3	+0.3	+7.0	+7.0
Hedge funds (HFRX)	1,246.5 [§]	-0.1	+3.6	+3.6
Volatility, US (VIX)	10.3	+9.6	+14.0 (levels)	
CDSs, Eur (iTRAXX) [†]	51.6	-0.4	-28.4	-19.6
CDSs, N Am (CDX) [†]	56.4	+0.1	-16.9	-16.9
Carbon trading (EU ETS) €	5.4	+5.6	-17.5	-7.2

Sources: IHS Markit; Thomson Reuters. *Total return index.

†Credit-default-swap spreads, basis points. [§]Aug 1st.

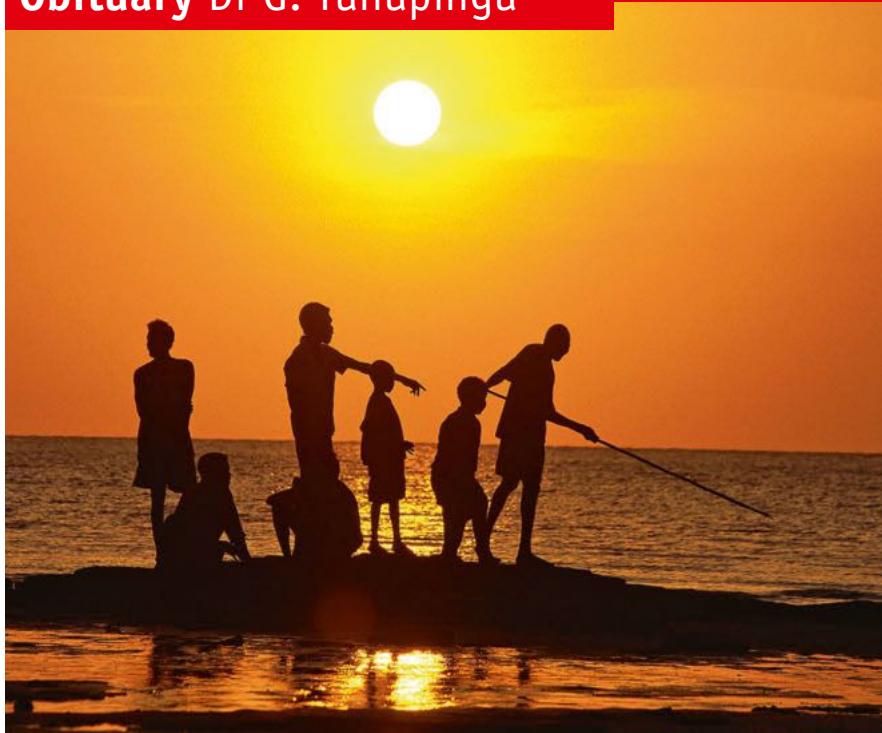
Indicators for more countries and additional series, go to: Economist.com/indicators

The Economist commodity-price index

	2005=100		
	Jul 25th	Aug 1st*	% change on
	Jul 25th	Aug 1st*	% change on
Dollar Index			
All Items	144.8	142.8	-1.2
Food	154.4	152.4	-3.2
Industrials			
All	134.8	132.9	+1.2
Nfa [†]	133.3	123.8	-4.9
Metals	135.4	136.8	+3.7
Sterling Index			
All items	201.8	196.3	-3.5
Euro Index			
All items	154.4	150.3	-5.1
Gold			
\$ per oz	1,250.6	1,272.5	+4.0
West Texas Intermediate			
\$ per barrel	47.9	49.2	+4.4
Sources: Bloomberg; CME Group; Cottlook; 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.			

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Singing the land

Dr G. Yunupingu, the most beautiful voice in Australia, died on July 25th, aged 46

THE shoreline was where it began. This was where Baru, his totemic animal, the saltwater crocodile, wandered and danced in the Dreamtime. Baru sang the names of the red cliffs, the mangrove swamps, the creeks and stringybark trees. And there, on the wide beach at the aboriginal outstation of Nayingburra on Elcho Island, off north-east Arnhem Land, Dr G. Yunupingu's aunts Dorothy, Anne and Susan set up various sizes of tin cans in a row, and gave the blind child sticks, so that he could sing and play the land for himself in the steps of the ancestors.

When, many years later, he sang in London, China and New York; when he performed to standing ovations at the Sydney Opera House, and his debut solo album, "Gurrumul", went triple platinum in Australia, this was what he was singing about. Almost no one knew. The plaintive tenderness of his high tenor voice and the sweetness of his acoustic guitar were all that mattered to his audience of enraptured Balandia, white folk. Yet to him, sitting almost motionless on stage, bulky in his black leather jacket, his sightless eyes sunk even deeper with concentration, the point remained the words. He sang in English, sometimes, about his life. When he sang in his own Gumatj—one of several languages of the Yolngu people, rarely spoken even

on Elcho Island—he was carrying out his duty of care for his people and the land.

He provided translations for his album notes. They remained mysterious, a list of ancestors, places and his own likan, or deep names, which linked him to them. (After his death these names, like his image, could not be used.) From each song one striking scene would emerge: a cat walking out in the cool of the evening, two orange-footed scrubfowl crying out like keening women, or thunderheads making the forms of ancestral spirits over the sea, "reflections...for me".

None of this he had ever seen. He was born blind, as he sang in English, "and I don't know why/God knows why, because he love me so." As he grew up, his spirit understood. Blind, he could not learn to spear fish, track bees for honey, find bush tucker, or dig water-chestnuts out of the mud; he could not see the seven star-sisters whose cooking smoke made the horizon clouds before the Wet, or the sacred black mangrove stingray, Gawangalkmirri, with stars on its back. His parents "cried their hearts in confusion" over him, their first child. But he could listen to the stories of his Gumatj clan round the fire, out on the beach, where families would gather to sit and watch the waves. Those times of contemplation flowed into his songs.

So too, musically, did all sorts of Balandia influences. Gospel and Victorian hymns came from the mission church he went to with his mother and aunts, and where he learned his first guitar chords, holding the instrument upside-down so he could play it left-handed (a habit he kept). Dire Straits, reggae and Stevie Wonder, also blind, he heard on the radio. His was a musical clan, and he gave up school at 12 to play drums and guitar in his uncle's rock band, which performed tribal songs. Later he formed his own Saltwater Band, named after Baru; and then he was taken up by Michael Hohnen, a young white musician and co-founder of the Skinnyfish label in Darwin, who guided and protected him as he progressed to global stardom.

This was a dizzying trajectory. Elcho Island, for all its beauty, was an enclave of deepest poverty, its outstations full of rubbish and marauding dogs, with almost half its population under 20, and many of those sunk in kava-chewing and petrol-sniffing. He had avoided that, but was still barely educated in Balandia ways, however richly instructed in his own. He was also sick, with Hepatitis B, because he had not been vaccinated as a child, as a white child would have been. Instead, as a newborn, he was held over burning gum leaves to make him strong. When his liver and kidney trouble got worse and he went to the Royal Darwin Hospital, the medical staff assumed this was alcohol abuse. His early death was average for his people.

All such deep injustice he was well aware of. Much of the money he earned, which he originally simply wanted to share with his clan, went into a foundation on the island to teach aboriginal children the essential stories of their world. But no bitterness entered his songs. Only trust: the same confidence in human goodness that led him to depend on other people, rather than Braille or a dog or a white stick, to help him through life. "Please hold my hand," he sang, while he tried to "bridge and build Yolngu culture" out to the white world. Intensely shy, he would not talk after his concerts, even with Mr Hohnen as his interpreter. He had made his point.

A pit on the beach

In his last months, needing frequent dialysis, he seldom managed to get back to Elcho Island. Yet this was where the spirits of the ancestors determined he should go to die. He needed to be on a beach that Baru had named in song in his wanderings, and with his family when they came there to sit. So like Gawangalkmirri, the stingray, he made a shallow pit in the sand that he could lie in, and slept there on occasion. Some Balandia thought he was just long-grassing, sleeping rough, like other drunks. He was listening to the waves, and the old creation-songs. ■

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