

# The Economist

**OUR ANNUAL SUPPLEMENT: THE WORLD IF**

Meet Britain's new prime minister

Drugs, the dark web and the free market

Showdown in the South China Sea

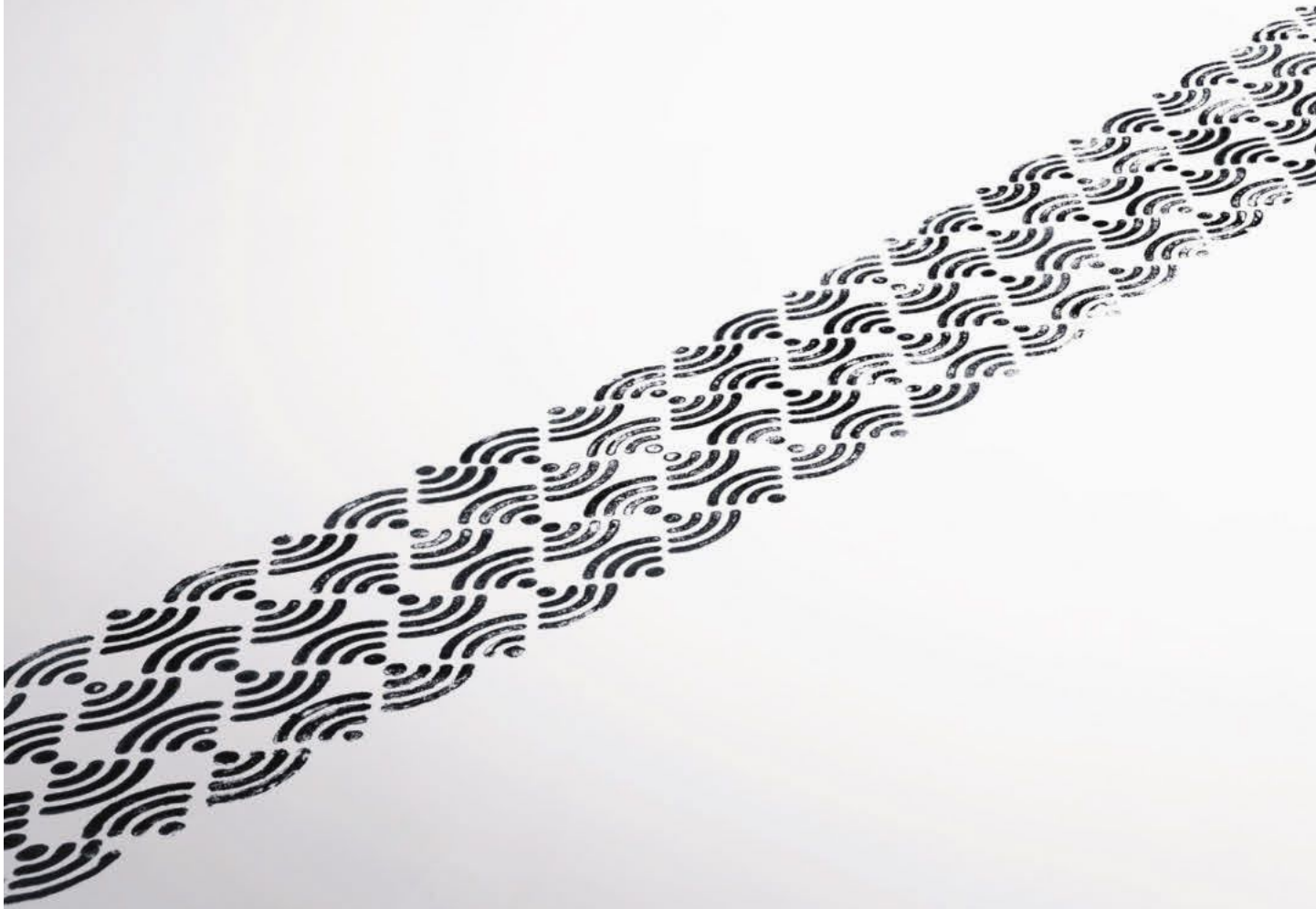
The arrival of the geek economy

JULY 16TH-22ND 2016



**Donald  
Trump and  
a divided  
America**

**One day our cars will connect everything.**



In the future, our cars will be more connected than your mobile.  
So your time won't just be spent driving when you're on the road.

**PROJECT IONIQ**

Hyundai is a registered trademark of Hyundai Motor Company. All rights reserved. ©2016 Hyundai Motor Company.





ADVERTISEMENT



1951-2016

# Joint Dedication to Build a Beautiful China



[www.abchina.com](http://www.abchina.com) Service Hotline: 95599



中国农业银行

AGRICULTURAL BANK OF CHINA





**On the cover** Donald Trump's nomination in Cleveland will put a thriving country at risk of a great, self-inflicted wound: leader, page 9. Insurgent candidates tend to transform their party, even if they never become president, pages 17-20. Despair over race and policing is understandable. But there is also cause for hope, page 27. Republicans used to produce big ideas. They have not yet regained that habit, page 66

### The Economist online

Daily analysis and opinion to supplement the print edition, plus audio and video, and a daily chart [Economist.com](http://Economist.com)

**E-mail:** newsletters and mobile edition [Economist.com/email](http://Economist.com/email)

**Print edition:** available online by 7pm London time each Thursday [Economist.com/print](http://Economist.com/print)

**Audio edition:** available online to download each Friday [Economist.com/audioedition](http://Economist.com/audioedition)



Volume 420 Number 8998

Published since September 1843 to take part in "a severe contest between intelligence, which presses forward, and an unworthy, timid ignorance obstructing our progress."

**Editorial offices in London and also:** Atlanta, Beijing, Berlin, Brussels, Cairo, Chicago, Lima, Mexico City, Moscow, Mumbai, Nairobi, New Delhi, New York, Paris, San Francisco, São Paulo, Seoul, Shanghai, Singapore, Tokyo, Washington DC

## 7 The world this week

### Leaders

- 9 **Election 2016**  
The dividing of America
- 10 **Britain's prime minister**  
Maytime
- 11 **The South China Sea**  
Come back from the brink, Beijing
- 11 **Deutsche Bank**  
A floundering titan
- 12 **Marine management**  
Net positive

### Letters

- 14 **On Zimbabwe, the Chilcot report, companies, Brexit**

### Briefing

- 17 **The Republican Party**  
Past and future Trumps

### Asia

- 21 **Japanese politics**  
Diet control
- 22 **The Imperial House of Japan**  
The long goodbye
- 22 **Australia's election**  
Squeaking back in
- 23 **Violence in Kashmir**  
After the funeral
- 24 **Cambodia**  
Murder most murky
- 24 **Taiwanese identity**  
Hello Kitty, goodbye panda

### China

- 25 **The South China Sea**  
A blow to China's claims

### United States

- 27 **After Dallas**  
Progress and its discontents
- 29 **Policing and race**  
Black and blue lives
- 30 **Fishing**  
All about the bass
- 31 **Lexington**  
Mitch McConnell

## The Americas

- 32 **Tierra del Fuego**  
Phones and tax breaks
- 33 **Bello**  
Sue Peru's conquistadors

## Britain

- 34 **The political landscape**  
May's irresistible rise
- 35 **The Labour Party**  
Twist or split
- 35 **The civil service**  
Building the Brexit team
- 36 **Defence**  
The nuclear option
- 37 **The post-Brexit economy**  
Straws in the wind
- 37 **The immigration paradox**  
Explaining the Brexit vote
- 38 **Bagehot**  
Travels in May country

## The world if

- Our annual supplement**  
After page 38

## Middle East and Africa

- 39 **Land ownership in Africa**  
Title to come
- 40 **Mozambique**  
Fishy finances
- 41 **Zambia**  
Cry press freedom
- 41 **Israel's prime minister**  
The law looms larger
- 42 **Egyptian bureaucracy**  
A movable beast

## Europe

- 43 **Macron and France's presidential election**  
L'internationaliste
- 44 **Ireland's statistics**  
An incredible GDP bump
- 44 **The EU-Canada trade deal**  
Fear of the maple menace
- 45 **Gibraltar and Brexit**  
Rock out
- 46 **Charlemagne**  
The EU's divided market



**Theresa May** A no-nonsense conservative has taken Britain's helm. She should make the practical case for a minimalist Brexit: leader, page 10. Theresa May faces huge challenges on Europe and the economy. She will be helped by the turmoil in opposition parties, page 34. To understand Britain's new prime minister, visit her constituency: Bagehot, page 38. Evidence is mounting that the real economy is suffering from Brexit, page 37



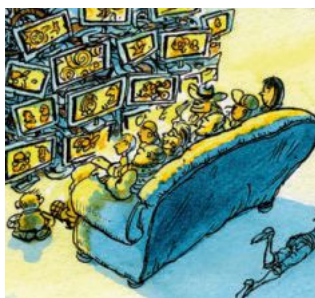
**A rare French globalist** The economy minister wants to transform France. If he runs for president, he may, page 43



**South China Sea** Why China should accept a damning ruling: leader, page 11. An international tribunal delivers a blow to China's claims, page 25



**Drugs and the dark web** The narcotics trade is moving from the street to online cryptomarkets. Forced to compete on price and quality, sellers are upping their game, page 47



**The future of the couch potato** Television is at last having its digital-revolution moment, page 50



**Deutsche Bank** Germany's banking champion has neither a proper business model nor a mission: leader, page 11. Brexit is merely one more worry for a troubled lender, page 58

## International

- 47 Buying drugs online**  
Shedding light on the dark web

## Business

- 50 The future of television**  
Cutting the cord
- 51 Video games**  
I mug you, Pickachu!
- 52 Theranos**  
Red alert
- 52 Fads in corporate architecture**  
Putting on the glitz
- 53 Indian conglomerates**  
Sell me if you can
- 53 Booming missiles**  
Rocketing around the world
- 54 Philanthropy in China**  
The emperor's gift
- 55 Schumpeter**  
The geek economy

## Finance and economics

- 56 Turkey's economy**  
Sugar highs
- 57 Buttonwood**  
The curse of low rates
- 58 Deutsche Bank**  
In a rut
- 58 Prosecuting banks**  
Hongkong and Shanghai
- 59 Temporary work**  
How the 2% lives
- 60 Payouts for whistleblowers**  
Whistle while you work
- 61 Free exchange**  
Comparing economies

## Science and technology

- 62 Neuroscience**  
Computer says: oops
- 63 Dating fossils**  
Shell shock
- 64 Oncology**  
Fast thinking
- 64 Electric aircraft**  
Extra thrust
- 65 Fishing**  
Unbalancing the scales

## Books and arts

- 66 America's conservatives**  
Short on ideas
- 67 J.M.W. Turner**  
Industrious genius
- 67 South Sudan**  
From hope to horror
- 68 Pakistan's death penalty**  
Flowers from the muck
- 68 The voyeur's motel**  
Too much information
- 69 Johnson**  
How women speak

- 72 Economic and financial indicators**  
Statistics on 42 economies, plus a closer look at food prices

## Obituary

- 74 Michael Cimino**  
The price of perfection



**The world if** Our annual supplement of future-gazing scenarios includes: Donald Trump's presidency, North Korea's break-up, the see-through ocean, countries trading territory, computers making laws, and more, after page 38

## Subscription service

For our full range of subscription offers, including digital only or print and digital combined visit

[Economist.com/offers](http://Economist.com/offers)

You can subscribe or renew your subscription by mail, telephone or fax at the details below:

**Telephone:** +65 6534 5166

**Facsimile:** +65 6534 5066

**Web:** [Economist.com/offers](http://Economist.com/offers)

**E-mail:** [Asia@subscriptions.economist.com](mailto:Asia@subscriptions.economist.com)

**Post:** The Economist

Subscription Centre,  
Tanjong Pagar Post Office  
PO Box 671  
Singapore 910817

### Subscription for 1 year (51 issues) Print only

Australia	A\$425
China	CNY 2,300
Hong Kong & Macau	HK\$2,300
India	INR 7,500
Japan	Yen 41,000
Korea	KRW 344,000
Malaysia	RM 780
New Zealand	NZ\$460
Singapore & Brunei	S\$425
Taiwan	NT\$8,625
Thailand	US\$288
Other countries	Contact us as above

### Principal commercial offices:

25 St James's Street, London SW1A 1HG  
Tel: +44 20 7830 7000

Rue de l'Athénée 32  
1206 Geneva, Switzerland  
Tel: +41 22 566 2470

750 3rd Avenue, 5th Floor, New York, NY 10017  
Tel: +1 212 541 0500

1301 Cityplaza Four,  
12 Taikoo Wan Road, Taikoo Shing, Hong Kong  
Tel: +852 2585 3888

### Other commercial offices:

Chicago, Dubai, Frankfurt, Los Angeles,  
Paris, San Francisco and Singapore



PEFC certified

This copy of *The Economist* is printed on paper sourced from sustainably managed forests, recycled and controlled sources certified by PEFC  
[www.pefc.org](http://www.pefc.org)





## Politics



Theresa May became **Britain's** prime minister, after her last remaining opponent withdrew from the Conservative leadership race. Mrs May's elevation to Number 10 brought a quick resolution to the power vacuum left by David Cameron's resignation after the vote on Brexit. One of her first acts was to make Boris Johnson, a prominent leader of the campaign for Britain to leave the EU, foreign secretary. **George Osborne**, who until a month ago was arguably Britain's most powerful politician, was unceremoniously dumped as chancellor of the exchequer. His replacement is Philip Hammond.

Britain's **Labour Party**, by contrast, was still hampered with its leader, Jeremy Corbyn. He refuses to resign despite losing the support of most of the party in Parliament, citing his backing among party members. Two opponents running against him in a party election say they can provide the leadership that Mr Corbyn can't. That does not appear to be difficult.

The **Polish** parliament's lower house passed legislation that would resolve a controversy over seating justices on the constitutional tribunal but still limit its power to block laws. Poland's ruling right-wing Law and Justice party is at odds with the EU and with a liberal protest movement that defends judicial independence.

**Ireland** announced that GDP grew by 26% last year, because of changes in how it calculates the size of its economy. Assets

belonging to multinational companies that are based in Ireland for tax purposes are now counted. The whopping revision heightened Irish citizens' sense that, as more offshore firms flock to the country, growth statistics have become meaningless.

Emmanuel Macron, **France's** economy minister, held the first rally of a political movement, *En Marche!*, he has set up. A liberal voice in the governing Socialist Party, Mr Macron wants to deregulate the economy. Advisers are prodding him to run in elections for president next year against the unpopular incumbent, François Hollande.

Two commuter trains collided in southern **Italy**, killing at least 23 people.

### The great wail of China

An international court in The Hague delivered its verdict on a case filed by the Philippines challenging China's territorial claims in the **South China Sea**. The judges ruled that China's claims to resources within a "nine-dash line" encompassing most of the sea had no legal basis. It also said China's island-building on reefs there had violated the Philippines' sovereign rights. China reacted furiously to the judgment.

The Liberal Democratic Party of Shinzo Abe, the prime minister of **Japan**, scored a sweeping victory in elections to the upper house of the Diet. Together with Komeito, his ally in the ruling coalition, and like-minded parties and independents, Mr Abe now has the two-thirds majority to push for changes to the pacifist constitution in a referendum.

Street violence was reignited in Indian-ruled **Kashmir** after security forces killed a prominent militant leader, Burhan Wani. In days of protest by pro-separatist youth, more than 36 people have been killed, nearly all by police gunfire. The insurgency today is being waged less by infiltrators from Pakistan and more by local militants.

The Liberal-National coalition led by Malcolm Turnbull, the prime minister of **Australia**, scored a narrow victory in an election. With the final votes still being counted, the coalition was expected to secure a majority in the lower chamber. Mr Turnbull may need the support of small parties and independents, who are likely to hold the balance in the upper house.

### Desperate measures



As the situation in **Venezuela** grew more chaotic, President Nicolás Maduro told the army to take over five ports in order to ensure adequate supplies of food and medicine. He said this was necessary because of the "economic war" being mounted against him by rivals with the backing of the United States. Venezuela's Catholic bishops warned that the growing role of the military was a threat to civil peace.

A well-known environmental campaigner in **Honduras**, Lesbia Yaneth Urquia, was murdered. There was widespread international outrage after her body was found abandoned on a rubbish dump. She was the second opponent of a giant dam project to be killed in four months.

### Pulling back from the brink

A ceasefire halted four days of fighting in **South Sudan** between soldiers loyal to the president, Salva Kiir, and bodyguards of the vice-president, Riek Machar, a former rebel. Efforts were made to reinstate a peace agreement between the factions. The fighting, which started after a shoot-out at a checkpoint, claimed the lives of 270 people and threatened a return to civil war.

In **Zimbabwe**, Evan Mawarire, a pastor who helped inspire a one-day general strike, was arrested and charged with attempting to overthrow the state. The charges were dropped and he was released after a large crowd gathered for his appearance in court.

Amnesty International reported that hundreds of people have disappeared or been tortured at the hands of **Egypt's** security services over the past year.

Russian jets bombed a refugee camp in **Syria**, killing 12.

America said it would send another 560 troops to **Iraq** to help the security forces and Kurdish fighters in their attempt to retake Mosul from Islamic State.

### A week for weeping

In a show of national unity amid a bad week for race relations in America, Barack Obama and George W. Bush spoke at a memorial for five policemen shot dead by a black nationalist in **Dallas**. They were slain overseeing a street protest against the killings of two black men by police, in Louisiana and Minnesota. Mr Obama praised the police for doing a difficult job, but urged them not to dismiss the black protesters as "troublemakers or paranoid".



After weeks of wavering, Bernie Sanders at last endorsed Hillary Clinton as the **Democratic** candidate for president. Mr Sanders put up a surprisingly strong challenge to Mrs Clinton in the primaries. She has made some concessions, notably by agreeing to offer free tuition at public colleges for poorer students. ▶▶

## Business

After two weeks of turmoil following Britain's referendum decision to leave the European Union, global markets rallied, buoyed in part by a favourable jobs report from America. Employers added 287,000 jobs to the payroll last month, the biggest gain this year. The **S&P 500** rose to beat the record it set a year ago. The **FTSE 250**, a share index comprising mostly British companies, also advanced and was close to its pre-Brexit levels. Investors still sought out havens, however. For the first time the German government sold **ten-year bonds** (Europe's benchmark issue) offering a negative yield.

Talks continued in Europe over a possible rescue of **Italy's troubled banks**, which have endured a further loss of investor confidence in the wake of Brexit. The head of the euro-zone group of finance ministers reiterated the official view that any rescue must observe EU rules that compel creditors to take losses before any taxpayers' money is used.

### Not going to make it easy

The French finance minister gave an indication of the trickiness of the discussions ahead on Britain's exit from the EU. Michel Sapin lambasted a recent pledge by George Osborne, Britain's erstwhile chancellor of the exchequer, to reduce **corporation tax** as "not a good way to start negotiations" over the UK retaining its passport for financial services in the single market. France and Germany see Britain's desire to reduce business taxes as an attempt to create a low-tax jurisdiction not subject to EU regulations.

Meanwhile, it emerged that in 2012 Mr Osborne had interceded in the US Justice Department's investigation into **HSBC** over money laundered through its American branches by Mexican drug lords. The department was considering bringing charges on top of the fines it imposed on the bank, Britain's biggest, but Mr Os-

borne argued that this would destabilise a "systemically important financial institution" and lead to "contagion".

A former high-frequency trader who was found guilty last November of "**spoofing**", or placing a large number of small orders electronically to create the illusion of demand and drive prices higher before cancelling them, was sentenced to three years in prison. Michael Coscia's conviction is the first for spoofing under the Dodd-Frank financial reforms.

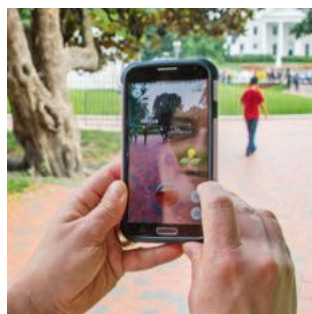
### Having his say on pay

Jamie Dimon, the chief executive of **JPMorgan Chase**, waded into the debate on low pay by promising to lift the wages of 18,000 of the bank's lowest-paid staff. JPMorgan Chase pays a minimum of \$10.15 an hour, but this will rise to between \$12 and \$16.50, costing the bank an estimated \$100m. Announcing the step, Mr Dimon decried that fact that "wages for many Americans have gone nowhere" and said the increase in pay would help retain talented people.

**IKEA** extended a safety recall to China, following a backlash from state newspapers and social media there. The company recently recalled 29m

drawers in America when the products were linked to the deaths of six toddlers who were crushed by the furniture toppling over. But China's official news agency declared that **IKEA** was "arrogant" for not withdrawing the range from its Chinese stores.

The steep drop in the value of the pound against the dollar was a factor behind the acquisition of the **Odeon** cinema chain in Britain by **AMC**, an American peer owned by Dalian Wanda of China. The deal is worth £921m (\$1.2 billion). The seller is Guy Hands, whose private-equity firm bought Odeon in 2004.



The latest craze in video games literally hit the streets. "**Pokémon Go**" is an alternate-reality game for smartphones. Guided by **GPS**, players traverse their cities seeking to "capture" Pokémon characters

that pop up on the screen. Tales abounded of players finding characters in odd locations. One man even captured a character while his wife was in labour (he stopped playing during the birth). The game is part-owned by **Nintendo**; its share price surged.

In one of the biggest-ever deals involving a sports brand **WME-IMG**, a talent agency, agreed to buy **Ultimate Fighting Championship**, which promotes mixed martial-arts tournaments and whose events are becoming as popular as boxing. The acquisition is worth \$4 billion; **UFC** was sold in 2001 for just \$2m. **WME-IMG**'s other assets include the **Miss Universe** organisation, which it bought last year from a certain Donald Trump.

### Cheers!

Anathema to some, America's biggest brewers agreed voluntarily to place **nutrition labels** on bottles and cans of beer that will disclose how many calories and carbohydrates they contain. The move, to be completed by 2020, is intended to help drinkers shed their beer bellies, often gained by chugging a six-pack.

Other economic data and news can be found on pages 72-73





# The dividing of America

Donald Trump's nomination in Cleveland will put a thriving country at risk of a great, self-inflicted wound



FROM “Morning in America” to “Yes, we can”, presidential elections have long seemed like contests in optimism: the candidate with the most upbeat message usually wins. In 2016 that seems to have been turned on its head: America is shrouded in a most unAmerican pessimism. The gloom touches race relations, which—after the shooting of white police officers by a black sniper in Dallas, and Black Lives Matter protests against police violence, followed by arrests, in several cities—seem to get ever worse. It also hangs over the economy. Politicians of the left and right argue that American capitalism fails ordinary people because it has been rigged by a cabal of self-serving elitists. The mood is one of anger and frustration.

America has problems, but this picture is a caricature of a country that, on most measures, is more prosperous, more peaceful and less racist than ever before. The real threat is from the man who has done most to stoke national rage, and who will, in Cleveland, accept the Republican Party's nomination to run for president. Win or lose in November, Donald Trump has the power to reshape America so that it becomes more like the dysfunctional and declining place he claims it to be.

## This nation is going to hell

The dissonance between gloomy rhetoric and recent performance is greatest on the economy. America's recovery is now the fourth-longest on record, the stockmarket is at an all-time high, unemployment is below 5% and real median wages are at last starting to rise. There are genuine problems, particularly high inequality and the plight of low-skilled workers left behind by globalisation. But these have festered for years. They cannot explain the sudden fury in American politics.

On race relations there has, in fact, been huge progress. As recently as 1995, only half of Americans told pollsters that they approved of mixed-race marriages. Now the figure is nearly 90%. More than one in ten of all marriages are between people who belong to different ethnic groups. The movement of non-whites to the suburbs has thrown white, black, Hispanic and Asian-Americans together, and they get along just fine. Yet despite all this, many Americans are increasingly pessimistic about race. Since 2008, when Barack Obama was elected president, the share of Americans who say relations between blacks and whites are good has fallen from 68% to 47%. The election of a black president, which seemed the ultimate proof of racial progress, was followed by a rising belief that race relations are actually getting worse.

What explains the divergence between America's healthy vital signs and the perception, put with characteristic pithiness by Mr Trump, that the country is “going down fast”? Future historians will note that from about 2011 white and non-white babies were born in roughly equal numbers, with the ageing white population on course to become a minority around 2045. This was always going to be a jarring change for a country in which whites of European descent made up 80-90% of

the population for about 200 years: from the presidency of George Washington to that of Ronald Reagan.

Demographic insecurity is reinforced by divisive partisan forces. The two parties have concluded that there is little overlap between the groups likely to vote for them, and that success therefore lies in making those on their own side as furious as possible, so that they turn out in higher numbers than the opposition. Add a candidate, Mr Trump, whose narcissistic bullying has prodded every sore point and amplified every angry sentiment, and you have a country that, despite its strengths, is at risk of a severe self-inflicted wound.

## Reshaping politics

The damage would be greatest were he to win the presidency. His threats to tear up trade agreements and force American firms to bring jobs back home might prove empty. He might not be able to build his wall on the border with Mexico or deport the 11m foreigners currently in the United States who have no legal right to be there. But even if he failed to keep these campaign promises, he has, by making them, already damaged America's reputation in the world. And breaking them would make his supporters angrier still.

The most worrying aspect of a Trump presidency, though, is that a person with his poor self-control and flawed temperament would have to make snap decisions on national security—with the world's most powerful army, navy and air force at his command and nuclear-launch codes at his disposal.

Betting markets put the chance of a Trump victory at around three in ten—similar to the odds they gave for Britain voting to leave the European Union. Less obvious, but more likely, is the damage Mr Trump will do even if he loses. He has already broken the bounds of permissible political discourse with his remarks about Mexicans, Muslims, women, dictators and his political rivals. It may be impossible to put them back in place once he is gone. And history suggests that candidates who seize control of a party on a prospectus at odds with that party's traditional values tend eventually to reshape it (see page 17). Barry Goldwater achieved this feat for the Republicans: though he lost 44 states in 1964, just a few elections later the party was running on his platform. George McGovern, who fared even worse than Goldwater, losing 49 states in 1972, remoulded the Democratic Party in a similar fashion.

One lesson of Mr Trump's success to date is that the Republicans' old combination of shrink-the-state flintiness and social conservatism is less popular with primary voters than Trumpism, a blend of populism and nativism delivered with a sure, 21st-century touch for reality television and social media. His nomination could prove a dead end for the Republican Party. Or it could point towards the party's future.

When contemplating a protest vote in favour of tearing up the system, which is what Mr Trump's candidacy has come to represent, some voters may ask themselves what they have to lose. (That, after all, is the logic that drove many Britons to vote for Brexit on June 23rd.) But America in 2016 is peaceful, prosperous and, despite recent news, more racially harmonious than at any point in its history. So the answer is: an awful lot. ■

Britain's new prime minister

# Maytime

A no-nonsense conservative has taken Britain's helm. She should make the case for a minimalist Brexit



THEY campaigned to Leave, and they were as good as their word. Three weeks on from their referendum triumph, the politicians who led the charge for Britain to quit the European Union have fallen by the wayside in the race to

replace David Cameron as prime minister. This week the last of the prominent Leavers, Andrea Leadsom, withdrew her candidacy after a few days' media scrutiny revealed her to be fantastically ill-prepared. The job of steering Britain towards the EU's exit doors has thus fallen to the only candidate left in the race: Theresa May, who campaigned to Remain.

Mrs May's path to power was easier than that of most prime ministers, but her time in office will be the hardest stint in decades (see page 34). Extricating Britain from the EU will be the diciest diplomatic undertaking in half a century. The wrangling at home will be no easier: whatever divorce settlement Britain ends up with is likely to be deeply unsatisfactory even to those who voted to Leave. Popular anger will not be soothed by the recession into which the country is probably heading. It will take a gifted politician to lead Britain through this turbulent period.

## Last woman standing

Is Mrs May up to it? The gormlessness of her rivals flatters her. But she has real qualities: a Merkelian calm, well suited to counter the chaos of the moment, and a track record of competence that increases the likelihood of an orderly withdrawal from the EU. Her first speech as prime minister—in which she promised to fight the “burning injustice” faced by the poor—suggests she has correctly read the mood of those who voted against the establishment and for Brexit, and is preparing to seize the centre ground vacated by the Labour opposition.

Her effortless victory presents a tactical problem. Without a proper leadership contest or general election, Mrs May lacks the seal of approval of her party's members or the public. She has ruled out a snap election—rightly, since there is only so much political drama the country can take (in any case Labour, engulfed in civil war, is in no shape to fight one). Yet her lack of a mandate will be used against her, especially by Brexiteers. When Mrs May eventually returns from Brussels with a deal that falls short of the Brexit fantasy that voters were mis-sold, expect those in the Leave camp to cry treachery. To head off such accusations she has already given plum cabinet jobs to some unworthy Brexiteers, notably Boris Johnson as foreign secretary. In negotiations she may be unwilling to give ground to the EU even when it is in Britain's interest.

The European divorce proceedings will dominate her government. The first decision is when to invoke Article 50 of the Lisbon treaty, the legal mechanism by which Brexit begins. Fortunately, Mrs May seems to be in no hurry. Britain needs to settle its own position before firing the starting gun on negotiations, which will take months to do properly. Delay will also give EU politicians time for reflection, raising the chances of

sensible compromise.

The single biggest call of her premiership will be what variety of Brexit to aim for. At one end of the spectrum is a “soft Brexit”: full membership of the single market, or something close to it, in return for retaining the principle of free movement of people. At the other is a “hard Brexit”: a clean break, sacrificing membership of the single market for full control over how many and which EU nationals can move to Britain. This newspaper favours minimal restrictions on migration in return for maximum participation in the single market; even those less enthusiastic than we are about immigration should shudder at the economic damage from serious barriers to a market that buys nearly half of Britain's exports.

Mrs May's thinking on this trade-off is unknown, but there are ominous signs. As home secretary she cut immigration at the expense of the economy—limiting visas for fee-paying university students, for instance. She has been unnervingly reluctant to guarantee the status of the 3m EU citizens already in Britain. And during the refugee crisis last summer she claimed, outrageously, that under Labour the asylum system had been “just another way of getting here to work”.

Her domestic economic plans, though only sketched, include some progressive ideas. She has vowed to tackle vested interests and ramp up competition. Her promise of a splurge on infrastructure is sensible. So is a vow to make shareholders' votes on bosses' pay binding. But there are hints of a preference for meddling over markets, for example in her suggestion that the government should be readier to stop foreign take-overs of British firms. As Britain gives up its prized link with Europe, it will need all the foreign capital it can get. The “proper industrial strategy” she has called for is too often a synonym for empty or bad ideas.

## Hard-working, little-known

The Home Office never made a liberal of any minister. But it instils a reverence for order, which could make Mrs May think twice before slashing ties with the EU. Membership gives Britain access to shared security resources, from Europe-wide arrest warrants to pooled information on airline passengers and criminal records. During the campaign Mrs May pointed out that British police will soon be able to check EU nationals' DNA records in 15 minutes, down from 143 days. Although Britain pulled out of some EU justice initiatives two years ago, it hung on to others such as these because, in Mrs May's words, they were “not about grandiose state-building and integration but... practical co-operation and information-sharing”.

That rationale applies to much of what matters in Britain's relationship with Europe. The single market is not a romantic ideal but a way of letting companies trade across borders. Free movement allows British firms and universities to recruit workers and students more flexibly, and lets Britons work and study abroad. These are the practical arguments for negotiating a minimalist Brexit—and their urgency will grow as Britain's economic predicament worsens. Mrs May seems to be no liberal, but we hope she will champion the conservative case for staying close to Europe. ■



## The South China Sea

## Come back from the brink, Beijing

## Why China should accept a damning international ruling



THE aggression that China has shown in the past few years in its vast territorial grab in the South China Sea has terrified its neighbours and set it on a collision course with America, long the guarantor of peace in East Asia. This week an international tribunal thoroughly demolished China's vaguely defined claims to most of the South China Sea. How Beijing reacts to this verdict is of the utmost geopolitical importance. If, in its fury, China flouts the ruling and continues its creeping annexation, it will be elevating brute force over international law as the arbiter of disputes among states. China's bullying of its neighbours greatly raises the risks of a local clash escalating into war between the century's rising superpower and America, the current one. The stakes could hardly be higher.

der UNCLOS to any sovereign waters, China had encroached illegally into the Philippines' EEZ. The court also said China had violated UNCLOS by blocking Philippine fishing boats and oil-exploration vessels and that Chinese ships had acted dangerously and unlawfully in doing so. Moreover, China's island-building had caused "severe harm" to the habitats of endangered species, and Chinese officials had turned a blind eye to Chinese poaching of them.

For China, this is a humiliation. Its leaders have called the proceedings illegal. Its huge recent live-fire exercises in the South China Sea imply that it may be planning a tough response. This could involve imposing an "Air Defence Identification Zone" of the kind it has already declared over the East China Sea. Or China might start building on the Scarborough Shoal, which it wrested from the Philippines in 2012 after a stand-off between the two countries' patrol boats.

That would be hugely provocative. Although America is deeply reluctant to risk a conflict, President Barack Obama is thought in March to have warned his Chinese counterpart, Xi Jinping, that any move on Scarborough Shoal would be seen as threatening American interests (the Philippines is a treaty ally). For China to call its bluff in a sea that carries \$5.3 trillion in annual trade would be reckless and irresponsible.

There is a better way. China could climb down and, in effect, quietly recognise the court's ruling. That would mean ceasing its island-building, letting other countries fish where UNCLOS allows and putting a stop to poaching by its own fishermen. It would have good reason: its prestige and prosperity depend on a rules-based order. It would be in China's interests to secure peace in its region by sitting down with the Philippines, Vietnam and other South-East Asian neighbours and trying to resolve differences. Right now those countries, and America, should avoid action that will needlessly enrage China, and instead give it a chance to walk back from the edge. ■

## Blown out of the water

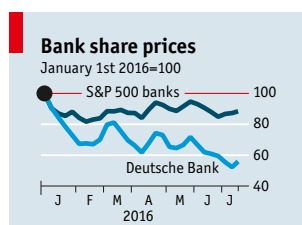
The ruling by the Permanent Court of Arbitration in The Hague, in response to a case brought by the Philippines, is firm, clear and everything China did not want it to be (see page 25). The judges said that the UN Convention on the Law of the Sea (UNCLOS) should determine how the waters of the South China Sea are divided among countries, not China's ill-explained "nine-dash line" which implies the sea is Chinese. None of the Spratly Islands in the south of the sea, claimed (and occupied) by several countries including China, can be defined as islands that can sustain human life, they ruled. This means no country can assert an Exclusive Economic Zone (EEZ) extending up to 200 nautical miles around them.

The court had no power to decide who owns which bits of land in the South China Sea. But the judges said that by building on rocks visible only at low tide, and thus not entitled un-

## Deutsche Bank

## A floundering titan

## Germany's banking champion has neither a proper business model nor a mission



THERE are banks that are smaller than Deutsche Bank, and there are larger ones. There are riskier ones, and safer ones. But it is hard to think of any other big financial institution so bereft of a purpose.

Since its acquisition of Bankers Trust in 1999, Deutsche has sold itself as a global investment bank. Yet American rivals leave it trailing, even in its own backyard: the Goldman Sachs of Europe, it turns out, is Goldman Sachs. Deutsche's revenues have dived since the crisis; last year it reported its first annual loss since 2008. Its shares are

worth barely an eighth of what they were in 2007. Employees are demoralised: less than half are proud to work there.

Some of the blows Deutsche has sustained are not of its own making. It has thousands of investment bankers in London, for example, but the city's future as Europe's financial capital has been thrown into doubt by Brexit. Negative interest rates hurt margins across the industry. A few problems, such as litigation costs for past misdeeds, will fade with time. Its new chief executive, John Cryan, wins plaudits for a hard-nosed strategy to cut costs, sell assets and overhaul dusty IT systems (see page 58). But the task of turning Deutsche around is made nearly impossible by two problems—its inadequate level of capital and the fundamental question of what the bank is for. ►►

▶ Capital, first. In the go-go years before the financial crisis, banks could fund rapid expansion with vanishingly thin capital cushions. Today, nothing matters more for a bank than the amount of equity it has. Deutsche has consistently been behind the curve, first waiting too long to raise capital, then doing so in insufficient amounts. Its leverage ratio, a gauge of how much equity it has to soak up losses, was 3.5% at the end of 2015, lower than that of global peers. Concerns about capital mean no dividends for shareholders, and the threat of dilution if the bank attempts another fund-raising exercise.

### Cryan de coeur

Mr Cryan is loth to tap investors for more money. It is doubtful that they would stump up one euro more in any case, given that Deutsche seems unable to generate decent profits. Before the crisis its mantra, like that of other big banks, was expansion. Now lenders are focusing on core strengths, usually on their home turf. American investment banks can rely on the world's largest capital markets to sustain them: banks in Amer-

ica charge twice as much as those in Europe for their work on initial public offerings. European investment banks have fallback options. Barclays claims 16m retail customers in Britain; UBS and Credit Suisse boast big wealth-management arms.

Deutsche lacks a jewel in the crown. It does not have a strong retail presence in Germany: indeed, it plans to reduce its presence on the *Hauptstrasse* further by selling Postbank, a large bank it took control of in 2010. It is too big to be simply the house bank for Germany's corporate elite. Its positioning as a global leader in selling and trading bonds made much more sense in an era when banks could make big bets with their own money, and when there were greater efficiencies from being global. The returns now on offer are paltry.

There is no obvious way out. Deutsche trades at about a quarter of the notional value of its net assets. If it were a non-financial firm it would be broken up. But big banks cannot be dismantled without risking chaos. No regulator wants to see a charge of theirs buy Deutsche. So on it must plod, more zombie than champion, an emblem of an enfeebled industry. ■

## Marine management

# Net positive

### How to stop overfishing on the high seas



**F**ISH are slippery characters, with little regard for international agreements or borders. The speediest, such as crescent-tailed bluefin tuna, can slice through the ocean at 70 kilometres per hour. Their routes take them beyond areas that come under the jurisdiction of individual coastal states, and into the high seas. These wildernesses were once a haven for migratory species. No longer.

Under international law the high seas, which span 64% of the surface of the ocean, are defined as “the common heritage of mankind”. This definition might have provided enough protection if the high seas were still beyond mankind's reach. But the arrival of better trawlers and whizzier mapping capabilities over the past six decades has ushered in a fishing free-for-all. Hauls from the high seas are worth \$16 billion annually. Deprived of a chance to replenish themselves, stocks everywhere pay the price: almost 90% are fished either to sustainable limits or beyond. And high-seas fishing greatly disturbs the sea bed: the nets of bottom trawlers can shift boulders weighing as much as 25 tonnes.

Introducing private property rights is the classic answer to this “tragedy of the commons”. That is the principle behind the exclusive rights given to coastal states to maintain territorial waters. A clutch of regional organisations have been set up to try to manage fish stocks in the high seas. But as a result of overlapping remits, vested interests and patchy data, the plunder continues apace (see page 65). Since 2010 the proportion of tuna and tuna-like species being overexploited has grown from 28% to 36%.

A fresh approach is needed. Slashing fishing subsidies is the most urgent step. In total these come to \$30 billion a year, 70% of which are doled out by richer countries. By reducing fuel

costs, subsidies bring the high seas within reach for a few lucky trawlers, largely from the developed world. Just ten countries, including America, France and Spain, received the bulk of the bounty from high-seas catches between 2000 and 2010, even though Africa has more fishermen than Europe and the Americas combined. That is unfair and short-sighted.

The next step is to close off more areas to fishing. As of 2014 less than 1% of the high seas enjoyed a degree of legal protection. A review of 144 studies published since 1994 suggests that to preserve and restore ecosystems, 30% of the oceans should be designated as “marine protected areas” (MPAs). Individual countries can play their part, by creating reserves within territorial waters: last year Britain created the world's largest MPA, an area bigger than California off the Pitcairn Islands in the South Pacific. But to get anywhere near that 30% share, mechanisms must be found to close off bits of the high seas, too. The UN's members have rightly agreed to work out how to do so.

### Scaling up

Progress towards even these limited goals, let alone more ambitious ones such as a total ban on high-seas fishing, will not be easy. The fishing industry is adept at protecting its interests. Questions of governance and enforcement dog every effort to police the high seas. Demand for fish is rising: humans are each consuming 20kg on average a year, more than ever before.

So in parallel with efforts to protect wild stocks, another push is needed: to encourage the development of aquaculture, the controlled farming of fish. In 2014, for the first time, more fish were farmed for human consumption than were caught in the wild; farmed-fish output now outstrips global beef production. Unfortunately, feedstocks are often poor and storage facilities inadequate. By boosting basic research and infrastructure for aquaculture, governments could hasten a welcome trend. Eventually, efficient fish-farming will be the best guardian of stocks on the high seas. ■

# SAMSUNG Knox

## Simple wins with device protection that's always on.

Only the Samsung Knox™ platform can protect your workforce with best-in-class security. It offers enhanced hardware that protects every device down to the boot layer. It also allows you to easily separate work and personal data through secure containers, so privacy is never a concern for your employees. Just a few reasons why Samsung Knox is the trusted security platform for government and regulated industries with advanced security needs.



[SAMSUNG.COM/BUSINESS](http://SAMSUNG.COM/BUSINESS)

© 2016 Samsung Electronics America, Inc. Samsung, Samsung Galaxy S and Knox are trademarks or registered trademarks of Samsung Electronics Co., Ltd. Android and other marks are trademarks of Google Inc. Use only in accordance with law. Other company and product names mentioned herein may be trademarks of their respective owners. Screen images simulated. Appearances of device may vary.

\*Full Samsung Knox suite available for additional licensing fee.



**Zimbabwe and the IMF**

The *Economist* provided only a partial picture of the IMF's engagement with Zimbabwe ("Bailing out bandits", July 9th). In fact, financial support from the IMF for Zimbabwe is far from a done deal. The authorities have announced that they intend to request IMF financing after arrears to all international financial institutions are cleared. Once the arrears are cleared, the IMF's executive board would need to approve the normalisation of relations with Zimbabwe. Any negotiation would start only at that point.

The approval of a potential programme would, in turn, be contingent on two factors. First, designing sound economic policies to ensure that structural imbalances are meaningfully addressed. Second, obtaining financing assurances regarding Zimbabwe's ability to service its debt in a timely manner going forward. A sound economic programme would require the upfront adoption of important fiscal measures and the continued implementation of structural reforms to restore confidence in the dollarised system, as well as an increase in the private sector's contribution to growth. And the financing assurances would involve contributions from all multilateral and bilateral creditors in support of Zimbabwe's economic programme after the arrears clearance.

In short, irrespective of the calendar for the clearance of arrears, the economy needs immediate reforms to address the vulnerabilities that have come to the fore since May. As your article pointed out, Zimbabwe has taken steps in the past few months that move the country further in putting in place some of the needed reforms. Expedient implementation is critical to reverse Zimbabwe's economic decline, exploit the economy's potential and protect its most vulnerable people.

GERRY RICE

Director of communications  
International Monetary Fund  
Washington, DC

**Iraq and the law**

Although the Chilcot report ("Iraq's grim lessons", July 9th) declined to express an opinion on whether the invasion of Iraq was legal, plenty of other people did, and in advance. The Foreign Office legal team, for example, whose head later said that it was the first and only time in his 30 years of service that his advice had not been taken. In his 2010 book "The Rule of Law", Lord Bingham said that Iraq was "a serious violation of international law". At the time of the war, neither he, nor any other British judge specialising in international law, was asked to give a view.

Instead, Tony Blair decided to "rely" on the advice of one man, Lord Goldsmith, the attorney-general. Although Lord Goldsmith was a lawyer, he was also a government minister and as his evidence to Chilcot confirmed, he yo-yoed around in order to find the answer that Mr Blair wanted as cover for a decision that had already been taken. It was a sorry process.

The world needs from time to time clear reminders that certain types of behaviour should not be allowed. I very much hope that somewhere, at some point in time, a competent court of law will make the judgment that Sir John Chilcot declined to make.

ROBERT SATCHWELL

Haarby, Denmark

**Company sclerosis**

Schumpeter's column on the imperial chief financial officer (June 18th) reminded me of the observations made by Alfred Sloan in "My Years with General Motors". Sloan noted the evolving power structure of firms as they went from startups to institutions. The reign of the bean counters was one of the latter stages, chasing profits by grinding away at costs and the vitality of the organisation itself. In his cycle, that was soon to be succeeded by the reign of the lawyers, who hobbled what was left through more and more complex rules and operational restrictions.

That, I believe, is a rather provocative parallel to the affairs of recent years.

JOHN MCNEILL

San Francisco

**A future outside the EU**

The Norwegian option for Britain once it leaves the European Union would indeed do the least damage to the British economy ("Adrift", July 2nd). Norwegian businesses, which I represent, have lived well with the European Economic Area for 20 years. It secures full access to the single market. But, remember, we have to take on board all relevant EU legislation in order to keep a level playing field. If we don't, the EU can respond by suspending the relevant chapter of the agreement. Since market access is so important, we have never used this right.

We even had to establish a separate surveillance authority and court that can issue binding decisions if our government does not implement EU legislation correctly. Free movement of people is a core element of the agreement and we have to contribute substantial amounts to the EU's poorer countries. If you are ready to take up the obligations and give up your voting rights you are welcome to the EEA. If not, it is not for you.

KRISTIN SKOGEN LUND  
Director-general  
Confederation of Norwegian  
Enterprise  
Oslo

The Brexit vote was more a democratic rebellion against meritocrats than a "backlash against globalisation" (Free exchange, July 2nd). In the 1950s Michael Young coined the word "meritocracy" to describe a new ruling elite, nastier than an aristocracy or plutocracy. He predicted that an elite picked by "merit" would feel entitled to exploit, drive up income differentials and fix rules to give their kids a head start. "The Rise of the Meritocracy", published in 1958, described a divided 21st-century Britain, run by an elite hardened to outsiders, with the party of the left

becoming more technocratic than working class.

Young foresaw a populist right-wing rebellion which would baffle the new ruling class. Sound familiar? The smart set has had its comeuppance, yet, in a new snobbery, scorns dissenters as daft, racist, unpatriotic or all three.

JON HUGGETT

London

In the wake of the vote to leave the EU, the move towards isolationist Euroscepticism in the Tories and turmoil within Labour, Bagehot calls for a new political party in Britain of the cosmopolitan centre (July 2nd). Happily such a party already exists and it is simultaneously new and old. The Whig Party was re-established in 2014 and fielded four candidates in the 2015 election on a platform of optimistic, internationalist liberalism.

ALASDAIR HENDERSON

London

Bagehot dubbed pro-globalisation, pro-EU parts of Britain "Londonia". Surely "Remainia" is more apt?

STEPHEN GRAHAM

Cambridge, Cambridgeshire



"Article 50 ways to leave your lover" was music to my ears (July 2nd). Possibly portending that Brexit might be a lengthy divorce, that song was included on Paul Simon's classic album "Still Crazy After All These Years".

FABIAN DECHENT

Mainz, Germany ■

Letters are welcome and should be addressed to the Editor at The Economist, 25 St James's Street, London SW1A 1HG  
E-mail: [letters@economist.com](mailto:letters@economist.com)  
More letters are available at: [Economist.com/letters](http://Economist.com/letters)



ICAO

# IF YOU'RE AN AVIATION LEADER...



**The International Civil Aviation Organization (ICAO) is now seeking highly qualified candidates for the following leadership positions:**

- D-1 Deputy Director, Aviation Security and Facilitation, Montréal, Canada; **Deadline August 23, 2016**
- D-1 Regional Director, ICAO South American Office, Lima, Peru; **Deadline August 28, 2016**
- D-1 Chief, Evaluation and Internal Audit Office, Montréal, Canada; **Deadline August 9, 2016**
- D-1 Deputy Director, Human Resources, Montréal, Canada; **Deadline August 23, 2016**

**If you have an advanced university degree, a minimum of 15 years of experience in any of the relevant fields, and managerial experience at the senior executive level in a public or private sector organization, ICAO would like to hear from you.**

For more information, please consult the ICAO Careers website at: **careers.icao.int**

## THEN ICAO IS LOOKING FOR YOU.



### Independent Director

Erdenes Mongol LLC, found in 2007, is a leading national company in Mongolia's key economic sectors, including mining, infrastructure, and energy. The company seeks to help Mongolia to effectively and efficiently use Mongolia's natural resources, and to enhance the country's economic performance and encourage diversification.

Erdenes Mongol is looking for independent directors responsible for

- complying with responsibilities and rights of independent directors,
- ensuring that the vision and values of the company are realized and upheld,
- ensuring clear accountability and monitor the activities of all parts of the organization,
- supporting and engaging in constructive challenge,
- ensuring the business and professional integrity of the CEO and other executive officers and that the CEO and other executive officers create a culture of integrity throughout the Company,
- ensuring there are appropriate policies and systems in place to recruit, develop, retain and remunerate staff,
- promoting the company at key events and other meetings, and establish constructive, high quality relationships, with key current and potential partners and stakeholders, both internal and external, as required, monitoring and safeguarding and enhancing the company's reputation.

For the full job description please visit  
[http: www.erdnesmongol.mn/](http://www.erdnesmongol.mn/)

Or refer to  
[ganzorig@erdnesmongol.mn](mailto:ganzorig@erdnesmongol.mn); [ganzorigt@erdnesmongol.mn](mailto:ganzorigt@erdnesmongol.mn)



### SENIOR ENERGY SPECIALIST

Based in Dakar, Senegal

The International Finance Corporation (IFC), the private sector investment arm of the World Bank Group, is one of the leading investors and lenders in emerging markets. Among other areas, IFC works to develop clean energy opportunities and improved resource use in emerging markets.

IFC is now recruiting an experienced professional who has strong know-how in hydropower and background in the power sector to be focused on the Sub-Saharan Africa (SSA) region.

#### Duties and Accountabilities

- Evaluate and review technical documentation related to hydropower projects, assess the financial feasibility and conduct initial assessment of project relevant permits and licenses.
- For power related advisory projects in SSA, structure client engagements by addressing all key aspects (scope of work, budget and pricing, timeline, etc.), prepare client approach materials, etc.
- Support the development of power sector efforts in select SSA countries.
- Lead interactions and facilitate consultations with key private and public sector players with the aim to develop business, share knowledge, best practices and experience.

#### Selection Criteria

- Comprehensive knowledge of technical, environmental, legal, commercial and financial issues related to private sector hydropower project development and the general power sector.
- At least nine years of relevant professional experience.
- In-depth expertise in hydropower design, development and operation with recognized track record in delivering technical advice to project developers.
- Demonstrates knowledge of international development, self-motivated, has great ideas that translate into collaborative and innovative results.

For full job description and to apply on-line, please visit IFC's career website at: [www.ifc.org/careers](http://www.ifc.org/careers) and click on job number 161643. Deadline is August 15, 2016.

**Creating Opportunity Where It's Needed Most**






## EUROPEAN TRAINING FOUNDATION Director

The ETF, as an agency of the European Union, is the centre of expertise and a catalyst for reforming education, training and labour market systems in developing and transition countries bordering the European Union.

Working together with its diverse set of partner countries, the ETF endeavours to make human capital development a driver for economic growth, social cohesion and sustainable development.

The ETF is seeking an experienced senior manager to be the legal representative and the public face of the organisation. S/he will provide strategic vision and lead a dynamic international team of 130 people dealing with complex issues in challenging political, economic and social contexts. Based in Turin, Italy, the Director will develop, communicate and successfully implement the agency's strategy.

For more information about the ETF, the vacancy and how to apply, visit: <http://bit.ly/29s2TDB>



[www.pwc.com/ng](http://www.pwc.com/ng)

## Exciting career opportunities



The Federal Government of Nigeria is setting up a Development Finance Institution (DFI) with an objective to increase the availability and access to finance for Micro, Small and Medium Enterprises (MSME) through eligible financial intermediaries. PwC has a mandate to help identify competent and credible persons who will function in various capacities as outlined below:

- Chief Executive Officer (CEO)
- Chief Operating Officer (COO)
- Chief Financial Officer (CFO)
- Chief Risk Officer (CRO)
- General Legal Counsel / Company Secretary (GLC/CS)
- Independent Directors

Please log on to the PwC Nigeria recruitment portal at [www.pwc.com/ng/executive-search](http://www.pwc.com/ng/executive-search) to view the full requirements for the jobs

If you meet the requirements, please apply on the PwC portal to submit your resume.  
Application closes 30th July 2016. Please note that only short listed candidates will be contacted.

© PriceWaterhouseCoopers. All rights reserved. PwC refers to the PwC network and / or one or more of its member firms each of which is a separate legal entity. Please see [www.pwc.com/structure](http://www.pwc.com/structure) for further details.



## A New Challenge?

InterExec is the global leader in promoting senior executives to the pinnacle of their career.

Using our unique international network and in-depth market knowledge, we act discreetly to provide unrivalled access to prime opportunities which are rarely published.

**InterExec**  
UNIQUE NETWORK • OUTSTANDING TALENT

Are you a high achiever earning £150k to £1m+?  
+44 (0)207 562 3482 or  
email: [london@interexec.net](mailto:london@interexec.net) [www.interexec.net](http://www.interexec.net)



## Be part of it

### Young Professionals Program

For more than 50 years, the Young Professionals Program has been the preeminent program preparing global development leaders and the starting point of an exciting career at the World Bank Group.

If you are a highly motivated individual who possesses a passion for international development and are skilled in areas relevant to the World Bank's operations such as economics, finance, education, public health, social sciences, infrastructure, urban planning or natural resource management, we would like to hear from you.

For more information and to apply, visit [worldbank.org/ypp](http://worldbank.org/ypp) and submit your application between 15 June and 27 July 2016.








## Past and future Trumps

### Insurgent candidates who win the nomination tend to transform their party, even if they never become president

IN EVERY continent he seems familiar. Italians see another Silvio Berlusconi, South Africans a Jacob Zuma and Thais a Thaksin Shinawatra. Latin America practically invented the type: to Argentines he is Juan Perón's echo. Those who find Donald Trump scary sometimes compare him to jackbooted fascists in 1930s Europe. The search for the right precursor to Mr Trump is born of an understandable urge to work out what happens next.

Here is a prediction: Mr Trump, who will stand onstage at the Republican Convention in Cleveland and accept the party's nomination as its presidential candidate, will have a more lasting effect on the Republican Party than its elected members currently realise, even if he goes on to lose the election in November.

For the moment, most Republicans either resist this notion or are relaxed about it. "I don't think the Trump nomination is going to redefine in any real way what America's right-of-centre party stands for," Mitch McConnell, the Senate majority leader, told National Public Radio after the primaries were over. "You know what, I think something different and something new is probably good for our party," Reince Priebus, head of the Republican National Committee, told CNN, hopefully. Paul Ryan, who has criticised Mr Trump during

the campaign and since, wrote in his hometown newspaper: "On the issues that make up our agenda, we have more common ground than disagreement."

For those watching the convention, which begins on July 18th, what is happening may not appear unusual. The party has rallied, as it usually does, behind the nominee. Before the first caucus met in Iowa, Gallup reported that Mr Trump was already familiar to 91% of Americans. Familiarity has bred content among most right-leaning voters (see chart 1 on next page). Yet what is happening in the Republican Party right now is far from normal.

The party is nominating someone who is not a Republican in any recognisable form. Instead, Mr Trump combines traditions that Republicans and Democrats have at times flirted with, only to reject them when in government. One of these is populism, which in America usually means making promises to improve the livelihoods of blue-collar workers by protecting them from foreign competition, whether that comes in the form of immigration or trade.

Pat Buchanan, who made bids for the Republican presidential nomination in 1992 and 1996, declared during his first attempt: "If I were president I would have the Corps of Engineers build a double-bar-

rier fence that would keep out 95% of the illegal traffic. I think it can be done." Four years later Mr Buchanan, who studied at Georgetown and Columbia, said that the peasants were coming with pitchforks, and that he was their champion. Ross Perot, who ran for the presidency as an independent in 1992, made a different part of the Trump pitch—the successful businessman who would stop the "giant sucking sound" of American jobs being hoovered up by Mexico, the billionaire promising to make competition go away.

### A lone voice

A second thread that has been gathered up by Mr Trump is isolationism. His talk of "America First" is borrowed, consciously or not, from Charles Lindbergh, whose America First Committee argued in the 1940s against participation in the second world war. Mr Trump is not consistent on this point: at times he regrets American involvement in foreign wars, at others he wants to seize foreign oilfields. The idea that America should station troops abroad, but that the countries concerned would have to pay for it, is the synthesis of his opposing instincts over dealing with the rest of the world.

The third thread is nativism. For Mr Trump, not all citizens are equally American. Hence his claims that Gonzalo Curiel, a federal judge born in Indiana, was biased against him because of the judge's Hispanic background. Mr Trump's plan to deport the 11m undocumented migrants from America is a nativist fantasy. It recalls the enthusiasm for deportation of Art Smith, another fringe politician from the 1930s. Smith, who really was a fascist, advocated ▶▶

▶ the removal of radicals from the country. America's appetite for fascism proper was tested in 1933, after a protester was killed at a rally. Smith proposed a march on Washington later that year which, he boasted, would number 1.5m people. Only 44 showed up.

Populism, isolationism and nativism are distinct from racism. But they can often be found on the same shelf. Towards the end of the 19th century, as Chinese labourers were brought to California to work on the railways, Denis Kearney, a labour-movement leader, made a career out of attacking the "Chinaman", laying the groundwork for the Chinese Exclusion Act of 1882, the first of several laws to interrupt migration from Asia. Kearney did not just object to Chinese workers undercutting American wages. He found their food, habits and living arrangements revolting. "Whipped curs, abject in docility, mean, contemptible and obedient in all things...they seem to have no sex. Boys work, girls work; it is all alike to them."

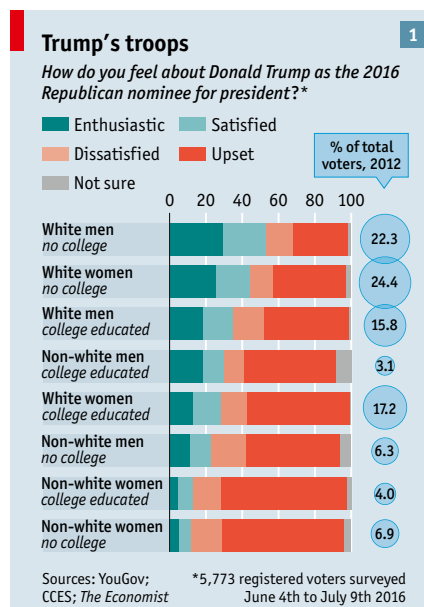
Mr Trump's assertions that Mexico is not just destroying American workers' livelihoods (because of NAFTA), but sending drug-dealers and rapists across the border too, is Kearney for the 21st century. When accused of racism, Mr Trump responds that he loves Hispanics and insists they love him back. His supporters hear what they want to hear.

### From light to night

Like any successful populist, though, Mr Trump is also of his time. In 1984 voters were persuaded that it was morning in America; in 2016 many seem prepared to believe that night is falling. Two-thirds say that the country is on the wrong track. Ever since Ronald Reagan's first victory, it has been a cliché that the most optimistic candidate usually wins. Mr Trump has turned this upside down, declaring during the primaries: "This country is a hellhole." Bad news seems to confirm his thesis and gives his candidacy energy. The shootings in Dallas are the latest example, but the same could be said of the attacks in Orlando and San Bernardino.

Mr Trump's most popular proposal, more loved even than the Great Wall of Texas, is to ban Muslims from entering the country. Exit polls from the Republican primaries recorded that voters were more worried about terrorism than immigration. That, combined with anxieties about the changing racial make-up of America, explains why around two-thirds of primary voters supported the Muslim ban.

Though much of it may be old, there is nothing old-fashioned about how Mr Trump delivers his message. His skill on broadcast media recalls Charles Coughlin, a Catholic priest whose radio show reached around 30m listeners at its peak in the 1930s. Coughlin founded the Union



Party in 1936 and supported Huey Long, a populist of the left who wanted a corporatist state to save workers from the cruelty of capitalism. But it is impossible to disentangle Mr Trump from the world of reality television, where he honed his narrow-eyed stare and finger-jabbing persona. Or from social media, which Mr Trump uses sometimes to broadcast his views and sometimes to insinuate them.

He has an ability to say things that are not true but which seem, to his supporters, to be right anyway. Shared with like-minded people on social networks, this has been a boon for what Richard Hofstadter called "the paranoid style in American politics", an apparently sincere belief in implausible conspiracies. Mr Trump's insinuation, after the shooting in Orlando, that the president might secretly sympathise with Islamic State was a model of the paranoid style.

The most novel thing about Mr Trump, though, when compared with the fringe figures who preceded him, is that he is the nominee of one of America's two main parties. This puts him in a different category and will give him a greater opportunity to shape the country. This is obviously the case if he wins in November. But it will probably happen even if he loses, currently the more likely result.

A handful of insurgent candidates have seized the nomination, lost the election and transformed their parties anyway. From the late 19th century William Jennings Bryan failed three times as a Democratic candidate while campaigning for a federal income tax, popular election of senators, votes for women and other causes that had become laws by the time of his death. Two more recent examples of nominees who have done the same are worth looking at more closely.

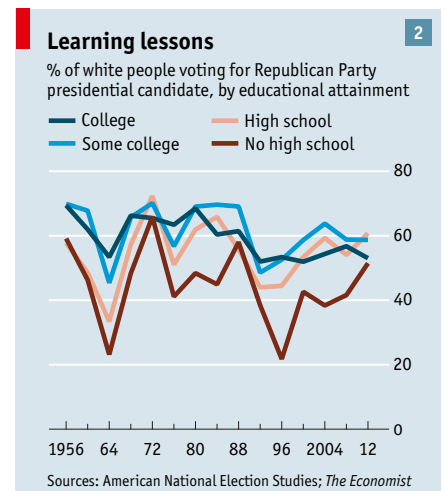
The first is George McGovern, the

Democratic nominee in 1972, beaten by Richard Nixon in 49 states. One reason for this rout was that McGovern's Democratic Party seemed to hold different values to those of most voters. In his history of the era, Rick Perlstein recounts how television cameras at the 1972 convention lingered on two men in the hall who were wearing purple shirts with "gay power" written on them, and kissing. The same convention was the first to be addressed by an openly gay man, Jim Foster. McGovern proposed a "Democrat", a basic income for all, guaranteed by government. Many Democrats looked at lonely Massachusetts in the blue column the day after the election and concluded that they could never win the presidency with a candidate like McGovern.

Viewed today, the 1972 Democratic campaign looks premature rather than wrong. That is the view of John Judis and Ruy Teixeira, authors of "The Emerging Democratic Majority", published in 2002. One chapter of their book is called "George McGovern's revenge". McGovern appealed strongly to non-whites: according to Gallup he won 87% of them in 1972, a higher proportion than Barack Obama managed in 2012.

The rapidly increasing racial diversity of the electorate between then and now has turned this from a losing strategy into a winning one. McGovern did better with working women than men and better with professionals than with blue-collar workers. This, too, made him a loser in 1972 but provided the template for Democratic victories in 2008 and 2012. Polls suggest that Hillary Clinton may be the first Democratic presidential candidate for at least 60 years to win a majority of white voters with college degrees (see chart 2).

Before McGovern, Barry Goldwater also got thrashed and transformed his party in the process. Goldwater lost 44 states on a platform of huge tax cuts, pouring weedkiller on the federal government, opposition to civil rights and confronting communism abroad. "Extremism in the ▶▶



BENEFIT FROM A SECURED BOND



GRAY & FARRAR

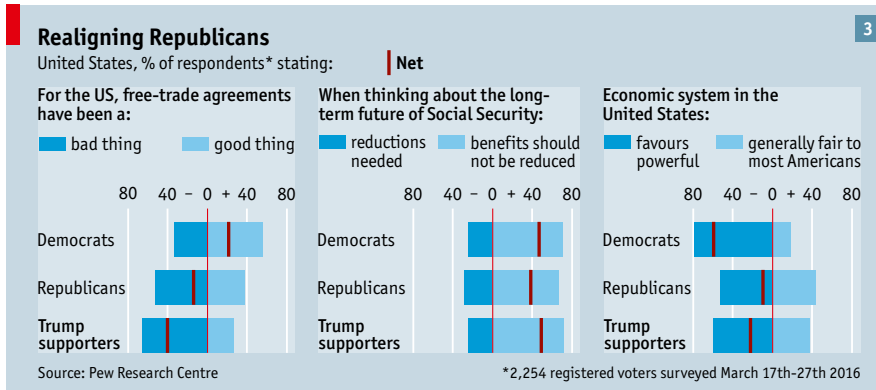
THE MATCHMAKING SERVICE

Global Headquarters: 68 Brook Street ▪ Mayfair ▪ London ▪ W1K 5DZ ▪ +44 (0)20 7290 9585

▪ WORLDWIDE ▪

[www.grayandfarrar.com](http://www.grayandfarrar.com)





▶ defence of liberty is no vice,” he told the 1964 convention in Daly City, California.

Voters disagreed, and not even a powerful televised speech made in support of Goldwater by Ronald Reagan, then a TV presenter, could persuade them otherwise. The future for Goldwater’s ideas did not look bright. “The election has finished the Goldwater school of political reaction,” wrote Richard Rovere in the *New Yorker*, reflecting the consensus of what would now be called the mainstream media but then was simply known as the press. It could hardly have been more wrong.

As with McGovern’s defeat, Republicans initially reacted by picking candidates with more traditional views of government. Goldwater’s success in the Deep South, thanks to his opposition to civil rights, the popularity of George Wallace, the segregationist governor of Alabama, and rising public alarm about law and order and cultural change, bore fruit in the 1968 election, when Richard Nixon grabbed millions of voters from the Democrats to build a “New Majority” of big-city Irish, Italian and Polish Catholics, and white Protestants from the South, Midwest and rural America, beginning a nationwide realignment of politics that is still playing out today.

#### Goldwater runs deep

The radical conservative side of Goldwater’s platform had captured his party’s heart by 1980. Reagan won the nomination and then the general election on a platform of tax cuts, shrinking government and confronting communism abroad. Up until last year, it was accurate to say that Goldwater still provided the intellectual framework for the Republican Party: George W. Bush is disliked by so many Republicans because his big-government conservatism strayed too far from it. With Mr Trump as the nominee, the Goldwater takeover, which has lasted 35 years, is under threat.

What might a Trumpist Republican Party look like? In “five, ten years from now,” he told Bloomberg, “you’re going to have a workers’ party. A party of people that haven’t had a real wage increase in 18 years, that are angry.” Speaking at a recy-

cling plant in Pennsylvania in June, he said that American workers had been betrayed by politicians and financiers, who “took away from the people their means of making a living and supporting their families”.

This is a complete reversal of Republican orthodoxy of the past 30 years, which has mixed openness to trade and an impulse to cut entitlement spending with conservative stances on social issues. Anyone who thinks that the party will revert to that orthodoxy if Mr Trump loses wasn’t paying enough attention during the primaries, which suggested that registered Republicans are, on the whole, less interested in government-shrinking and values-voting than their elected representatives are.

Those who lean Republican, according to polling by the Pew Research Centre, are more likely to say that free-trade deals are bad for America than those who lean Democratic (see chart 3). The same polling shows that Republican voters are just as reluctant to cut Social Security benefits as Democratic ones. This helps to explain why Republican primary voters liked the sound of what Mr Trump is selling more than they liked the tax-cuts-and-Old-Testament tunes of the party’s late-Goldwater period. And elected Republicans are acutely sensitive to the preferences of their primary voters, who have a veto on whether they will end up running for office.

As well as a reversal of party orthodoxy, Mr Trump’s campaign has also ditched the party’s electoral strategy. From Mitt Romney’s defeat in 2012 until Mr Trump won in South Carolina, it seemed obvious that to win the presidency the Republican Party needed a candidate with some appeal to Hispanic voters: hence the excitement about Jeb Bush, whose wife is Mexican, and then Marco Rubio, whose parents were born in Cuba. Instead, the party has picked a candidate of whom 87% of Hispanics disapprove.

This would appear to be a recipe for Republicans to lose a lot of presidential elections, and it might indeed prove to be so. Even with low levels of immigration by past standards, demographers expect America to have a non-white majority by the middle of the century. Getting caught

out by a demographic wave of this size would, eventually, lead to the Republican Party being dragged to the ocean floor and held underwater until it blacked out.

Yet the electorate is not the same as the population, because not all voters are equally likely to turn out. Even in 2012, an election that saw minorities turn out in record numbers, voters were as white as America was 20 years before. Three demographers—Mr Teixeira and Rob Griffin of the Centre for American Progress, and Bill Frey of Brookings—have run a simulation to see what would happen if the Republican Party managed to boost white turnout by 5% across the board, while all other voter groups remained constant. This would be hard to achieve, but not impossible: turnout among whites in 2012 was 64%, which leaves some headroom. The result of the voting model is a Republican advantage in the electoral college up until 2024, after which point the strategy no longer works.

A Trumpist Republican Party might not win many presidential elections. But it could be competitive enough to resist demands for reform and would probably have enough bodies to block legislation in Congress. With less outright hostility to Hispanics and a softer tone towards women, it might even attract some of those currently on the left who are hostile to trade and globalisation, or who worry about threats from immigration and automation, to create an updated populism.

The coalitions that have underpinned both main parties now look fragile. On some cultural issues, notably guns, white Democrats without a college education are more closely aligned with the Republicans than with the party they currently vote for. Mr Trump’s coronation in Cleveland will be the burial of an old dynasty. It may also be the foundation of a new one. ■





### Also in this section

- 22 Emperor Akihito grows weary**
  - 22 Australia's damaged prime minister**
  - 23 Kashmir erupts again**
  - 24 Murder most murky in Cambodia**
  - 24 The Hello Kitty craze in Taiwan**
- Banyan is on holiday**

For daily analysis and debate on Asia, visit  
[Economist.com/asia](http://Economist.com/asia)

### Japanese politics

## Diet control

TOKYO

**Shinzo Abe may have the two-thirds majority he needs to change the constitution. But fixing the economy is more urgent**

AS THE results of the election for the Diet's upper house rolled in on July 10th, Japan's prime minister, Shinzo Abe, beamed. And why not? This was his third sweeping election victory since he and his Liberal Democratic Party (LDP) returned to power in late 2012. It was won despite a sputtering economy and mounting doubts about how Mr Abe might fix it. And it moves him a big step closer to achieving a lifelong political ambition: unshackling Japan from the constitution imposed by America on a defeated country after the second world war.

With its junior partner, Komeito, the LDP won 70 out of the 121 seats up for grabs (half the upper house), admittedly on a low turnout. It nevertheless gives the ruling coalition firm control over the upper house. And, with support from like-minded parties and independents, Mr Abe can now claim a two-thirds majority in both upper and lower houses. That, in theory, gives him the long-coveted supermajorities to present constitutional changes to voters for approval by referendum.

First, though, Mr Abe must turn to boosting the economy. For all the trumpeted "Abenomics" of the past three years, including monetary and fiscal stimulus, output is forecast to grow at just 0.9% this year. Business confidence is flat, wages are stagnant and, though jobs are easy enough to find, consumption is sluggish. Not for the first time, Abenomics needs a reboot.

In the circumstances, it is remarkable that the opposition Democratic Party (DP) landed so few punches. It lost 15 seats. Post-Brexit turmoil in Europe may have spurred voters to cling to the stability that the LDP represents. The DP's tactical agreement to co-ordinate fielding candidates with three disparate opposition parties unsettled many voters. Gambling all on its opposition to constitutional change, the DP had few economic proposals.

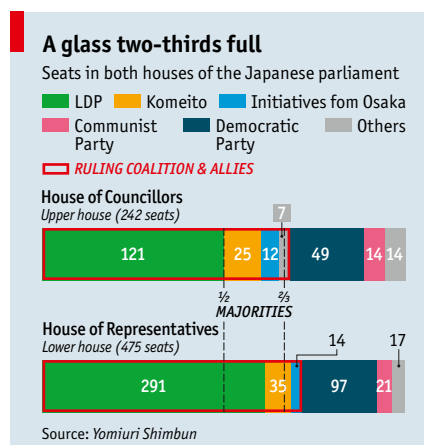
Having postponed a planned rise in the consumption tax, Mr Abe has instructed the finance ministry to draw up a "supplementary" budget to be passed in a special session of the Diet, expected in mid-September. The fresh stimulus

may amount to as much as ¥10 trillion (\$99 billion), or 2% of GDP—to be added to the current budget deficit and national debt of about 6% and 250% of GDP respectively. Mr Abe remains wedded to the old LDP recipe of construction projects and high-speed trains. Some of the money will be raised through investment bonds which, like nearly all the finance ministry's debt issuance these days, will be bought by the central bank, in a tight fiscal-monetary tango. There is also talk of direct cash transfers to boost consumption among targeted groups, notably the young, the working poor, women and pensioners—a variant on "helicopter money" that seems destined to be called "drone money".

A cabinet reshuffle is likely in August, and any Buggins'-turn appointments will be presented as bringing in new reformist blood. It is possible that the finance minister, Taro Aso, will want to go. But Mr Abe knows he has to do more than change faces and push yet more stimulus. One measure hinted at for the autumn Diet session is to reform the labour market. The prime minister, his advisers say, has come to believe that the economy's problems are structural and to do with a shrinking population and rigid work practices. Japan has a two-tier labour market of cosseted permanent staff and less-protected employees on non-regular contracts—many of them young.

That said, the political will for labour reform, or indeed much structural change of any sort, has eluded Mr Abe to date. And the Diet session has other urgent business, including passing legislation to join the Trans-Pacific Partnership, a free-trade deal that has yet to be passed by America's Congress and is opposed by both presidential candidates (though Hillary Clinton's precise views are hard to pin down).

The prime minister sees economic strength and his nationalist agenda to re-▶▶



store Japanese power and prestige as one combined objective. But for all the opposition's efforts, Mr Abe ducked the debate on constitutional change during the campaign—for good reason. A pre-election survey by NHK, the public broadcaster, found only 11% of respondents thought the constitution of greater concern to them than bread-and-butter issues.

With victory in the bag, he has now called for a debate on changing the constitution, saying it is his “duty” as president of his party. Setsu Kobayashi, a constitutional scholar at Keio University in Tokyo, says that on security and constitutional mat-

ters, Mr Abe has form in pushing ahead with unpopular measures, such as a controversial law that now allows Japan to take part in collective defence with allies.

An LDP draft for a revised constitution calls for, among other things, rewriting Article 9, which renounces war, to recast the country's “self-defence forces” as regular armed forces. Getting that draft passed will require the “art of politics”, Mr Abe said this week. China may yet prove his best ally: it reacted furiously to an international ruling on July 12th dismissing its territorial claims in the South China Sea (see page 25), while its navy and air force have increased

their probing of the waters and air space around Japan. At present, though, the hurdles to constitutional change remain high. Natsuo Yamaguchi, Komeito's leader, for one, has warned against tampering with the constitution's pacifist clause.

Close advisers suggest that Mr Abe will not push for early change. Brexit, they say, has come as a stark reminder to him of how, without laying the groundwork, a referendum can divide a country and produce an unexpected and “wrong” outcome. Besides, no consensus exists on what the changes should be. While some would-be amenders (including in the DPJ) care about Article 9, others are more concerned with enshrining human rights or simply revamping the procedures for amending the constitution. Still others talk of a new amendment giving the prime minister and self-defence forces emergency powers after a natural disaster.

So no immediate drive for constitutional reform, perhaps. All the more reason, then, to judge Mr Abe by his promise to transform the economy. ■

### Australia's election

## Squeaking back in

SYDNEY

### A tight victory hurts Malcolm Turnbull's political authority

IT WAS hardly the mandate Malcolm Turnbull had hoped for when he called an early general election, asking for a stable majority. On July 10th, eight days after the vote, Australia's prime minister was at last able to claim victory for his conservative Liberal-National coalition.

But he appeared to have secured only the narrowest of majorities—76 seats in the 150-seat House of Representatives, down from 90 seats previously; late counting may snare one more. But he may still have to rely on independents and small parties (two minnows, Bob Katter and Cathy McGowan, say they will back the prime minister), who are also likely to hold the balance in the Senate, the upper house.

The tight result could shrink Mr Turnbull's authority in the Liberal Party, the coalition's senior partner. A centrist, he persuaded the Liberals' rightists that he could rescue the party from its dire electoral prospects under his divisive predecessor, Tony Abbott, whom he unseated last September. That now looks unconvincing, and he can expect tensions at the governing parties' first post-election meeting on July 18th.

A big question hangs over Mr Turnbull's ability to manage the economy. He talks of the need to diversify growth “fuelled up” by a mining boom linked to Chi- ▶▶

### Japan's Emperor Akihito

## The long goodbye

TOKYO

### A remarkable figurehead wants to step down

EVEN for such an unusual institution as Japan's imperial system, Emperor Akihito is an anomaly. Descended from the sun goddess, Amaterasu, and son of the man-god in whose name Japan waged total war, Akihito was educated by humble Quakers. If there is something of which he can be said to be truly proud, it is his scientific passion for fish—“Some Morphological Characters Considered to be Important in Gobiid Phylogeny” being a particular highlight. Yet for all his innate modesty, he lives on 115 manicured hectares bang in the centre of crowded Tokyo. Life in the capital, in a very real sense, revolves around him.

As for his duties as emperor, Akihito is an anomaly, too. At home, he has knelt to comfort victims of natural disasters. Across Asia, his frequent travels and sensitive speeches have helped make amends for Japan's militarist past—even as its politics has lurched rightwards.

The prime minister, Shinzo Abe, is among the revisionists who imagine a beautiful past. He and other ministers like to worship at the Yasukuni shrine that glorifies militarism; Akihito pointedly refuses to visit. *The Economist* once asked a rightist whose publications glorify the emperor system and white-wash Japan's wartime aggression, how he felt about having a liberal emperor who disagreed with nearly all his views. No matter, he replied: Akihito was merely the current, imperfect vessel; one day, he would pass.

And so, this week, came news that the 82-year-old would like to retire. The reign of his father, Hirohito, coincided with Japan's transformation from militarist empire to modern economic powerhouse. Akihito's own reign since 1989 oversaw a period of gentle economic decline and diminished capacities.

Kneeling to meet his subjects at eye level seemed to acknowledge that path. Now pneumonia, prostate cancer and heart surgery have weakened him. Having to scale back official duties has caused him “stress and frustration”, says NHK, the public broadcaster, in the timorous language reserved for the imperial family.

A law must first be passed to allow Akihito to step down—nothing like this has happened in modern times. As for his son and successor, Prince Naruhito (speciality: navigation on 18th-century English waterways), he may struggle in the role. The royals are virtual prisoners of the Imperial Household Agency, the gnomic bureaucracy that runs the world's oldest hereditary monarchy. It has treated Naruhito's wife, Masako, a former diplomat, as an imperial birthing machine, and she has grappled with depression. Whether Naruhito would rather navigate the upper Thames than the forces that swirl around the monarchy remains unclear.



Goodbye Akihito, but not quite yet



na. With annual GDP growth at 3.1% and an unemployment rate below 6%, Australia has so far managed this transition well.

But his core campaign promise, to cut Australia's company tax rate from 30% to 25% over the next decade, now seems doomed in the Senate. Moreover, the risk of political gridlock has focused the attention of markets on the budget deficit of A\$37 billion (\$26 billion), 2.2% of GDP, in the current fiscal year. A balanced budget is not projected before 2020-21.

After the election Standard & Poor's, a ratings agency, issued a negative outlook on Australia's AAA credit rating: it believes the close result means "fiscal consolidation may be further postponed". Saul Eslake, an economist, reckons a ratings downgrade would hit business and consumer confidence.

So Mr Turnbull's likely inability to push through business tax cuts, which would reduce government revenue by around A\$50 billion, could turn out to be his "saviour", sharply improving the long-term budget outlook. For now, says Paul Bloxham, an economist at HSBC, markets have been largely untroubled by Australia's result.

Mr Turnbull will be wary of too much belt-tightening: Bill Shorten, the Labor opposition leader, won votes by promising to champion Australia's public health-insurance system. How Mr Turnbull handles this fiscal dilemma could determine the fortunes of Australia's sixth prime minister in a decade. ■

## Kashmir violence

# After the funeral

DELHI

The death of a militant sparks fury but little change

AS NEWS spread that security forces had killed Burhan Wani and two other guerrillas, admirers from across the Kashmir Valley headed to his village. Over 20,000 gathered for Mr Wani's funeral on July 9th. The crowd was too dense to hold prayers; armed militants in its midst fired their guns in salute with no fear of arrest. Over the next days angry protests spread throughout the valley. At least 36 people were killed and 2,000 wounded, nearly all by police gunfire. At least 117 civilians, injured by blasts of buckshot, were likely to lose their eyesight, doctors said.

This was the worst outbreak of violence in Kashmir for six years, and yet it was disarmingly predictable. For months police, local leaders and residents had warned of imminent trouble in India's northernmost state. True, the level of violence has dropped sharply from its peak in 2001 (see chart).



Under the cosh in Kashmir

The conflict has for decades squeezed the unhappy valley's 7m inhabitants, nearly all Kashmiri-speaking Muslims, between the rival ambitions of India and Pakistan. Lately Pakistan has sharply curbed the export of guns and militants to a territory it long claimed as its rightful property, while India's estimated 600,000 troops have underpinned a semblance of normality, allowing a return of tourism and the holding of regular elections.

The problem, say Kashmiri activists, is that relative calm has bred complacency in New Delhi, the Indian capital, while frustrations among Kashmiris, and especially young people, have grown. Some troubles, such as a lack of good jobs, are shared with other Indians. But in Kashmir these are compounded by a long, cyclical history of political manipulation and repression, where local politicians willing to "play India's game" are discredited in Kashmiri eyes. Most of India's mainstream press blithely disregards Kashmiri opinion, preferring to view the region simply as a playground for Pakistani-sponsored terrorism.

The current state government of Jammu & Kashmir, a polity that ties the Muslim-majority valley to adjacent regions of starkly different complexion, is an ungainly coalition between a traditional Kashmiri party and the Hindu-nationalist Bharatiya Janata Party (BJP) of the prime minister, Narendra Modi. The BJP has little understanding of and no patience for the Kashmiris' disgruntlement. Its local partner, despite efforts to spread patronage and to exploit fears of Islamic radicalism, faces charges of acting as a stooge for New Delhi.

In recent years the number of armed militants has plummeted, while their romantic appeal has risen. Police reckon that fewer than 200 fighters now roam Kashmir's mountains and forests. The difference is that many, perhaps most, of the renegades are no longer *jihad*-minded

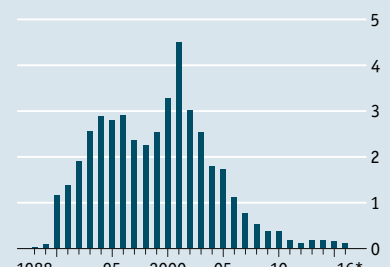
infiltrators from Pakistan, but local boys, often from the south of the valley far from the frontier. Worryingly, these militants now tend to be of higher social class, and adept at using social media.

Mr Wani exemplified this trend. Born in 1994 to a middle-class family, he went underground in 2010, during a previous round of violence, reportedly after his brother had been beaten and humiliated by policemen. Although local activists as well as at least one security official say there is little evidence that Mr Wani was directly involved in attacks on police, images of him in guerrilla clothes and armed with a rifle, against a backdrop of forests and mountains, spread via mobile-phone messages and Facebook. In a video posted in June he pledged that fighters would allow safe passage to Hindu pilgrims engaged in an annual trek to a mountain temple, and would accept the return of Hindu refugees from previous rounds of violence, but would resist attempts to establish colonies of Hindu returnees in Kashmir.

While Mr Wani's example is not thought to have inspired more than a few dozen new recruits to armed insurgency, it held strong symbolic appeal. His death, in ►►

## Stanchd, or festering?

Terrorist-related killings in Jammu & Kashmir '000



Source: South Asia Terrorism Portal

\*To July 10th

▶ a safe-house besieged by an overpowering Indian force, followed a familiar pattern. Every few weeks guerrillas ambush Indian patrols, and every few weeks a suspected infiltrator or militant is killed in return. Since they are more often, now, local men, their funerals have swollen in size, and these in turn have fomented street clashes.

Many, even Mr Wani's family, thought his death was inevitable, and would prove a catalyst for further violence. The surprise is that the anger seems to have caught out the Indian authorities. "The Indian government has got used to a firefighting approach," says Basharat Peer, a Kashmiri writer who has chronicled repeated bouts of violence. "They don't even see that by making no attempt at a political process to address Kashmiris' real demands, they simply perpetuate the cycle." ■

## Cambodia

# Murder most murky

PHNOM PENH

**An assassination casts a lurid light on politics and society ahead of an election**

THE murder on July 10th of Kem Ley, an independent-minded commentator who castigated the ruling party and the opposition alike, has jangled nerves ahead of local elections next year and a general election the year after. Thousands of Cambodians have poured in from all corners of the country to Phnom Penh, the capital, to pay their respects to a man famed nationally for his radio programmes and his measured, impartial commentaries.

Mr Ley criticised politicians in general, but he singled out Hun Sen's ruling Cambodian People's Party (CPP) for particular contempt. The assassination, apparently carried out by gunmen as the 45-year-old victim was sipping a morning coffee at a petrol station, came only three days after Global Witness, a campaigning group that specialises in exposing links between governments and the exploitation of natural resources such as Cambodia's timber, claimed that the prime minister's family had acquired assets worth at least \$200m, in one of the poorest countries in Asia. Shortly before his death Mr Ley had spoken at length about the Global Witness report. As the government cracks down on dissent, corruption has become a big issue in the run-up to the elections.

Mr Hun Sen's relatives have vilified the report. Hun Mana, his eldest daughter and the clan's biggest magnate, with interests in television, radio and newspapers, said Global Witness was trying to tarnish her father's reputation. A Nazi-style cartoon depicting America, Britain and Russia as

## Taiwanese identity

# Hello Kitty, goodbye panda

TAIPEI

**Taiwan's obsession with Japanese kawaii culture**

THIS spring the world's first Hello Kitty-themed train began service in Taiwan. It proved so popular that almost all the head-rest covers on the seats were snaffled by passengers on the first day. Last week EVA Air, Taiwan's second-largest airline, announced that it would increase the number of Hello Kitty flights to Paris. Ten of its destinations have a service that features pillows and slippers branded with the white cat. Taipei airport has a Hello Kitty check-in area, gift shop and even a breast-feeding room.

Taipei has Hello Kitty *shabu-shabu* (hot pot) restaurants offering tofu in the form of the cat's face and squid-balls shaped like her bow, all washed down with a Hello Kitty fizzy drink. Night-market stalls offer a variety of Hello Kitty apparel, including boxer shorts.

The craze is about more than infantile consumerism: Hello Kitty has become an unlikely token of Taiwanese identity. She is part of a wider embrace of Japan's *kawaii*, or "cuteness", culture. And this is a way for the Taiwanese to define themselves as different from China, which lays claim to their island, by cleaving to Japan, their former coloniser.

The message is clear from the livery of the Hello Kitty train: each of the eight carriages is decorated with Hello Kitty in different parts of the world: Taiwan and then each of the seven continents. The Taiwanese Hello Kitty drinks bubble tea beneath Taipei 101, the capital's landmark skyscraper; she is separated from the Chinese version (who visits pandas and the Great Wall) by a kimono-wearing Japanese feline. In Hello Kitty world Taiwan has its own car; China is lumped in with other Asians in a separate one.

The obsession is thought to have been started by McDonald's, a fast-food chain, which gave out Hello Kitty toys with its

meals in August 1999. Its supply of half a million toys ran out in just four hours. Later that year Chunghwa Telecom sold out of 50,000 telephone cards within five minutes of making them available.

Love of *kawaii* reaches politics, too. In elections this year, the independence-minded Democratic Progressive Party, which defeated the pro-unification Kuomintang (KMT), released a Japanese-style animated campaign video of Tsai Ing-wen, its successful presidential candidate, as a flying cat-woman "lighting up all Taiwan". The video was not in Mandarin, the island's official language, but in Taiwanese, once scorned by the KMT.

Some Taiwanese idealise Japanese rule. Lee Teng-hui, a former president, even said that during the second world war Japan—not China—was Taiwan's "motherland". Now Hello Kitty allows the Taiwanese to be Taiwanese by out-doing the Japanese at being Japanese.



**Catnip for Taiwanese babies**

threats to peace in Cambodia began circulating on social media, with local English-language newspapers and Global Witness portrayed as villains.

Mr Hun Sen and his party are facing their toughest test. Attitudes have changed a lot since the civil war ended. A younger, more educated generation has grown up. Two-thirds of Cambodia's 16m people are under 30. In the most recent general election, in 2013, many voted for the opposition Cambodia National Rescue Party. Since then many of its politicians have been beaten up, jailed and sued. Its leader, Sam Rainsy, has fled into exile. His deputy, Kem

Sokha, has been holed up for seven weeks in the party's headquarters fearing arrest after being summoned by the courts over a sex scandal that his supporters say has been cooked up by the ruling party.

Mr Ley's family and admirers are sceptical about the police's initial claims that a man arrested soon after the murder had borne a grudge against Mr Ley because of his alleged failure to pay a debt of \$3,000. Media friendly to the ruling CPP claim that the opposition was keenest to have Mr Ley out of the way, a suggestion his friends say is preposterous. Mr Ley's widow is thinking of moving to Australia. ■





### The South China Sea

## Courting trouble

BEIJING, MANILA AND TAIPEI

**An international tribunal delivers a blow to China's claims in the South China Sea**

**B**Y EJECTING its neighbours' forces, building up its navy and constructing artificial islands, China has for years sought to assert vast and ambiguous territorial claims in the South China Sea. These alarm its neighbours and have led to military confrontations. They also challenge America's influence in Asia. Now the Permanent Court of Arbitration, an international tribunal in The Hague, has declared China's "historic claims" in the South China Sea invalid. It was an unexpectedly wide-ranging and clear-cut ruling, and it has enraged China. The judgment could change the politics of the South China Sea and, in the long run, force China to choose what sort of country it wants to be—one that supports rules-based global regimes, or one that challenges them in pursuit of great-power status.

The case was brought by the Philippines in 2013, after China grabbed control of a reef, called Scarborough Shoal, about 220 miles (350km) north-west of Manila. The case had wider significance, though, because of the South China Sea itself. About a third of world trade passes through its sea lanes, including most of China's oil imports. It contains large reserves of oil and gas. But it matters above all because it is a place of multiple overlapping maritime claims and a growing mili-

tary presence (Chinese troops are pictured above on one of the sea's islands). America had two aircraft carriers in the sea lately; on the eve of the court's ruling, China's navy was staging a live-fire exercise there. Above all it is a region where two world-views collide. These are an American idea of rules-based international order and a Chinese one based on what it regards as "historic rights" that trump any global law.

China claims it has such rights in the South China Sea, and that they long predate the current international system. Chinese seafarers, the government says, discovered and named islands in the region centuries ago. It says the country also has ancestral fishing rights. In early July, by happy coincidence, a state television company began a mini-series about the experience of Chinese fishermen in the 1940s, reinforcing China's view. These rights are said to exist within a "nine-dash line" (still usually called that, though Chinese maps began showing ten dashes in 2013 to bring Taiwan more clearly into the fold). It is a tongue-shaped claim that slurps more than 1,500km down from the southern coast of China and laps up almost all the South China Sea (see map).

The court comprehensively rejected China's view of things, ruling that only claims consistent with the UN Convention

on the Law of the Sea (UNCLOS) were valid. Under UNCLOS, which came into force in 1982 and which China ratified in 1996, maritime rights derive from land, not history. Countries may claim an Exclusive Economic Zone (EEZ) up to 200 nautical miles (370km) off their coasts, or around islands. Based on this, the tribunal ruled that the nine-dash line had no standing. The judges wrote that there was "no legal basis" for China to claim historic rights within it. UNCLOS, they said, took precedence.

Until now, China has not specified the exact meaning of the nine-dash line. It is not clear, for example, whether the country claims everything within the line as its sovereign possession or merely the islands and their surrounding waters. Even if the ▶▶





claim were confined to the islands, the ruling undermined that. The tribunal said that none of the Spratly Islands (where China's island-building has been concentrated) count as islands in international law. Therefore, none qualifies for an EEZ.

Adding insult to injury, the court ruled that China had been building on rocks that were visible only at low tide, and hence not eligible to claim territorial waters. It said this had violated the sovereign rights of the Philippines, which has an EEZ covering them. So, too, had China's blocking of Philippine fishing and oil-exploration activities. The court ruled that Chinese vessels had unlawfully created a "serious risk of collision" with Philippine ships in the area, and that China had violated its obligations under UNCLOS to look after fragile ecosystems. Chinese fishermen, the judges said, had harvested endangered species, such as sea turtles and coral, while the authorities turned a blind eye.

China refused to take any part in the court's proceedings and said it would not "accept, recognise or execute" the verdict. As a member of UNCLOS it is supposed to obey the court, but there is no enforcement mechanism. The condemnation of China's actions is so thorough, however, that it risks provoking China into a response that threatens regional security as much as its recent building of what one American admiral has called a "great wall of sand". Other countries, and America, are nervously waiting to see whether China's furious rhetoric will be matched by threatening behaviour by its armed forces.

In 2014 the Indian government of Narendra Modi quietly accepted the court's ruling against it in a case brought by Bangladesh over a dispute in the Bay of Bengal. But President Xi Jinping, who has supervised China's recent efforts to reinforce its claims in the South China Sea, would find it very hard to do the same. He is preparing to carry out a sweeping reshuffle of the Communist leadership next year; foes would be quick to accuse him of selling out the country were he to appear weak.

Taiwan's denunciation of the ruling as "completely unacceptable" will give succour to Mr Xi. The positions both of China and Taiwan are based on claims made by Chiang Kai-shek when he ruled China, before he fled to Taiwan in 1949. That Taiwan maintains the same stance under Tsai Ing-wen, who took over as the island's president in May, is even more of a boost. Ms Tsai's party normally abhors anything suggesting that China and Taiwan have the same territorial interests. Yet the day after the court ruling, Ms Tsai appeared on a Taiwanese frigate before it set sail to defend what she called "Taiwan's national interests" in the South China Sea, where Taiwan controls the largest of the Spratlys.

In China, raging rhetoric quickly reached stratospheric levels. *Global Times*,

## Flashpoints

Selected incidents in the South China Sea

Jan 1974	China gains control of the Paracel Islands after a battle with South Vietnam
Mar 1988	Chinese and Vietnamese forces clash over the Spratly Islands
Feb 1995	The Philippines discovers China has built huts on Mischief Reef in the Spratlys
Nov 2002	ASEAN members and China sign a Declaration on the Conduct of Parties in the South China Sea
May 2009	China submits a map showing the "nine-dash line" to the United Nations
Jul 2010	Hillary Clinton, then US secretary of state, declares that the US has a "national interest" in the South China Sea
May 2011	Vietnamese officials accuse a Chinese ship of severing the exploration cables of a vessel working for a Vietnamese oil company
Apr 2012	A Philippine aircraft identifies Chinese fishing vessels at Scarborough Shoal. China sends ships to warn the Philippine navy to leave. China gains control
Jan 2013	The Philippines lodges case with the Permanent Court of Arbitration (PCA) challenging China's claims in the South China Sea
May 2014	Chinese rig, <i>Haiyang Shiyou 981</i> , drills off the Paracel Islands in waters claimed by Vietnam
Early 2015	Pictures emerge of building work on multiple features in the Spratly Islands, including a 3km-long runway on the disputed Fiery Cross Reef
Jun 2015	<i>Haiyang Shiyou 981</i> returns to waters contested with Vietnam
Oct 2015	A US destroyer passes through the Spratlys in America's first "freedom-of-navigation operation" in the area since 2012
Jul 2016	The PCA in The Hague issues its verdict, undermining China's claims

Sources: CNAS; amti.csis.org; press reports; *The Economist*

a particularly hawkish newspaper, called the ruling "even more shameless than the worst prediction". The government warned its neighbours that it would "take all necessary measures" to protect its interests. The social-networking accounts of Communist Party newspapers brimmed with bellicosity. "Let's cut the crap," said a user called Yunfu, "and show them our sovereignty rights through war." Rumours that China was preparing for a fight ran so rife that the normally taciturn ministry of defence stepped in to deny them.

It is thought unlikely that China would quit UNCLOS: that would reinforce the impression that China is a law unto itself and do grave damage to its global image. (America has not ratified UNCLOS, but observes it in practice.) More likely is that it will set up an Air Defence Identification Zone (ADIZ) in the South China Sea, like the one it declared over the East China Sea in 2013 after a spat with Japan over islands there. The day after the ruling, Liu Zhenmin, a deputy foreign minister, talked about China's right to do so. Aircraft flying through China's existing ADIZ have to report their location to the authorities or face unspecified "emergency defensive measures". America's military aircraft ignore this, and would do the same if a southern one were imposed. That could add to the

already serious risk that the two countries' fighter jets might end up in a confrontation.

A no-less-worrying possibility is that China might start building on Scarborough Shoal, where the court case began. Radar, aircraft and missiles based there would be a close-up threat to the Philippines and military bases that are used by American forces. In March President Barack Obama reportedly warned Mr Xi that reclamation on the shoal would threaten America's interests and could cause military escalation.

Still, in the short term, there are reasons China might be cautious. It is hosting an annual meeting of G20 leaders in September. It is spending lavishly on preparations. The last thing it wants is for countries to boycott the event or spoil it with recriminations over its response to the verdict.

No one in the region seems to want to make life harder for China at the moment. The Philippines, for example, is going out of its way not to crow. "If it's favourable to us," said the new president, Rodrigo Duterte, just before the ruling, "let's talk."

Vietnam and Malaysia, which might conceivably launch copycat cases in the court, both put out measured statements supporting peaceful resolution of the disputes. The Association of South-East Asian Nations (ASEAN), a ten-country grouping which includes four of the states in dispute with China, had little to say. Several of its members wanted ASEAN to take a firm stance against China's claims—and an unusually strong statement released by ASEAN in June looked like the beginning of that. But it was retracted, mysteriously, within hours, making the organisation look weak and ineffective, as usual.

There may be a glimmer of hope from China itself. By one reading, it may be in the process of clarifying that the nine-dash line is less sweeping than it looks. A government statement in response to the ruling mentions both historic rights and the nine-dash line repeatedly—but always separately, without linking them. Andrew Chubb of the University of Western Australia says this might mean that China is preparing quietly to say that the line does not indicate that China has historic rights to everything inside it, but rather, that it denotes an area within which China claims sovereignty over islands.

As the verdict showed, that would still mean that many of China's claims are inconsistent with UNCLOS. But it might result in China becoming less eager to patrol the nine-dash line right up to the edge. That may not seem much. However, in the aftermath of the ruling, the biggest question facing the countries of the South China Sea is whether Asia's oceans will be governed by the rules of UNCLOS or whether those rules will be bent to accommodate China's rising power. Even a small sign that the rules will not be bent as far as some hawks in China would like could be important. ■




---

**Also in this section**


---

**29 Quantifying Black Lives Matter**


---

**30 Climate-change and trout in Montana**


---

**31 Lexington: Mitch McConnell**


---

For daily analysis and debate on America, visit

[Economist.com/unitedstates](http://Economist.com/unitedstates)
[Economist.com/blogs/democracyinamerica](http://Economist.com/blogs/democracyinamerica)
**Race in America**

## Progress and its discontents

DALLAS

**After a dreadful week, despair over race and policing is understandable. But America also has cause for hope**

FOR a few generations, Americans seldom saw death up close. It was banished to hospitals or mimicked, harmlessly, on cinema and TV screens. But on July 5th death was beamed onto laptops and iPads from the forecourt of a convenience store in Baton Rouge, where Alton Sterling was fatally shot by a police officer as another pinned him down; and on July 6th it was broadcast from the passenger seat of a car in Falcon Heights, Minnesota, the police weapon that killed another black man, Philando Castile, still sticking through the window as the footage began.

The next day, if they had the stomach for it, Americans could watch Micah Johnson, a black army veteran intent on slaughtering white policemen, stalk and slay an officer in downtown Dallas, a stone's throw from the site of John F. Kennedy's assassination. Mr Johnson managed to murder five before a robot-delivered bomb ended his rampage and his life. These terrible images were more traumatic even than most deaths. The killing of policemen, and killings inflicted by them, bloodshed moreover tinged by racism, avowed or alleged: these seemed, for many, to presage the unravelling of society.

Or, as Barack Obama put it at a memorial service on July 12th, close to the bullet-scarred crime scene—five seats left empty for the fallen officers—it felt as if “the deepest faultlines of our democracy have suddenly been exposed, perhaps even wid-

ened”. Almost as he spoke, authorities in Baton Rouge disclosed another alleged plot to kill police. Meanwhile rallies against police violence, like the one at which Mr Johnson struck, continued. Hundreds of protesters have been arrested.

Yet the way Americans experience these terrors is itself an example of their complexity. The enmity and barbarity look like a path to the abyss—but the smartphone clips that help to relay them are a form of progress as well as a medium of horror. Something similar goes for the fraught nexus of race and policing that lies behind the turmoil. On these overarching issues too, the picture is more nuanced than it currently seems. From the streets of Dallas to national race relations, anger and disappointment are bound up with quieter improvements.

### The lens of grief

Bedecked with flowers, Stars-and-Stripes balloons and handwritten tributes such as “Back the Blue” and “All Lives Matter”, the two squad cars parked outside police headquarters in Dallas have become colourful, tearjerking shrines. The city's response has “been overwhelming,” says one officer, taking a break from hugging well-wishing locals, a recently received teddy bear protruding from his shirt. But another confesses he is “miserable”, as might be expected after an atrocity that could have been even worse had Mr John-

son deployed the bombmaking kit found in his house. The mood is tense and jittery: when an unknown man mounted a parapet opposite the HQ on July 10th, officers drew their weapons and hurried bystanders inside (the man was taking a selfie).

But both since the calamity and before it, Dallas has offered reasons for optimism. “Sometimes you have to have a light shined on you to see what reality is,” says Mike Rawlings, the white mayor. “And sometimes it's positive.” At a City Hall vigil on July 11th, thousands of candles were held aloft in the warm Texan night as bagpipes played, a civic unity mirrored and led by the stoic conciliations of Mr Rawlings and the impressive police chief, David Brown. “I love Dallas,” Mr Brown, who is black, told journalists this week, exhorting protesters to help fix the troubles that exercised them: “We're hiring.”

Dallas, it is true, remains starkly segregated, black and white neighbourhoods split by the interstate that bisects the city (though Mr Rawlings thinks the “real chasm” is economic, “between the haves and the have-nots” rather than the races). An African-American surgeon who cared for wounded officers attested to residual tensions between black residents and the police: “I will care for you,” he said with painful honesty; “that doesn't mean I do not fear you.” Nevertheless, Mr Brown's emphasis on community policing and transparency has been accompanied by a drop in police shootings and in complaints about the use of force. Before they shielded the protesters from the gunman, Dallas officers posed for photos alongside them.

Even before the massacre, the community was reciprocating. Richie Butler, pastor of St Paul United Methodist Church, one of the oldest black churches in Dallas, began arranging police-community get-togethers after the death of Michael Brown, a ▶▶



▶ young black man, in Ferguson, Missouri in 2014. (That event also galvanised the Black Lives Matter movement, which Mr Johnson cited as an influence and which, despite its leaders' professed non-violence, now faces renewed and intense criticism.) To help build rapport, Mr Butler organised a basketball game involving officers and churchmen, a humanising idea that he wants to extend to other cities.

Such under-the-radar efforts are not confined to Dallas. Consider an initiative sponsored by the Department of Justice which, like the recommendations made last year by a White House task-force on policing, aims to improve community relations. In six pilot cities, the programme promotes reconciliation between officers and local people, many of them black. Its moderators serve as impartial brokers between the two—remarkably, for a government-sponsored scheme—in sessions that resemble those in post-apartheid South Africa. After all, says Amy Crawford, the initiative's director, even if policies change on neuralgic issues such as traffic stops, “You can't force trust.”

Given that most police chiefs are only one PR disaster away from losing their jobs, many have been admirably willing to embrace these reforms. Not surprisingly, though, they make less of an impression than viral footage of homicide, such as the images of Mr Castile slumped in his car that were live-streamed by his girlfriend, Diamond Reynolds. “I'm right here,” Ms Reynolds's four-year-old daughter, also a witness, heartwrenchingly tells her distraught mother. “Would this have happened if...the driver and the passengers were white?”, asked Mark Dayton, Minnesota's governor. “I don't think it would have.” (A lawyer for the officer who shot Mr Castile denied race was a factor, citing instead the gun the victim was carrying.)

The impact of these clips is often exacerbated by what follows, which, judicially speaking, is often little or nothing. On-duty police officers kill roughly 1,000 times a year in America—the imprecision is because official statistics are shoddy, making it hard to know how far black men are disproportionately affected, as they seem to be in lesser interactions such as searches (see next story). According to Philip Stinson of Bowling Green State University, who keeps a tally, since the beginning of 2005 only 73 officers have been charged with murder or manslaughter. A third have been convicted, while a further third of cases are still pending.

That gruesome evidence from smart-phones, or dash- or bodycams, often proves less damning than it first appears; prosecutors, judges or juries decide that, while a decision to shoot might have been tragically mistaken, it wasn't criminal. The result, says Jim Bueermann, a retired police chief who leads the Police Foundation, a

think-tank, is that the public first “sees something that looks awful”, then the apparent impunity becomes, for the aggrieved, “another example of injustice”.

Moreover, watching these remote but shockingly intimate scenes—viewing that, for many, seems at once voyeuristic and a civic duty—conveys the impression that they are ever more common. In fact, says Peter Moskos of John Jay College of Criminal Justice, the police fired their weapons much more frequently in the 1990s, and even more in the 1970s. The rise is not in the number of incidents but in the breadth and speed of their circulation. Even without court convictions, that exposure can spur changes in police practices and open windows into black experiences for white audiences. Like the general state of policing in America, the videos incite rage, but they also contain reasons for hope.

### A symptom, not a solution

Some think this uproar is not just distressing but destructive. Heather Mac Donald of the Manhattan Institute, a think-tank, believes it has led to a retreat from discretionary policing tactics, street stops and the like, that are liable to be denounced as racist. This reticence, she argues, explains the recent bump in the murder rate in some cities. (It has risen in Dallas, though overall crime there has fallen to historical lows, as it has in the country at large.) The victims of this so-called “Ferguson effect”, she points out, are often the black residents of high-crime urban neighbourhoods. She blames Black Lives Matter, among others, and denies that the criminal-justice system is racially biased. One policeman in Dallas concurs. “Attacking us,” he says, “doesn't stop black folks being killed.” He fingers the media, too, for inflaming anti-cop sentiment: “Our blood for their dollar”.

The “Ferguson effect” is controversial and disputed. But many officers and observers agree that, in a more general sense, the reach of the police is more limited than society would like. Dallas's Chief Brown this week objected that the common response to the problems of drug addiction, mental illness, failing schools and family breakdown is, “Let's give it to the cops.” Mr Obama echoed that complaint: “We ask the police to do too much,” he said, “and we ask too little of ourselves.”

Bias among police officers, the president also argued, is not specific to them but evidence of wider prejudices. The police, in other words, are not the origin of society's pathologies; they are a symptom of America's problems as much as they are a solution. As Trotsky once said of the army, they are “a copy of society, and suffer from all its diseases”.

On the face of it, this wider picture looks grim, too. According to a recent survey by the Pew Research Centre, 84% of black Americans think they are treated less fairly by police than whites are; only 50% of whites agree. There are similar gaps in perceptions of the fairness of courts, banks and workplaces. And in the durability, even existence, of the basic wrong: among blacks, 43% believe the country will never make the changes required for racial equality; only 11% of whites concur. Among whites, 38% think that goal has already been accomplished; only 8% of blacks are so sanguine. Blacks are twice as likely to think that racial issues are neglected. According to Gallup, the share of Americans who worry “a great deal” about race relations has doubled in two years.

Behind this gulf in perceptions there are stubborn and severe disparities in material circumstances. Black youngsters are less likely to finish high school, make it to col- ▶▶



Baton Rouge remembrance



lege or graduate if they do. Black adults earn less than their white counterparts, even when they have broadly comparable qualifications and do similar jobs. Blacks are more than twice as likely to be poor or unemployed; at the last count, the net worth of white households was 13 times higher. Black life expectancy is four years lower than white Americans'.

And yet, once again, disappointment and progress are enmeshed; indeed, as with the new awareness of police abuses, the disappointment may partly be the consequence of the progress. Among the signs of the latter are the soaring public approval and incidence of interracial marriage. Then there is Mr Obama's presidency itself. Historic leap that it was, it seems also to have contributed to the disenchantment, in two ways. The advent of a black presidency alarmed bigots, some of whom have denounced and attempted to delegitimise it: as Pastor Butler put it, "What was in some folks, came out."

Meanwhile, many younger people, in particular, evince frustration that racial tensions have proved so intractable. To have expected them to evaporate was naive. But, in a way, the sense of betrayal is an inverted form of optimism.

### Towards the sound of fire

These neglected signs of racial progress lie behind Mr Obama's assertion at the memorial service that "we are not so divided as we seem". America, he said a few days earlier, was not as polarised as in the 1960s, an era now often enlisted in comparisons, in particular for the violence that engulfed the Democratic convention in 1968. Donald Trump, on the other hand, observed that the recent strife "might be just the beginning for this summer"; and, if there are reasons for confidence about the political sequel, there are also some to be fearful. Race and party allegiance now overlap tightly and toxically, with almost all blacks voting Democratic, and many Republicans sceptical of race-based grievances. In a classic case of people hearing only what they want to, Mr Obama's opponents ignore his praise for policemen and pick up only his criticisms, even, sometimes, accusing him of complicity in Dallas.

And there is one aspect of these events for which, at the federal level, the prospects look straightforwardly glum: guns, as peculiarly an American problem as is its slavery-shaped racial history. Considered in that context, the Dallas killer's peers are not black militants but other savage wielders of assault rifles, such as the butchers of Orlando and Sandy Hook. The role of guns in Dallas was not limited to the shooting itself. Others at the demonstration were openly carrying weapons, which served only to distract the police. As Chief Brown said, when a person with a rifle slung over his shoulder starts running, as some inno-

cent protesters did, it is confusing.

Guns make police work not just difficult but terrifying, and therefore dangerous for everyone. The long-term trend in cop-killing is downwards, as is that for murder as a whole, but 39 were fatally shot on duty last year, according to the Officer Down Memorial Page; several have been attacked since the tragedy in Dallas, in Georgia, Michigan and elsewhere. Most officers never fire their weapons in earnest in their entire careers, but those that do often shoot out of fear, justified in general in a gun-saturated society, if not always by the circumstances. These killings of and by policemen are symbiotically linked, together contributing to a throb of avoidable deaths in which, unlike the other themes of this traumatic week, it is hard to find anything hopeful. ■



### Policing and race

## Quantifying Black Lives Matter

### Are black Americans more likely to be shot or roughed up by police?

AS A teenager, Roland Fryer had "unpleasant" run-ins with police. Officers pointed guns at him six or seven times. Even now, the youngest African-American to get tenure at Harvard wonders why police shout loudly at him as soon as he forgets to indicate when driving. But when the economist began researching racial differences in the use of force by police officers, he did not want his own experience to prejudice his findings. To understand how cops work he joined them on the beat in New Jersey and Texas.

Then he collected a lot of data. In a paper published on July 11th, Mr Fryer crunched police-generated data on almost 5m cases from 2003 to 2013 as part of New York city's Stop, Question and Frisk pro-

gramme. He then analysed how non-lethal uses of force—such as pushing, kicking and baton-wielding—varied by race. Based on the raw data, blacks and Hispanics were more than 50% more likely to encounter police force than whites.

This in itself was not proof of racial discrimination, notes Mr Fryer. The gap might be a result of what happened during the encounters; blacks might have been more likely to resist. And yet, after any such differences were accounted for, the results still suggested bias. Blacks were 17.3% more likely to incur use of force after controlling for the characteristics of the civilian (such as age) and the encounter (such as if they ran away, complained or hit an officer). Analysis of a national survey of citizens' contact with police found even greater disparities in police use of non-lethal force. Mr Fryer adds that blacks who were reported by cops as being perfectly compliant with police instructions during their interactions were still 21.1% more likely than whites to have some force used against them. This points to racial prejudice.

What shocked Mr Fryer was when he looked in detail at reports of police shootings. He got two separate research teams to read, code and analyse over 1,300 shootings between 2000 and 2015 in ten police departments, including Houston and Los Angeles. To his surprise, he found that blacks were no more likely to be shot before attacking an officer than non-blacks. This was apparent both in the raw data, and once the characteristics of the suspect and the context of the encounter were accounted for.

Mr Fryer dug deeper into the data. He combed through 6,000 incident reports from Houston, including all the shootings, incidents involving Tasers and a sample in which lethal force could have justifiably been used but was not. What he found was even more startling: black suspects appear less likely to be shot than non-black ones, fatally or otherwise.

These findings need caveats. Houston is one city; there are no equally detailed data for the rest of the country (though findings in the other districts seem to support the conclusions). The city voluntarily submitted its reports; it may have been confident of its lack of bias. Critics of Mr Fryer's work have pointed out that his paper does not address any bias in an officer's decision to stop a black person in the first place—a common criticism of stop and frisk. Mr Fryer acknowledges that blacks are more likely to be stopped, but adds that his findings are consistent with other types of encounter between police and civilians.

In explaining why racial bias is present in all cases except shootings Mr Fryer suggests that it may reflect how officers are rarely punished for relatively minor acts of discrimination. When he shadowed cops on patrol, Mr Fryer was told repeatedly ►►

▶ that “firing a weapon is a life-changing event”—and not only for the victim. Although activists argue that too many officers get off lightly when they harm civilians, cops find it hard to escape any scrutiny after discharging their weapon. More transparency and accountability are therefore needed, even when police encounter members of the public.

For racial discrimination by police is socially corrosive. Mr Fryer suggests that if blacks take their experience with police as evidence of wider bias, it can lead to a belief that the whole world is also against them. They may invest less in education if they think employers are biased too. It is more than 50 years since Martin Luther King spoke of blacks being “staggered by the winds of police brutality”. Those winds are still blowing. ■

## Fishing

# All about the bass

LIVINGSTON, MONTANA

**Montana’s rivers are warmer than they should be, which is bad news for trout**

**S**TANDING on the banks of the Yellowstone river in southern Montana on the last afternoon in June, Dan Vermillion gazes at the clear, sun-dappled waters, checks the river temperature on his smartphone, and pronounces the conditions “great fishing”. Alas, this does not cheer Mr Vermillion, who grew up fishing these waters for trout and now works as a high-end outfitter, guiding the wealthy and powerful to the world’s best fly-fishing spots, from Montana to Alaska and even Mongolia. For these fine fishing conditions—with the water running clear after months of turbid flows from spring snowmelt, and the temperature at 65°F (18.3°C)—have arrived too early, by some weeks. The water should be ten degrees cooler, frowns Mr Vermillion, and data retrieved by his smartphone from a nearby measuring station shows flows at less than half their historical median level.

All rivers vary from year to year. What worries federal wildlife officials, state biologists and a growing number of devoted anglers across the mountain West, is that, for the past 15 years, some of America’s finest fishing rivers keep breaking records for early snowmelts, too-warm water and low flows. Mr Vermillion is also chairman of the Montana Fish and Wildlife Commission, a government body. To his dismay he has just approved some of the earliest fishing closures ever recorded, closing legendary trout waters on such rivers as the Gallatin, Beaverhead and Jefferson every afternoon with effect from July 1st, after

water temperatures hit 73°F (22.8°C) on three consecutive days. Afternoon closures are a compromise, aimed at giving trout a respite in the warmest hours of the day. Trout are cold-water fish, which struggle to digest food above such temperatures, and start to die once water nears 80°F (26.7°C). Warmer water carries less oxygen, too, so that trout caught and released may never recover once back in the river.

Such worries used to be rare. In the six years from 1995 to 2000 water temperatures on the Jefferson river, in south-western Montana, exceeded 23°C on only 23 days, and in some years never went that high. In 2015 alone, the water crossed that danger-mark on 21 days and exceeded 26°C in early July, leading to significant fish deaths. After studying data going back decades, the long-term trends are “exceptionally clear”, says Mr Vermillion. Other signs of stress may be seen. The coldest, highest rivers of south-western Montana are home to the Yellowstone cut-throat trout, named after an orange under-jaw marking like a slash. Smaller than non-native rainbow and brown trout, which were introduced to Montana in the 19th century, the cut-throat is especially sensitive to warming water. Rainbow and brown trout are pushing up into cut-throat fisheries, even into the protected rivers of Yellowstone National Park, where anglers must watch for grizzly bears and snorting, shaggy-headed bison, but increasingly catch hybrid trout, rather than pure-bred cut-throats. Worse, smallmouth bass, a warm-water species, are each year creeping farther and farther up Montana’s rivers. Bass have even been caught near Mr Vermillion’s office in the handsome town of Livingston.

Something, in short, is going on. Where consensus breaks down is when locals, scientists, politicians and even fishing clients debate whether what is going on has links

to man-made climate change. All too often discussions follow partisan lines, says Mr Vermillion. He is a Democrat in a conservative state: his office wall has a photograph of him fishing with President Barack Obama in Montana (“Dan! You got me hooked,” reads the presidential inscription). His wife’s family, who are conservative farmers, acknowledge that the weather is changing. “Where it gets tricky for them is to admit that it is man-made.” Montana’s three-man congressional delegation splits on party lines: Representative Ryan Zinke and Senator Steve Daines, who are Republicans, call the science of climate change far from proven, and both have opposed carbon-emissions curbs that might hurt their state’s coal and oil industries. Senator Jon Tester and the governor, Steve Bullock, both conservative Democrats, call climate change a threat and back the development of renewable energy in Montana (a windy place), while urging caution over federal policies that would impose rapid change on the coal sector.

Spending by tourists is increasingly valuable, with the state Office of Tourism claiming that 53,000 jobs are supported by visitors. Mining employs fewer than 7,000 people in a state of 1m inhabitants. But coal and oil jobs pay better than tourism work, and energy companies pay a lot of taxes. Still, fish are changing the public discussion about climate change and whether it might be hurting Montana, says Mr Vermillion, who as a wildlife commissioner meets frequently with hunters, ranchers and other groups. Telling people where smallmouth bass have been found is his most effective piece of evidence for convincing audiences that the weather is changing, he notes, trumping dry statistics about rising temperatures, shrinking snow packs and more frequent wildfires. “What bass say about our rivers is spooky.” ■



Hotter than July



# Lexington | Homeopathy politics

Bad ideas in small doses only give voters a taste for something stronger



FOR anyone with a bias towards scientific rigour, pharmacies in continental Europe are liable to send blood pressure soaring. Many are gleaming white, high-priced temples to hypochondria, peddling cures for maladies not found in other lands (the French are obsessed with “heavy leg syndrome”, for instance). Worse, Euro-pharmacists often offer, unasked, remedies based on homeopathy: the bogus theory that some compounds, even toxins like arsenic, if so diluted that only a “memory” of their presence remains in a pill or potion, have magical curative powers. A European doctor offered Lexington a convincingly cynical explanation: because many clients are not very ill and “homeopathic” sugar pills are cheap to make, quack cures offer low risks and high profits.

Alas, a similar quackery increasingly infects politics across the Western world, and the side-effects are grave. Political leaders from America to Austria have a problem. To simplify, lots of people want something impossible: a return to some hazily-remembered golden era before globalisation, offering jobs for life, upward mobility and shared traditional values.

Too often, the response of mainstream leaders amounts to political homeopathy. They offer a small dose of a harmful idea, whether that is foreigner-bashing, protectionism or ugly partisanship, in the vain hope of soothing voters until their fevers pass. That is a mistake. What voters hear is leaders agreeing that economies should be shielded from global competition, that immigrants disproportionately steal jobs and property, or that political opponents are bent on wrecking the country. But then, to the disgust of supporters and grassroots activists, the realities of global commerce mean that those same leaders are only able to deliver half-remedies: eg, long-term targets for reducing immigration and vague pledges to put native workers first. Then such elites are surprised to find themselves barged aside by populist insurgents like Donald Trump peddling toxic ideas—build a border wall, start a trade war, ban Muslims—at full strength.

Republicans hold their national convention in Cleveland from July 18th–21st, at which they are due to make Mr Trump their presidential nominee. In a neat bit of timing the Republican majority leader of the Senate, Mitch McConnell of Kentucky, recently published a book of memoirs, “The Long Game”, explaining

his philosophy of conservatism. An owlish, taciturn, supremely disciplined strategist—at one point his book describes a year and a half spent outwitting a Senate rival, ending with an assassin’s quiet boast: “Larry never saw it coming”—Mr McConnell is in many ways the anti-Trump.

That does not make Mr McConnell a centrist. Unlike Mr Trump, a would-be strongman who talks with relish of the president’s executive powers, the Senate leader returns time and again to what he considers his distinctively Republican distrust of government—reinforced by a brief stint at the Department of Justice, recalled as “people shuffling paper, doing the bare minimum, spending their days in an endless cycle of bureaucracy”. Mr McConnell praises the wisdom of the Founding Fathers in creating a Senate whose rules—requiring a super-majority to pass most laws—serve to temper the “worst impulses” of both politicians and the voters who put them there.

Mr McConnell, a senator since 1985, differs from Mr Trump in other ways. The Senate leader favours free-trade pacts and commends George W. Bush for keeping America safe after the September 2001 terrorist attacks. He praises Mr Bush’s belief that immigration is to be celebrated, not seen as a “problem to be solved”. He calls Mr Trump’s Muslim ban “a very bad idea”.

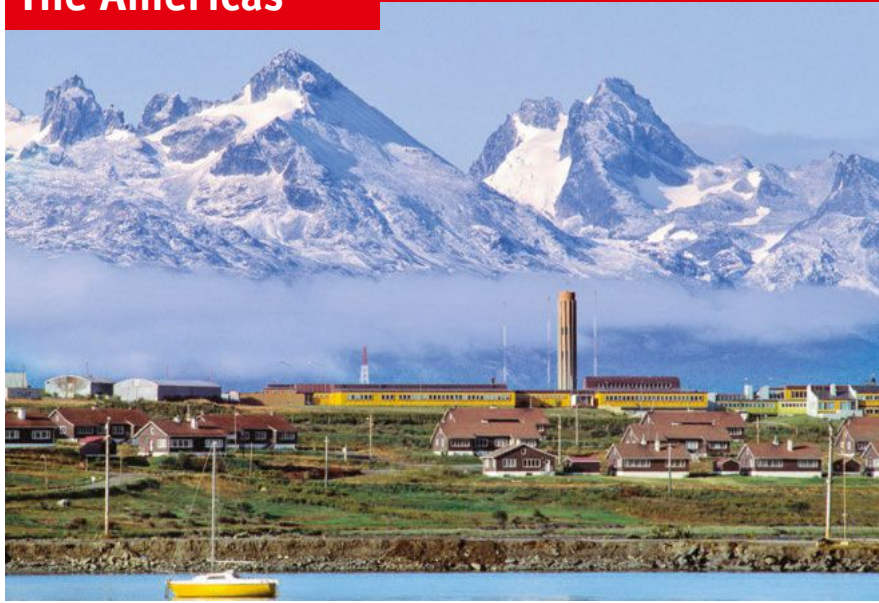
Chilly in public, the majority leader reveals a gentle side in his book, notably in a tribute to his mother. She nursed him through childhood polio, which enforced two years of painful bed rest. After his mother suffers a stroke in old age, the senator climbs onto her hospital bed and recalls how she lay beside him as a toddler, making towns out of toys on his blankets, transforming his small bed into a “nearly limitless world”. When she dies the next day, his sadness makes for hard reading. He describes his father’s belief in racial equality and “joy” at the passage of the Civil Rights Act—views which, he notes, were “extraordinary” for a man raised in the deep South. Mr McConnell scolds Barry Goldwater, the Republican presidential candidate in 1964, for opposing the civil-rights bill, a decision that “hurt our party for decades”.

## Unsafe at any strength

Yet Mr McConnell has endorsed Mr Trump, a man willing to use racial, ethnic and religious resentment to win votes. Like other Republican grandees, he complains about conservative outside groups and talk-radio hosts who in 2013 forced a “futile” government shutdown. But this is the same Mr McConnell who accuses President Barack Obama of a “far-left” agenda to “Europeanise” America, and boasts that when Mr Obama pushed ideas “bad for the country”, such as his health-care reform law, Mr McConnell’s goal was to deny him a single Republican vote, to make it “obvious” which party was to blame. Small wonder that activists think they hear him declaring the Democrats a party unfit for bipartisan co-operation.

In an interview, Mr McConnell dismisses the suggestion that legislation like the Civil Rights Act passed only because in the 1960s the two parties were still broad and overlapping coalitions, and home to many centrists. When he was a child in the South, he says, “You couldn’t tell a Republican from a Democrat.” But now the two parties are “properly labelled” and “people pretty much know what they are voting for.” It is an elegant argument: modern hyper-partisanship as a source of democratic accountability. It is also unconvincing. Mr McConnell can distance himself from Mr Trump all he likes. But by peddling the poison of hyper-partisanship, even in controlled doses, he enabled his rise. ■





## Tierra del Fuego

# The tax haven at the end of the world

USHUAIA

**A giant economic experiment at Argentina's southern tip is starting to flag**

**E**ARLY on a Tuesday morning, a team of mainly female workers is assembling mobile phones. Hair covered and hands gloved, they connect chipsets and insert batteries. This could almost be China, the homeland of Huawei, the company which designed these devices. But the plant is 16,000km (10,000 miles) away from Huawei's base, and a long way from almost everywhere else: in the archipelago of Tierra del Fuego, a place where the buzz of productive energy, impressive as it is, has begun to die down.

The assembly line's location in a land of glaciers and tundra reflects a giant exercise in mixing geostrategy with industrial policy. Argentina's half of the main island became a special economic zone in 1972 when the then ruling junta decided to populate it, hoping to keep Chile's military ambitions at bay. To lure people to this wild corner of the Earth, it exempted firms and residents from most taxes.

As a bid to turn a remote place into a hive of manufacturing, the industrialisation of Tierra del Fuego recalls the towns planted by Soviet planners in Siberia. But a closer parallel is with Manaus, the steamy, inaccessible city on the Amazon where Brazil's generals, in a similar use-it-or-lose-it spirit, created a free economic area in 1967. Both South American zones have become bases for consumer electronics; Manaus also makes almost all Brazil's motorcycles. In both cases, tax breaks go with protectionism; a minimum of parts and ac-

cessories must be made domestically.

However boldly planners set out to defy geography, the effort usually peters out in the end. But with Tierra del Fuego, it is not for lack of trying. The place did draw people; its population rose 11-fold between 1970 and 2015 to about 150,000. That marks a rise of about a fifth since 2009, when Cristina Fernández de Kirchner, Argentina's former president, blocked foreign electronic goods by raising sales and import taxes. Since then international brands have had to use local makers like Grupo Newsan, the owner of that phone-making line, to reach Argentine users. Newsan's six plants in Tierra del Fuego also put together TV sets, computers and air-conditioning units. Phone kits come in up to 40 pieces. Once assembled, they are officially Argentine and escape import tax. Between 2009 and 2015 output in the province's electron-



Also in this section

33 Bello: Let's sue the conquistadors

ics plants tripled and employment surged. Newsan is the main private employer: in 2015 it was responsible for 5,000 jobs.

But this year demand for its wares has cooled as Mauricio Macri, Argentina's president since December, brings a dose of realism to a land where his predecessor gave a sham sense of economic security. Consumption has fallen, as high interest rates are used to curb inflation of around 42% a year. The country's dip into recession is felt in Ushuaia. In late 2015 Newsan was turning out 500,000 phones a month; in the first six months of 2016 it was half that rate, and 400 jobs were shed.

Ushuaia's dowdy state does not help the mood. Drab buildings are in ugly contrast to the snow-capped peaks. In the provincial governor's office, corridors are grubby and the ceiling needs repair. Gloomy islanders see many threats. Managers fear Mr Macri will open the electronics market to imports. A government vow to avoid "indiscriminate" liberalisation did not reassure them. In 2023 the province's status as a special economic zone will expire, and it may not be renewed.

Without it, Tierra del Fuego's electronics firms would struggle much harder. In order to find staff, they already pay around three times the Buenos Aires wage. Isolation costs a lot. Because Tierra del Fuego lacks a good port, about 90% of foreign inputs are shipped to Buenos Aires before being loaded up for a four-day road trip south. Once products are assembled, they trundle back. This makes them crazily expensive. It can be cheaper to fly to New York and buy a phone than to get the same device in Buenos Aires.

The island's public sector, too, is hard to sustain. Some 98% of the provincial budget goes on employment costs. Under a "law of 25 winters", state workers can retire after 25 years on very generous terms; some stop work at 42 on a pension of up to ▶▶

► 210,000 pesos (\$14,000) a month. The head of the local teachers' union, Horacio Cateña, calls these advantages fair return for "the cold, the wind, the storms, the isolation". But they seem unsustainable. When Rosana Bertone, the province's governor, took office in December, pensioners had not been paid for three months.

On January 8th she raised the retirement age to 60 and put a levy of up to 4.5% on public-sector wages and pensions to plug the gap.irate citizens blocked the road to the mainland for ten days and erected a camp outside government house, keeping Ms Bertone from her office. Striking teach-

ers sent 35,000 pupils out of class for up to two months. On May 31st police burned the camp and dispersed the protesters. They remain defiant, but so is Ms Bertone. "This is not a fantasy island," she says.

With a fiscal deficit of 5.8% of GDP in 2015, the national government can ill afford a status quo which means the treasury forgoes 23.5 billion pesos a year (0.5% of GDP) in tax receipts. And the place lost strategic importance after Argentina made peace with Chile in 1984.

So far the government has revealed no plans for the archipelago. That frustrates local firms; they want the authorities to

find new ways to make them competitive, for example by expanding the port.

Some also want the province to imitate Manaus and move beyond consumer devices, perhaps into automotive electronics. But more hope may lie in bolder change. Ms Bertone would like to tilt the economy towards tourism, timber and hydrocarbons, which abound in the sea. Ushuaia could thrive as a base for Antarctic tours. "Our geographical position is privileged," insists the governor, who calls herself a "natural optimist". It will take clear thinking as well as an upbeat spirit to sustain that mood. ■

## Bello | Let's sue the conquistadors

### A hedge fund's campaign risks bringing free-trade deals into disrepute

SCATTERED across rural Peru are the ruins of thousands of *casas hacienda* (estate houses), reduced to broken porticos and crumbled walls. These decayed structures recall one of the most radical land reforms ever undertaken in a non-communist country. In the 1970s a leftist military government expropriated 15,286 rural properties and 9m hectares (22m acres) of land. It was a heavy-handed response to gross inequality in landholding and near-servile labour relations that stemmed from the Spanish conquest.

The bureaucrats turned the estates into top-down co-operatives, which soon failed. Food imports soared for two decades. But the reform had an unintended consequence. In the 1980s the co-ops divided up their land among around 300,000 beneficiaries. That laid the foundations of a market-based agricultural revolution in Peru, featuring medium- and small-scale farmers who export fruit, vegetables, spices and grains.

The reform was also unfair. The landowners received compensation totalling 15 billion soles (then around \$350m), of which 73% was in bonds, redeemable over 20 to 30 years and paying annual interest of 4-6%. According to one calculation, that amounted to only a tenth of the market price. When Peru's economy collapsed in the 1980s, the government eventually stopped servicing the bonds. Although there were individual hard-luck stories, most of the landowners built new and successful urban lives. As for Peru, after a quarter of a century of macroeconomic stability and rapid growth, it has become a Latin American success story with an investment-grade credit rating since 2008.

Now, some 40 years later, these forgotten agrarian-reform bonds are the subject of an international dispute. Gramercy, a



Connecticut hedge fund, filed an arbitration claim last month against Peru's government under the investment clause of the country's free-trade agreement (FTA) with the United States of 2009. Gramercy claims to have bought some 10,000 of the bonds in 2006-08, and is demanding \$1.6 billion for them. It has waged an aggressive lobbying and publicity campaign claiming that Peru is in "selective default", though financial markets have shrugged at this.

So far, so like the case in which "vulture funds" extracted \$5 billion from Argentina's new government earlier this year. Except that these are bearer (ie, unregistered) bonds issued under Peruvian law as compensation, not as an investment instrument. The dispute turns in part on how to update their value, given that Peru went through hyperinflation and two currency reforms after they were issued. In 2001 the Constitutional Tribunal ruled that the unpaid bondholders should receive "market value". In 2013 it specified that this should be calculated by reference to the dollar. A government decree then set out a procedure for registration and a complex mathematical formula for payment of the bonds.

Gramercy claims the 2013 judgment was rigged and says the formula offers only 0.5% of what it thinks it is owed.

The government counters that Gramercy made a speculative purchase at heavily discounted prices because of the legal uncertainty surrounding repayment, something it says the fund's own due diligence recognised. Gramercy refuses to disclose how much it paid for the bonds; the government says its claim would give it a return of up to 4,000%.

Gramercy's purpose may be simply to make a nuisance, in the hope that Peru's new government, which takes over on July 28th and has a large quota of bankers and businessmen, makes a better offer. Certainly the official repayment formula, which has yet to be applied, looks like a ruse to avoid revaluing the bonds and should be reviewed.

Bigger issues are at stake in this dispute. The Peruvian bondholders have indeed had rough justice. But as Enrique Mayer, a Peruvian anthropologist, wrote of the agrarian reform: "The irony is that landlords, as they complained about the lack of due legal process in expropriation, were the ones whose parents and grandparents had so patently disregarded laws or arbitrarily manipulated them." A rigorous attempt to apply the rule of law to history would start with the conquistadors.

Hyperinflation confiscated the incomes, pensions and assets of many Peruvians. Why should only holders of agrarian bonds be fully compensated? This is a political question, for Peruvians to decide. But no reasonable person could construe Gramercy's speculative punt on archaic local IOUs as a foreign investment of the kind that the FTA is designed to protect. By invoking the FTA Gramercy is doing its bit to discredit free trade and globalisation. Its case should be thrown out.




---

**Also in this section**


---

- 35 Labour's civil war**

---

- 35 Civil servants prepare for Brexit**

---

- 36 Nuclear weapons**

---

- 37 The post-Brexit economy**

---

- 37 The immigration paradox**

---

- 38 Bagehot: Travels in May country**

---

For daily analysis and debate on Britain, visit  
[Economist.com/britain](http://Economist.com/britain)

**Britain's political landscape**

## The irresistible rise of Theresa May

**The new Conservative prime minister faces huge challenges on Brexit and the economy. What will help her most is the turmoil in the opposition**

SO IT was a coronation after all. On July 13th Theresa May, the home secretary, became Conservative Party leader and prime minister after her only remaining rival, Andrea Leadsom, the energy minister, pulled out of the race. Mrs Leadsom's ostensible reason was that she had the backing of only 84 Tory MPs, against Mrs May's 199. But what counted more was that, under pressure, she had shown her unfitness for the job, embroidering her financial career and hinting that, as a mother, she was better qualified than the childless Mrs May.

A new Tory prime minister is but one feature of the redrawn political landscape after Britain's vote to leave the European Union. The opposition Labour Party has sunk into ever-deeper chaos under Jeremy Corbyn, who now faces a leadership challenge (see next story). The populist UK Independence Party has a vacuum at the top following the resignation of its leader, Nigel Farage, on the completion of his career's ambition. And although the Scottish Nationalists, the third-biggest party in Westminster, are united under Nicola Sturgeon, they are uncertain how and when to pursue independence post-Brexit.

Mrs May backed the Remain side in the referendum, unlike most Tory voters. Yet they welcomed her victory, if only because she has shown more political nous than her pro-Brexit opponents. Indeed, it is remarkable that the Brexiteers, having won a famous victory, have now largely fled the

battlefield, leaving Remainers to sort out the mess. Mrs May was only ever lukewarm about the EU, and has promised that "Brexit means Brexit". Still, she can expect cries of treachery if the process stalls.

As home secretary for six years, she built a reputation as a moderniser, picking fights with the police. She was quicker than most Tories to see which way the wind was blowing on issues such as gay marriage; in 2002 she warned that many voters saw the Conservatives as the "nasty party". She is a child of England's home counties, without the privileged background of the outgoing prime minister, David Cameron, and many of his circle.

Her first task was to form a cabinet. Philip Hammond, previously the foreign secretary, is to be the new chancellor. More surprisingly she gave the Foreign Office to Boris Johnson, a Brexiteer not noted for his diplomacy. (In May he won a magazine competition to write a poem about Turkey's repressive president—"a young fellow from Ankara / Who was a terrific wanker", as he put it.) Liam Fox, a fellow Leaver who resigned from the cabinet in disgrace less than five years ago, will be trade secretary. David Davis, a veteran Eurosceptic, will take charge of a new Brexit department. Amber Rudd, the energy secretary, will become home secretary.

The next question will be whether Mrs May wants or needs a stronger democratic mandate. In 2007, when Gordon Brown as-

sumed the premiership without any Labour challenger, she accused him of running scared by not holding an election to test his credentials. Yet she now insists that no election is needed before the current parliamentary term ends in 2020. The Fixed-term Parliaments Act of 2011 makes it harder than it used to be for prime ministers opportunistically to call early elections. But Labour's disarray may yet tempt her to try, perhaps next year or in 2018.

Her biggest test of all will be Brexit. She has experience of Brussels, notably in skillfully negotiating Britain's opt-out from most EU justice and home-affairs policies in 2014, while ensuring that it opted back in to 35 measures, including Europol (which assists members' police forces), the European arrest warrant and the passenger-names directive. But she has not even met most EU leaders. No doubt they will give her a cautiously warm welcome (she has some affinities with Germany's chancellor, Angela Merkel, including an upbringing as a pastor's daughter). But they will also say it is for her to explain how she wants to proceed—and how fast.

Mrs May insists that there will be no attempt to remain inside the EU and there can be no second referendum. But she has also said she will not trigger Article 50, the legal route to Brexit, until she has fixed her own negotiating position. And, although as home secretary she was fiercely anti-immigration, she has been careful to insist only that free movement of people in the EU cannot continue as it currently operates. She knows the value of full membership of Europe's single market, and she understands the trade-off that may be necessary between preserving this and setting limits on free movement.

It is within this framework that the hard bargaining with Britain's partners will eventually take place. Many colleagues are ►►



▶ floating ideas loosely called Norway-plus (or Norway-minus), which involve trying to keep as much as possible of Britain's membership of the single market while being permitted to impose some controls or an emergency brake on free movement.

It will help that the recession that is now on the cards will have the side-effect of curbing immigration. But in other respects the economy will be the second big headache for Mrs May. She has sensibly junked her predecessor's target of balancing the budget by 2020. She plans more investment in infrastructure, though she is against a third runway at Heathrow airport. She has evinced a surprising hostility to foreign takeovers of British companies; and she has moved to grab Labour's territory in proposing that workers and consumers should sit on company boards, and that executive pay be limited. Mrs May's declared goals of building an economy that works for everyone, not just for the privileged few, and of doing more to help the poor and disadvantaged who have suffered most in the past decade, are admirable. But she may yet need to curb her more interventionist instincts.

Her best asset, however, will be the chaos of the opposition. The Tories precipitated the Brexit vote for internal reasons and in doing so split their members and decapitated their leadership. It is extraordinary that they now appear the more united of the two main parties. ■

### The Labour Party

## Twist or split

### Jeremy Corbyn's insistence on staying as leader risks destroying his party

**T**HE timing could not have been worse. After weeks of indecision Angela Eagle, a veteran Labour MP, at last announced a challenge to Jeremy Corbyn as party leader on July 11th. But just as she was making her pitch to a room full of journalists, the reporters began to leave. Elsewhere, the Conservatives' own leadership battle had come to an abrupt end, and Theresa May was about to be crowned the winner. Ms Eagle's gauntlet was buried by headlines about the new prime minister.

Things did not get better. A bid to keep Mr Corbyn out of the leadership contest, on the basis that he could not secure the backing of 51 Labour MPs or MEPs, failed when the party's National Executive Committee (NEC) ruled by 18 votes to 14 that Mr Corbyn must be on the ballot as the incumbent. Then Owen Smith, another Labour MP who, unlike Ms Eagle, had opposed the Iraq war, announced his own leadership



Eagle (left), Smith (left) and Corbyn (far left)

bid, threatening a divide among anti-Corbyn MPs. All this lends some justice to a remark by John McDonnell, the shadow chancellor, that the anti-Corbyn plotters were "fucking useless".

Ever since Mr Corbyn became leader last September there has been tension between Labour MPs, most of whom consider him unelectably left-wing, and party members, many of whom adore him. It was bad enough when he won the leadership crushingly last September after scraping around for last-minute nominations from MPs, some of whom backed him just to make the contest more lively. It is now much worse: 172 of Labour's 230 MPs have declared no confidence in Mr Corbyn, making his position in the parliamentary party untenable. Next week's Trident vote is likely to expose just how far removed he is from his own MPs (see next page).

The Brexit referendum crystallised their frustration. The party was formally committed to Remain, but many moderate MPs felt that Mr Corbyn was half-hearted at best, and that this caused many Labour voters, especially in northern and eastern England, to back Leave. With Mr Corbyn's poll ratings dismal and a serious risk of the party compounding its loss of Scotland in 2015 by losing northern England, most Labour MPs desperately want a new leader.

Yet they may not get one. There is talk of a legal challenge to the NEC decision, but it is unlikely to succeed, as the rules are at best ambiguous about whether the incumbent needs signatures, like a challenger. The nasty treatment of anti-Corbyn MPs, including a brick being thrown through the window of Ms Eagle's constituency office and efforts to intimidate moderates by members of the far-left Momentum group, could lead some party members to change their minds about Mr Corbyn. The NEC's decision to exclude from the leadership vote new members who have joined the party only since January, and to require newly registered supporters to pay £25 (\$33), not £3 as last year, may also reduce his support. Yet he remains the favourite to de-

feat any challengers.

What then? A large number of moderate MPs might set up a new opposition group and pick a new leader. But after such a split, they would risk losing Labour's apparatus, assets and name. The rebels are not eager to join the Liberal Democrats; they recall the rebels who left Michael Foot's Labour Party in 1981 to form the Social Democrats, a party that later disappeared. So they may just hope that Mr Corbyn is sufficiently wounded by winning with a smaller margin than last time that they can prepare a successful challenge next year. Either way, the only winner for now is Mrs May. ■

### The civil service

## Building the Brexit team

### A bureaucratic marathon lies ahead. Does Britain have enough pen-pushers?

**F**EW challenges the British civil service has faced would boggle the bureaucrat's mind as much as Brexit. While unscrewing the legal nuts and bolts that fasten the country to the European Union, officials will have to survey British industries to discover what protection motorcycle manufacturers and salmon fisheries might require from foreign competition and what access they need to European markets. Then they must negotiate more than 50 trade deals, to replace the ones Britain will forfeit by leaving the EU. Some wonder whether the "Rolls-Royce" of government—which has shrunk by one-fifth since 2010—has the horsepower for the job.

The scale of the task will depend on what sort of Brexit the new prime minister, Theresa May, negotiates. Under the maximal form of withdrawal, civil servants would painstakingly have to copy, or scrap, 12,295 EU regulations. They have already ▶▶

▶ started to map out every British law that derives from the EU.

Mrs May has promised a new ministry for Brexit to co-ordinate all this, the first task-specific Whitehall department created outside of wartime. A new department of up to 1,000 staff may reassure the public that something is being done but, as the Institute for Government, a think-tank, points out, it will bog down mandarins at a time when there is more important work to be done than sorting out new e-mail addresses. Nick Wright of University College London believes that funding boosts for existing departments, particularly the stripped-down Foreign Office, would make more sense.

Whatever the new ministry looks like, the most pressing issue is expertise. Much of the Brexit bureaucracy can be handled by Britain's 393,000 existing civil servants. But some outside help will be required, particularly when it comes to trade. When Britain joined the European Economic Community in 1973 it handed over control of trade-deal negotiation, as all member states must. As such, only about 20 civil servants in London now have experience of these complex tugs-of-war, according to an initial government review. The EU, meanwhile, has a crack team of around 600. It will be "very difficult" for Britain to catch up, says Pascal Lamy, a former head of the World Trade Organisation (WTO). The Department for Business, Innovation and Skills recently advertised for 300 negotiators and trade specialists.

The private sector stands ready to help. But besides the expense, bringing in an army of management consultants would raise questions of confidentiality, says Emily Jones of Oxford University's Blavatnik School of Government. Any consultancy's other clients would love a keyhole into the Brexit negotiations; in the finance industry alone, £12 billion (\$16 billion) of business rests on the outcome, according to PricewaterhouseCoopers. Doubts of allegiance also surround foreign nationals. New Zealand, the first rich country to sign a trade deal with China, has offered to loan its experts. But the top team should be British, says Sir Simon Fraser, a former diplomat.

The wildest strategy might be to poach trade negotiators from the European Commission itself. Some 32 Britons work within its Directorate General for Trade. Recruiting them may be easier for the fact that Brexit is likely to stall Britons' progress up the Commission's career ladder. Yet Eurocrats enjoy reduced-tax salaries and have put down roots in Brussels. Still, says Miriam González Durántez, a lawyer and former EU trade negotiator, it is their doors that Britain should be knocking on. Next it could approach Britons working in the WTO. If Britain is to leave the negotiating chamber with its pockets unpicked, their ilk is sorely needed. ■

## Defence

# The nuclear option

### Parliament prepares to deliberate on whether to ban the bomb

NINE countries are believed to have nuclear weapons. On July 18th Britain will decide whether it wants to remain in that club, when its MPs debate whether to renew the country's Trident nuclear deterrent. Theresa May, the new prime minister, has said it would be "sheer madness" to give it up, and the vote is expected to pass easily. Perhaps 150 of Labour's 230 MPs will vote in favour of the plan, rebelling against their leader, Jeremy Corbyn.

The House of Commons approved in principle the retention of a nuclear deterrent in 2007. A review in 2013 reaffirmed that "like-for-like" replacement of the four submarines that carry the missiles represented the best and most cost-effective way to do it. Parliament will now decide whether to approve the spending of £31 billion (\$41 billion) over 20 years to replace the four Vanguard-class subs, which will wear out within a decade.

Trident's detractors argue that a lot has changed since the programme was approved in 2007. For one thing money is tighter. Around one-quarter of defence spending on new equipment procurement will be on submarine and deterrent systems by 2021-22. There has also been a surge in support for independence in Scotland, where the submarines are based. It is unlikely that the government would choose to site the capability north of the border if the renewal process began again now, says William Walker of St Andrew's University. The Scottish government opposes the plan; almost all of the 59 Scottish

MPs at Westminster are expected to vote against it (though polls suggest that public opinion in Scotland is more mixed). If Scotland were to become independent—now more likely because of Brexit—Britain could well have to relocate its subs, at further expense.

Critics also say Trident relies too much on a single naval platform (America has air, land and sea options), and that improved ballistic-missile defences and the future use of underwater drones and cyber warfare could threaten the subs' security. Yet land-based ballistic missiles are vulnerable to attack, and arming aircraft with nuclear-tipped cruise missiles permanently aloft carries a significant danger of nuclear accident and is much more expensive. The cut-price option of building three submarines rather than four would be a false economy, undermining the principle of "continuous at-sea deterrence".

The vote comes at a time when few in Britain are minded to dial down the country's defence capabilities. Mrs May has cited Russia's renewed belligerence as one justification for updating Trident. And Brexit has left the country, and its allies, shaken. Britain's partners would be sensitive to signs of more isolationism, says Malcolm Chalmers of RUSI, a think-tank. Britain has the largest defence budget in Europe; maintaining nuclear capabilities shows that it is still committed to NATO. "Our allies would not understand if we chose this moment to give up our nuclear weapons," Mr Chalmers says.

The vote is also linked to Britain's image of itself. Last year a strategic review boosted defence spending, as part of an effort to restore Britain's standing as a military power after years of cuts. Trident is part of that. Though it is expensive and imperfect, most MPs, and their constituents, believe it still helps to make Britain safe, and is a force for stability—something of which it has had precious little in recent weeks. ■



No substitute

## The economic impact of Brexit

## Straws in the wind

Forget the financial markets. Evidence is mounting that the real economy is suffering from Brexit

**B**EFORE the referendum, economists were in near-unanimous agreement that a vote to Leave would hit the economy. And as predicted, the past three weeks have been torrid. The pound has fallen by one-tenth against the dollar; the FTSE 250, an index of domestically focused firms, is down. Alongside the now-familiar turmoil in financial markets, there is growing evidence that the real economy is slowing.

It is not easy to assess the economic impact of Brexit, because official data are published with a long lag. The first official estimate of GDP growth in the third quarter will not come out until late October.

But there is a smorgasbord of other indicators of economic activity—in particular, data “scraped” from the internet—which occur at a higher frequency than official data are published. None of the observations is robust on its own. But together, they hint at how the British economy is doing after Brexit.

It is not all doom. Consumer spending seems to be holding up. OpenTable, a restaurant-booking website, showed a drop in reservations during the referendum, as people made time to vote or watch the coverage. After the next weekend, however, reservations were back to normal.

Shoppers have not been too affected, either. Sales at John Lewis, a department store, which has published weekly figures to July 9th, are up on previous years. The number of people entering shops, a decent proxy for retail spending, has not much changed since the referendum, according to data from Footfall, a consultancy. Supermarkets are not aggressively discounting, finds mySupermarket, a price-comparison site. Tesco, Britain’s biggest, had 23.7% of products on promotion on July 8th, down from 24.8% just before the referendum.

All this chimes with what economists predicted—that consumer spending would hold up. Over half of voters plumped for Brexit, after all, so they should be happy shoppers. An economic slowdown does not immediately pinch people’s pockets. Instead, the assumption was that investment would be whacked. Companies would put off big decisions on capital spending or recruitment, given the uncertainty about the future of the economy.

It looks a fair prediction. Firms already seem more reluctant to take on new staff. Data from Adzuna, a job-search website with over 1m listings, suggest that in the week to July 8th there were one-quarter

fewer new jobs than in the first week of June. Part-time roles appear to have been particularly hit. Scotland, which was already near recession because of low oil prices, is suffering most.

While some Britons struggle to find new jobs, others may be losing theirs. A Bank of England paper from 2011 analysed Google as a window into the labour market. Searches for “jobseekers” (as in jobseekers’ allowance, an unemployment benefit) have historically been correlated with the unemployment rate. In the first fortnight in July, Britons searched for that word about 50% more frequently than in May. This suggests that unemployment is now 5.3%, not the official rate of 5% (last recorded for the three months to April).

Businesses are cutting investment, too. On Funding Circle, a peer-to-peer loans website for small firms, the volume of lending is about 10% lower so far in July than it was in the same month last year. The number of planning applications—for permission to expand premises, say—is another decent proxy for investment spending. Though there is a lag in registrations, a tally of applications in London boroughs in the week after Brexit currently stands at one-third below their level a year before.

The tail-off in planning may be linked to a slowdown in the housing market. Data scraped from Zoopla, a property website, suggest that of about 6,000 London prop-

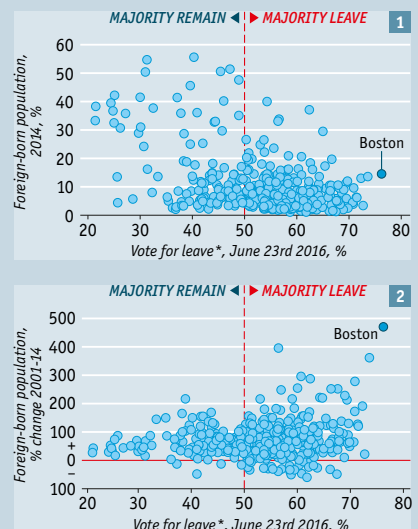
erties listed from June 24th to July 11th, roughly 1,000 have had their price cut since the referendum. A survey by the Royal Institution of Chartered Surveyors published on July 14th, which accounts for the post-referendum period, shows a sharp fall in inquiries from homebuyers.

What of the export boom resulting from the weak pound, as Brexiters predict? There is some evidence that flight bookings into Britain have risen. And the headline on NetEase, a Chinese web portal, is bullish: “Pound falls to 31-year low. Time to bargain-hunt for British homes?”. But although it is difficult to assess the overall impact on exports, there is little to suggest a bonanza is on the way. British export competitiveness has not improved as much as the fall in sterling implies, because one-quarter of the value of British exports contains imports—which are getting pricier. Analysis by *The Economist* of data provided by PriceStats, a consultancy that scrapes prices from online retailers, suggests annualised inflation since the vote has been above the Bank of England’s 2% target. In any case, research shows little evidence that currency depreciations lead to increased market share in exports, particularly for a country like Britain which competes mainly on “non-price” factors such as quality and customer service.

Now the slowdown is taking shape, the authorities must respond. Theresa May, the new prime minister, has made encouraging noises about a fiscal stimulus, though with the budget deficit already at about 4% of GDP she does not have much room to manoeuvre. On July 14th the Bank of England surprised markets by holding interest rates at 0.5%; most analysts had expected a cut. A future reduction cannot be far away: as the economy slows, it will soon need all the help it can get. ■

### The immigration paradox

Although immigration featured heavily in the Brexit campaign, areas with the most migrants—notably London—were among those most likely to vote Remain (see chart 1). Mint-tea-sipping metropolitans may find it absurd that people in areas with comparatively few foreigners should be so keen to curb migration. But consider the change in numbers, rather than the total headcount, and the opposite pattern emerges (chart 2). Where foreign-born populations increased by more than 200% between 2001 and 2014, a Leave vote followed in 94% of cases. The proportion of migrants may be relatively low in Leave strongholds such as Boston, Lincolnshire, but it has soared in a short period of time. High numbers of migrants don’t bother Britons; high rates of change do.



Sources: Electoral Commission; ONS \*By local authority area



# Bagehot | Travels in Theresa May country

To understand Britain's new prime minister, visit her constituency



FROM 10 Downing Street, travel west. First you pass posh inner districts like Notting Hill, where David Cameron and his fashionable set plotted a liberal future for the Conservative Party early in the past decade. Then you cross working-class suburbs of the capital like Brentford and Hounslow, where trading estates intertwine with Victorian terraces. Afterwards comes Heathrow airport, a series of reservoirs, the grandeur of Windsor Castle and Eton College, and then Slough, a town so architecturally dismal that in 1937 Sir John Betjeman penned a poem beckoning “friendly bombs” to rain down on it. And then, where the concrete meets the fields, you hit Maidenhead.

This is home turf for Bagehot, who grew up in similar borderlands south of London and, when he was small and pesky, was packed off to grandparents in Littlewick Green, a village immediately west of Maidenhead. It is also Theresa May country. Since 1997 Britain's new prime minister has been MP for the constituency encompassing the town and its surroundings. She spent her childhood across the Chiltern Hills in Wheatley, where her father was a vicar. Her seat is suburban in the truest sense: Maidenhead has always been an in-between sort of place; it exists to connect other places. It started with a toll bridge on the River Thames. Then, in the 1830s, came the Great Western Railway, which turned it into a London commuter dormitory. Now it thrives thanks to its proximity to the M4 motorway and Heathrow.

“In-between” describes Maidenhead in other ways, too. The Tudorbethan houses, the rowers on the Thames and the cricket greens make it feel like deepest England. But Maidenhead is neither nostalgic nor monocultural. It is too diverse and too close to London for that. Polish pilots who flew from the White Waltham airfield settled here after the war. In the 1950s a Sicilian newspaper advertised jobs here, attracting a large Italian contingent. Today the proliferation of global companies like Adobe, BlackBerry and Maersk draws residents from around the world.

Aesthetically, the seat is similarly interstitial. It is where the worst of London's sprawl—post-war concrete and thundering roads scarring parts of the town centre—mingles with the English countryside at its parklike best. Murder mysteries are filmed in the surrounding villages. Amal Clooney, a hotshot human-rights lawyer, and her actor husband George live in a 17th-century man-

or house in Sonning, where Mrs May has her constituency home.

What about money? Maidenhead is Britain's answer to Connecticut: “You were considered subversive if you only mowed your lawn once a week,” recalls John O'Farrell, a Labour comedian who ran against Mrs May in 2001. It contains the Fat Duck, the three-Michelin-starred restaurant epitomising Britain's gastro-nomic boom. But this prosperous town also contains poor people. Its service economy has plenty of lovely jobs (software designers, bankers and insurance brokers) and plenty of lousy ones (cleaners, dish-washers and carers), but not much in the middle. House prices—one estate agent advertises a two-bedroom flat for £575,000 (\$760,000)—are forcing those in the latter category into tiny dwellings and even onto the streets. Recently a group of homeless people, “Born SL6” (the local postcode), camped on the trim lawn of the town hall. A food bank feeds 200 families.

In this constituency of contrasts, one thing is uniform: everyone likes Mrs May. “She's approachable.” “Every Friday, you see her in the town.” “She looks after us.” The new prime minister has nurtured her seat with military discipline. Even at the peak of the leadership contest she was there: opening an Alzheimer's charity shop, visiting a DIY store and attending a church service commemorating victims of the Somme. The archives of the *Maidenhead Advertiser* document her involvement in every local campaign for the past 19 years. “Even her political opponents respect her,” said Martin Trepte, the editor.

At times she seems like a liberal, at others an authoritarian. She admires Margaret Thatcher but postures as an economic interventionist. She was never part of the Notting Hill set, preferring to spend her time working the “rubber chicken circuit”: speaking to silver-haired Conservatives in village halls and mid-range restaurants in small-town Britain. Thus she has acquired a reputation in Westminster for being dull and suburban. Mr Cameron claims his favourite bands include The Killers and Radiohead, for example; Mrs May goes for Abba and Frankie Valli. She holidays not on tycoons' yachts but on hiking trips to the Alps, like Angela Merkel, another cautiously dutiful centre-right European leader to whom the comparisons draw themselves.

## Go west, young Eurocrat

Mrs May's constituency epitomises her desire for order. Maidenhead is not a backwater. It is buffeted by globalisation and change as much as anywhere. But it attracts people who want suburban calm and certainty over city buzz; who eschew the risky and unknown. Folk who, as Betjeman put it, “talk of sports and makes of cars / In various bogus-Tudor bars / And daren't look up and see the stars”. May's unromantically pragmatic instincts reflect this. She is not anti-globalisation (she was against Brexit). But she does want to take the edges off it, get it under control and make it neat and manageable.

European negotiators should take note. Eventually they will be locked in negotiations with the self-described “bloody difficult woman” who now inhabits 10 Downing Street. She is inscrutable, private and hard to read. But those with whom she spars could do worse than head to May country for a sense of her instincts. To an in-between land of garden centres, railway season-tickets, motorway service stations, faux-mullion windows, chain restaurants and supermarket loyalty cards. Of leather-on-willow, gin-and-jag and keep-calm-and-carry-on. To a land where Britain's bucolic past and cosmopolitan future pass each other in the street—and avoid eye contact. ■





The  
Economist

1843  
THE ECONOMIST UNWINDS

## KNIT WIT

Suket Dhir, India's  
fashion superstar

**ETON AND THE MAKING  
OF A MODERN ELITE**

**THE ECONOMICS OF  
THE BIRKIN BAG**

**BURNOUT  
GENERATION**

**WHY BRAZIL'S  
TOP ARTISTS  
ARE WOMEN**

**TRUMP'S WAR  
ON TAILORING**

**+ SLASH FICTION AND  
FEMALE SEXUALITY**

**THE RETURN OF  
THE WOLF**



*The Economist's* magazine of ideas,  
lifestyle and culture with a global outlook

ON NEWSSTANDS NOW

[www.economistsubscriptions.com/1843](http://www.economistsubscriptions.com/1843)





*The World If* is our annual collection of scenarios. Just suppose...

**IF DONALD TRUMP WAS PRESIDENT**

## The world v the Donald

WASHINGTON, DC, APRIL 2017

**How a made-for-TV foreign policy triggered real-world crises**

**H**IS presidency is only 100 days old, yet already some are wondering if Donald Trump will ever again match the approval ratings he enjoyed one week after inauguration day. His “Made in America” summit, held in a blizzard-lashed White House on January 27th, delighted the public, according to opinion polls, even as it reminded the president’s critics of an event more suited to Vladimir Putin’s Russia. Mr Trump dressed down two dozen corporate chieftains on live television as “dishonest and greedy” and demanded that they promise, on the spot, to close or scrap named manufacturing plants in China within his first term and bring production back to America. The newspapers the next day carried images of Tim Cook, the head of Apple, and Dennis Muilenburg, the boss of Boeing, shivering in the North Portico as they waited, coatless, to be picked up by their drivers after declining to make such a promise, prompting their summary expulsion from the building.

Supporters also cheered Mr Trump’s appointment in his first week of Joe Arpaio, the hardline sheriff of Mariposa County, Arizona, to chair a presidential task force on building a fortified border with Mexico within three years, named “Make America Safe Again”. There was a more muted response to a third announcement: that the new president’s first overseas visit would be to Moscow, for a meeting with Mr Putin to explore common ground in the fight against Islamist terrorism.

True, Mr Trump promised he would strike “only the toughest deals, the smartest deals, or I walk from the table”. But his quick offer to meet the Russian president reminded many Americans, uncomfortably, of the murky espionage scandal that played so large a role in the defeat of Hillary Clinton. In October top-secret files had appeared on the internet, allegedly extracted by hackers from Mrs Clinton’s private e-mail server when she was secretary of state, identifying individuals as American intelligence assets in Russia and Ukraine; one, an Israeli-Russian businessman, was soon afterwards ►►

### POLITICS

- 5 North Korea collapsed**  
Night and day
- 7 States traded territory**  
A country market

### BUSINESS AND ECONOMICS

- 8 Hackers halted finance**  
Joker in the pack
- 10 China privatised boldly**  
The greatest sale on Earth
- 12 Economists reformed**  
A less dismal science

### SCIENCE AND TECHNOLOGY

- 15 Oceans were transparent**  
The see-through sea
- 18 Computers wrote laws**  
Decisions by data
- 19 All had personal drones**  
Prone to disaster

### HISTORY

- 20 Germany had not unified**  
Better or worse?

found dead at a Geneva hotel. Mrs Clinton continues to deny any knowledge of the leaked documents. Her husband, ex-President Bill Clinton, sparked fresh headlines with an intemperate interview in March in which he charged that “Kremlin dirty tricks” helped to swing the 2016 election.

One hundred days into the Trump era, that Moscow trip remains on hold. Like much else it has been delayed by diplomatic, military and commercial moves by China, Mexico and Russia that a dissident Republican, Senator Lindsay Graham of South Carolina, has called a “pre-emptive strike by the rest of the world” against Mr Trump’s “America First” agenda.

No date has been set for Mr Trump’s emergency trip to Beijing, announced by him on Twitter several weeks ago but now deemed “just a suggestion” by the White House spokesman, Sean Hannity. There has been no suggestion of a summit with the leader who has most gleefully cast himself as the anti-Trump, President Enrique Peña Nieto of Mexico.

Relations with Russia trouble the Washington national-security establishment the most. The president faces growing questions about the mysterious disappearance of a helicopter carrying Estonian troops over the Baltic Sea on March 1st, amid claims that the aircraft may have been shot down by a Russian warship. Mr Trump is being pressed over reports that he told the Estonian president in a telephone call that his small Baltic republic, a member of NATO, needs to “get smart and shut up”, because America’s national interest lies in co-operating with Russia in Syria, not with defending European allies. Declining to address those reports, Mr Trump used a rambling White House press conference to complain about the media, about official leaks and about disloyalty at the Pentagon, where, he said, “there are a lot of generals who need firing, believe me.”

On the economic front moves by Chinese authorities against American companies have panicked investors. The first firm to be hit was Boeing, days after a speech by Mr Trump calling it “just disgusting” that the aerospace giant is planning to open a new facility in China. Chinese state media gave prominent coverage to a speech by an aviation regulator warning that planned sales of hundreds of aircraft to Chinese airlines might need to be reviewed if “certain entities are not the reliable long-term suppliers that they claim to be.”

Soon afterwards the China headquarters of Apple, a computer firm, and Pfizer, a drugs company, were raided by antitrust investigators from the State Administration for Industry and Commerce; both firms say they are in full compliance with competition laws. In early March the Ministry of Environmental Protection an-

nounced that the most popular models sold by General Motors and Ford in China will face new tests of their exhaust emissions. Brushing aside assurances from American car executives that their emissions comply with all Chinese laws, the ministry added that Chinese consumers might care to wait for tests to be completed before choosing an American vehicle. More poetically, a recent editorial in the

## “One hundred days in, that Moscow trip remains on hold

state-run *Global Times* talked of China being willing to take “resolute actions” against “an arrogant foreign leader who prattles like a monk about honesty while hiding a stolen goose in his sleeve”.

In Mexico Mr Peña announced in February that, to his “great anger”, he had received evidence that American drug-enforcement agents had been operating illegally inside Mexican territory, abusing the terms of the Mérida Initiative, a security co-operation agreement signed by President George W. Bush. Mr Peña suspended the initiative, ordering American liaison officers to leave Mexico immediately.

In mid-March he made a further announcement: Mexico would no longer deport unaccompanied children from Central America back to their violence-wracked home countries. Though Mr Peña called this a purely humanitarian gesture, Mexico had endured political pain, region-

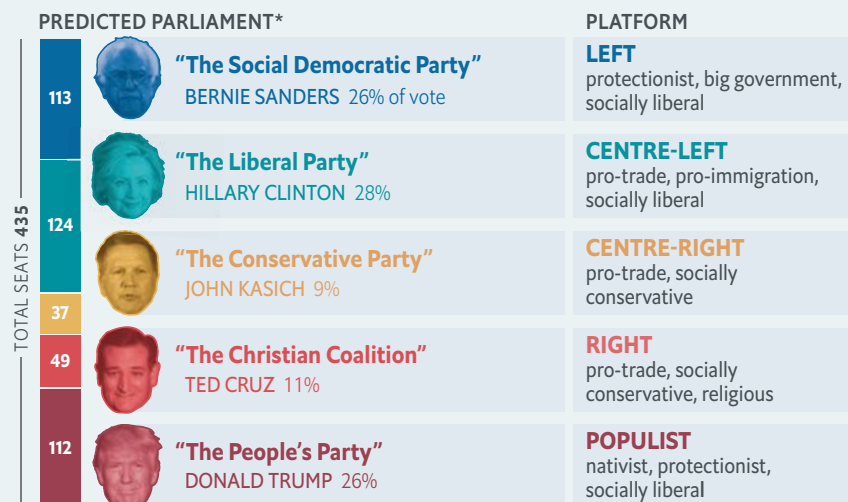
ally, for helping the United States to stem flows of migrants from Central America. By the end of March, 500 unaccompanied child migrants had turned up at the Mexico-Texas border, claiming asylum. The Department of Homeland Security is said to be bracing itself for tens of thousands more by the summer.

The irony is that Mr Trump has stopped some way short of the programme that he promised in his campaign. He has not slapped punitive tariffs on Chinese-made goods. He has not banned Muslims from entry, because he cannot by law (though he has stopped refugee arrivals from several Middle Eastern countries). His plans for a “beautiful” border wall have been parked with Mr Arpaio’s committee. Mr Trump has revoked Mr Obama’s executive actions shielding millions of undocumented migrants from deportation, though the legal status of those already granted work permits is now before the courts. Work on a much larger task—planning the mass deportation of all foreigners without legal status—has barely started.

Scrutinise the new government’s “America First” approach to the world, and much of it amounts to made-for-TV displays of firmness. Alas, when America’s president blusters and swaggers, it can produce real-world consequences. It has taken just 100 days for multiple crises to teach Mr Trump that lesson. Americans can only contemplate the next three years and nine months, and hope that their president has not learned it too late. ■

## WHAT IF THE UNITED STATES HAD A PARLIAMENT?

YouGov polled Americans on whom they would prefer in a five-way election; from this, we predicted the parliament that might emerge



Sources: YouGov; CPS; *The Economist*

\*based on April 22-26th 2016 polling of preferred candidate choice; seats allocated proportionally by census region (North, Midwest, South, West)



IF THE NORTH KOREAN REGIME COLLAPSED

## Night and day

SEOUL

America and China have done too little planning for a Korean crisis

**A**S ERIC CLAPTON played the first bars of “Cocaine”, the country’s transformation seemed complete. The former “May 1st” stadium in Pyongyang, renamed “December 1st” to commemorate Korean reunification in 2018, was packed. Before the fifth-anniversary concert, the organisers had shown that their old mastery of mass pageantry had not been lost. After a stunning callisthenic display, children from the Ban Ki-moon High School arranged themselves to form portraits. Mr Ban himself, first president of a unified Korea, was followed by President Hillary Clinton, whose staunch support had eased reunification. Then came Kim Jong Chul, “special adviser” to the interim governments of the northern provinces, grandson of North Korea’s founding leader, Kim Il Sung, and elder brother of its last leader, Kim Jong Un.

After Kim Jong Un died in mysterious circumstances, apparently poisoned by a radioactive prawn consumed when visiting a factory making frozen tempura for the Japanese market, his two brothers came to prominence. Believing the dynasty remained essential to any hope of stability, the country’s neighbours had turned to them. China backed the oldest, Jong Un’s half-brother, Kim Jong Nam, whom it knew well from his days of dissolution in the casinos and massage parlours

of Macau. After all, North Koreans were in blissful ignorance of his disgrace in 2001, when he was caught by Japanese immigration officials trying to sneak into the country on a forged passport from the Dominican Republic, to visit Tokyo Disneyland.

He was soon outmanoeuvred, however, by Kim Jong Chul, who hitched his wagon to the incoming South Korean forces and their American allies. As a reward, he was given his cushy “advisory” sinecure. It was on his advice, indeed, that Mr Clapton was invited. An approach to the musician to perform in Pyongyang in 2007 had been rebuffed, and this was the first time Jong Chul had seen his idol since two memorable gigs at the Royal Albert Hall in London in 2015.

In retrospect, it was perhaps not surprising that China had backed off so quickly. For decades its North Korea policy had been based on the need for a “buffer” between it and the South, ally to America and home to some 25,000 American troops. But as the regime in the North crumbled after Jong Un’s death, several truths dawned on China’s leaders: that a reunified Korea would never, out of its own self-interest, be hostile towards it; that with North Korea’s nuclear sites scattered and the number of warheads unknown, it had to co-operate with America to eliminate them; and that to back one faction of

the fractured regime would lead to instability on its borders, risking a flood of refugees. It helped that Mrs Clinton honoured her pledges not to station American soldiers anywhere in the former North Korea.

Five years on, North Koreans were better-fed and freer than they had ever thought possible. The new government (in effect the old one, of the South) had stepped carefully, but gradually statues of Kim Il Sung were disappearing. Portraits of his son, Kim Jong Il, forever associated with the famine of the 1990s, had been quick to go. A massive building boom had introduced South Korean efficiency to the country’s 1930s infrastructure. Former soldiers used to building dirt tracks by hand now used modern machinery to carve expressways linking the South to China.

The changes were even visible from space. Satellite photos used to show North Korea at night as an area of darkness next to the bright glow of the South. Steadily, the pinpricks of light were spreading. It was like a dream.

Indeed it would be. Many analysts believe that the collapse of the Kim dynasty in North Korea is, if not imminent, then quite possible, and that the most likely upshot would be Korean reunification under the South’s leadership. That should be good news. North Korea is ruled by the most repressive and closed regime on Earth. Hardly anyone, however, believes its end will be smooth or peaceful. Think not German unification, says Andrei Lankov, a Russian expert on the North who teaches in Seoul, the capital of the South, but “Syria with nukes”. And how would the outside world know if the regime was imploding? “Fighting on the streets.”

### The cold light of today

Much work has been done in South Korea, America, China and Russia on scenarios for North Korea’s implosion. Most envisage some or all facets of a complex disaster: humanitarian emergency; civil war; international conflict; nuclear proliferation; economic hardship; social tensions between northerners and southerners. But preparations for these contingencies are difficult. Not only are the circumstances of collapse unforeseeable, but the co-ordination between America, China and South Korea is politically impossible, beyond talking-shops where scholars engage in speculation. Even now, angry though it seems to be with the recalcitrant Kim Jong Un, China is unwilling to discuss the possible end of its longtime ally.

China’s displeasure with Mr Kim is one reason some analysts think collapse may have become more likely. When he took over on the death of his father in 2011, Mr Kim, then in his late 20s, and without any administrative experience, seemed to ▶▶



► some the face of a ruling clique. Yet he has ruled ruthlessly, purging potential rivals, including even his uncle, Jang Song Taek, who had been seen as the power behind his throne, and the country's main interlocutor with China. He was executed in 2013. Mr Kim seems solidly in control. In May this year he convened the ruling party's first congress since 1980, rewarding himself with a new job as its chairman, and showing the world evidence of his people's adulation in a mass parade. But he has many potential enemies: generals fearing they may be next to be purged; members of the elite fearing they will be impoverished by Chinese sanctions; a lone hungry madman with a gun.

His is, in a phrase of Chun Yung-woo, a former South Korean delegate to talks with North Korea, a "theocratic" regime. Unlike other ruling communist parties, the Korean Workers' Party probably does rely on a dynasty for its legitimacy and durability. With its linchpin gone, it might swiftly fall apart. Uncertain who is in charge and remembering the shortages of the past, those with guns might start seizing food and looting. Fighting would break out, and people start fleeing—probably not for the well-mined and fortified "demilitarised zone" on the 38th parallel that forms the border with the South, but to the more porous one with China in the North. Those guarding the gulag housing tens of thousands of "political" prisoners—ie, people suspected of even the mildest dissent—might turn their guns on the inmates; they are said to have orders not to leave any evidence or witnesses of the regime's crimes.

The South, backed by America, would feel compelled to intervene. It has a de-

tailed plan for a military occupation. South Korean forces would dominate, keeping hated American faces well in the background—except for those highly trained special forces who would be airlifted to known nuclear sites to secure them. At some sites in the far north, they might find the Chinese had got there first. There has, after all, been no co-ordination. But some sites are unknown, as are the actual num-

## The kinship that linked the peninsula has weakened

ber of nuclear devices and the amount of fissile material, let alone the identity of the most important nuclear scientists. An intensive propaganda drive to convince them they will be well treated in a unified country may not work. Some may find terrorists willing to protect and reward them.

Even if the headline number for the active front-line personnel in North Korea's armed forces—some 700,000—includes many who are in fact deployed in construction work, some soldiers would fear punishment or at least a loss of privileges. They would "almost certainly" oppose outside intervention, concluded a study in 2013 by Bruce Bennett of the RAND Corporation, a think-tank, "in some combination of regular combat, insurgency and criminal behaviour". However secure its nuclear weapons, North Korea has plenty of conventional artillery and the ability, as it likes to remind the world at times, to turn Seoul into a "sea of fire". Its special forces might infiltrate the South.

In the unfolding chaos, China, South Korea and America, their troops perhaps eyeball-to-eyeball in remote nuclear sites, would need to scramble through negotiations on issues unsettled for more than six decades. China would have to decide whether to install a puppet regime, to maintain its buffer. At least it has party-to-party ties with the Workers' Party, and army-to-army links; and it has a number of defectors it might have been grooming for such an eventuality. But imposing order might be beyond it without unacceptable military risks. It seems to have a particular fear of mass migration.

Some South Korean experts think this is misplaced: food is now more available on private markets, so migrants may not be driven by hunger; and most North Koreans live far from the border. But as early as 1994, on Kim Il Sung's death, China was examining where it might put refugee camps. After regime collapse, disorder could engulf North Korea. China might conclude that reunification is not, after all, the worst outcome.

So the issue would become: what assurances would China need? Would all American troops have to leave the peninsula, or would a pledge to avoid the North suffice? Would South Korea's security treaty with America have to be abrogated? And, if that was the condition for reunification, might South Korea accept it?

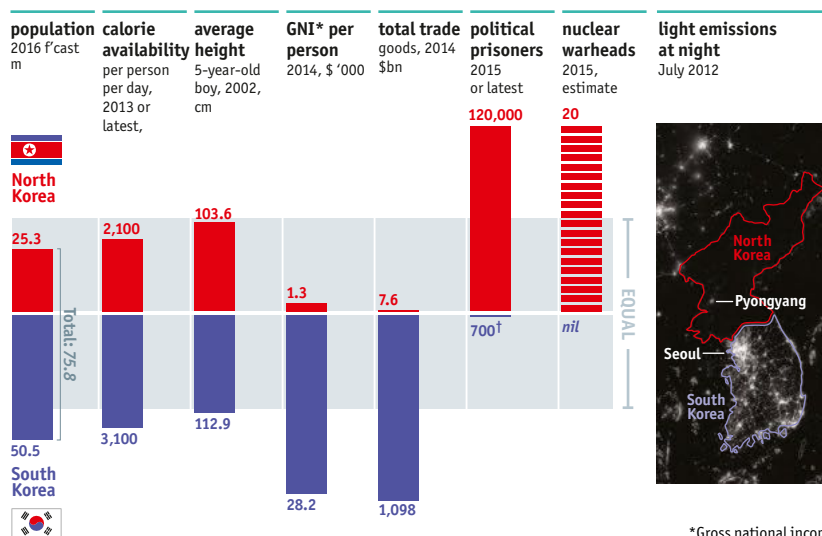
### Two into one won't go

How the emotions of such a tumultuous time would play out is anyone's guess. Many in the South fear reunification. The kinship that linked the peninsula (where as late as 2000, 77m South Koreans were estimated to have family in the North) has weakened as divided family-members have died. And the two countries have drifted apart, linguistically and even physically: a study of North Korean refugees in the South suggested that boys were on average 10cm (4 inches) shorter than southerners the same age, and girls 7cm. The experience of integrating defectors from the North in the South has not been encouraging. Even comparatively well-off, highly educated defectors struggle to find white-collar jobs. They have left not just one country for another, but the past century.

South Koreans are put off by the cost of reunifying Germany (see the final story in this supplement), and North Korea is far poorer than the old East Germany. In the initial chaos, the North's currency would be deemed worthless; people would use Chinese yuan or scarce American dollars, or barter. America and South Korea would find themselves having to guarantee the value of the North's won, before quickly replacing it with the South's—at a generous ►►

### North-South divides

The two Koreas' share of:



Sources: UN; FAO; Daniel Schwkendiek; Bank of Korea; Ministry of Justice; IISS

\*Gross national income  
†Includes conscientious objectors and those convicted of praising the North

► exchange rate. That in itself would be a costly subsidy to the 25m people in the North. But many would still be dependent on state handouts. Taxes in the South, and the national debt, would climb quickly. Those in the South clinging to hopes that they might one day reclaim their ancestral homes in the North would also be disappointed. To avoid legal wrangles or vigilante evictions, ownership rights would have

to be given to current residents.

All this perhaps explains why the South's current president, Park Geun-hye, realising the reunification may be a fact not a choice, emphasises the "bonanza" of North Korean resources, cheap labour and unfulfilled potential. Even if they are sceptical, many in the South would see reunification as a moral necessity, ending the ugliest legacy of the cold war and of a form of

politics that turned the 20th century into a nightmare for much of the world.

Nor has the dream of Korean unity faded altogether. In that concert, the final encore would see Slowhand tackle "Arirang", a folk-song indispensable to karaoke-singers in both North and South. The crowd would sing along, waving cigarette lighters and hugging. There would be not a dry eye in the house. ■

## IF STATES TRADED TERRITORY

# A country market

### A way to solve some of the world's trickiest problems

IT MIGHT not rank with the Battle of the Somme, but 2016 also marks the 100th anniversary of the Treaty of the Danish West Indies, which transferred sovereignty over the Caribbean islands of St John, St Thomas and St Croix from Denmark to America, for \$25m (worth \$550m today). The deal removed trade barriers between the Virgin Islands and their region's economic superpower, and prevented them from falling into German hands during the first world war. Now, it stands as the last time a country has directly sold control over territory to another.

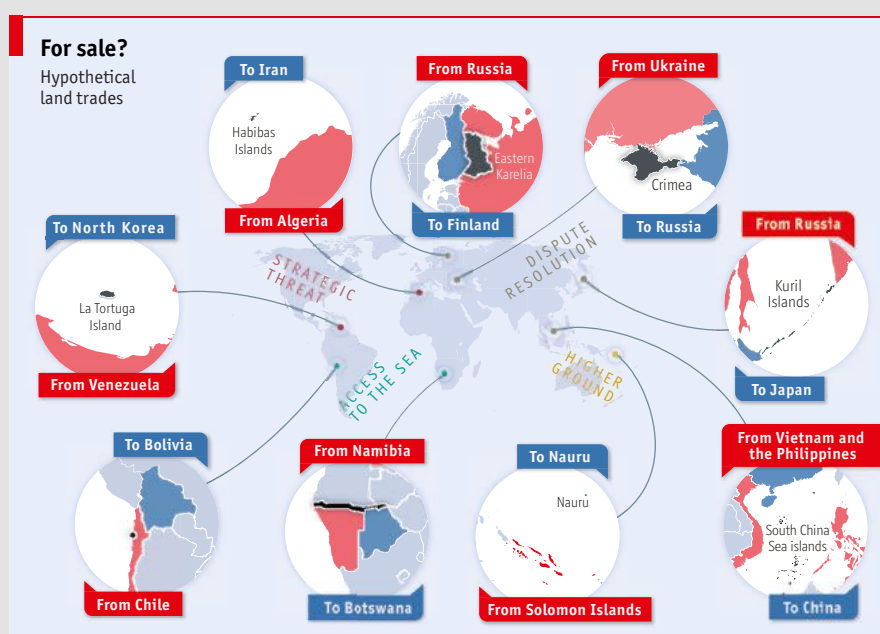
Such transactions were once common. (America's Louisiana Purchase from France in 1803 and Alaska Purchase from Russia in 1867 were big examples), and remain perfectly legal under international law. But in the post-colonial age, borders move when a state breaks up, or countries settle a dispute or, occasionally, by use of force, not because two governments simply agree to trade a chunk of land.

What if that changed? With a little imagination, it is possible to see a large and varied market for such trades.

Climate change could stimulate demand. Countries whose very existence is threatened by it, such as Nauru, have a powerful incentive to acquire higher-elevation islands from nearby states, like the Solomon Islands.

Small, rich, densely populated countries would be natural buyers from land-rich, poorer states. No Arab government could sell Israel land and hope to stay in power. But this year Egypt did cede control over a pair of disputed Red Sea islands to Saudi Arabia shortly after receiving financial support from the kingdom, though a court has since quashed the decision.

Land sales could resolve territorial disputes. Instead of struggling to stop mighty China from taking over contested islands



in the South China Sea, might the Philippines and Vietnam cash them in? Nigeria is still seething over a verdict in 2002 by the International Court of Justice handing the Bakassi peninsula to Cameroon; it would have been far more efficient to buy out Cameroon's claim. Russia could formalise its annexation of Crimea by helping to pay off some of Ukraine's debts, possibly raising the money for this by agreeing to hand eastern Karelia, which it conquered in the second world war, back to Finland (in the early 1990s Boris Yeltsin reportedly offered the territory for \$15 billion). Japan might take a similar interest in the Kuril Islands and oil-producing southern Sakhalin, which it lost to Stalin.

Lastly, there's access to the sea. Landlocked Bolivia could pay Chile in gas to acquire a Pacific port, an old yearning.

Botswana's trade would boom if it bought a corridor to the sea from Namibia.

There is a dark side, though. Today, lenders are left with little recourse when sovereign debtors go bust. If governments were willing to buy land, however, issuers would have a highly marketable asset that their creditors might demand they pawn off. Serial defaulters like Argentina might borrow themselves out of existence.

Even more alarming would be militarily motivated purchases. North Korea and Iran could render the billions spent on Western missile defences moot by acquiring islands in the Mediterranean or Caribbean. Would America or its allies really pay whatever it took to keep these out of unwelcome hands, enabling the likes of Venezuela or Algeria to arrange a bidding war? It might be cheaper to invade.



IF FINANCIAL SYSTEMS WERE HACKED

## Joker in the pack

Recent attacks give a glimpse of the sort of cyber-assault that could bring the world economy to a halt. Better defences are needed

**T**HIS May Anonymous, a network of activists, briefly hacked into Greece's central bank and warned in a YouTube message that: "Olympus will fall...This marks the start of a 30-day campaign against central-bank sites across the world." The warning struck a raw nerve.

The financial system is little more than a set of promises between people and institutions. If these are no longer believed the whole house of cards will collapse and people will take their money and run. That happened in 2008 because of bad credit decisions; but the same could unfold via a sophisticated cyber-attack. Processes designed to make banking safer have created new vulnerabilities: large amounts of money flow through certain key bits of infrastructure. If such systemic institutions were compromised, a panic similar to those in 2008 could quickly spread.

Cyber-attacks are rapidly growing, and financial services are a favoured target of thieves and people intent on causing chaos. The rise in attacks on individual banks, mostly to steal money or information or to shut down the system for the hell of it (of-

ten using so-called denial-of-service attacks), is worrying enough. But two recent attacks signal a move from simple "Bonnie and Clyde" crimes to a new "Ocean's Eleven" sophistication.

In 2013 a raid by the Carbanak gang, named after the malware it used, was discovered when its "mules" were seen picking up cash that was apparently being randomly dispensed by ATMs in Kiev (a ruse known as ATM jackpotting, whereby criminals hack into a bank's PCs and then send direct commands to the ATMs). The extent of the assault only gradually became clear: the final bill could be high. The largest sums were stolen by hacking into bank systems and manipulating account balances. For example, an account with \$1,000 would be credited with an extra \$9,000, then \$9,000 would swiftly be transferred to an offshore account; the account holder would still have \$1,000, so was unlikely to notice or panic. This messing with the numbers showed a new ability and ambition among cyber-criminals.

The second attack unfolded over a few days in February, when hackers stole \$81m

from the Central Bank of Bangladesh's account at the Federal Reserve in New York, in a shockingly ambitious heist. More worrying than its scale was the fact that the raiders hijacked bank personnel's access to SWIFT, a highly secure (or so it was thought) messaging system that connects 11,000 financial institutions and sends around 25m messages a day, helping to settle billions of dollars-worth of transactions. They then sent 35 false payment orders from Bangladesh Bank, via SWIFT, to the central bank's account at the Fed.

Experts think it likely that several more such efforts remain to be discovered. A similar, smaller, one has come to light in which hackers tried to take \$1m from a bank in Vietnam, in December. Banks are now looking at limiting the number of people who can access SWIFT, and SWIFT itself has raised the possibility of suspending banks with weak security controls.

These heists give a glimpse of what could lie ahead. Armageddon for banks could take the form of an attack prepared over several months and then carried out over a day or two of mayhem. In this scenario, the motive would be to cause maximum instability, something that worries regulators more than simple theft.

Rather than hacking into an individual bank, the assailants might aim straight at the heart of global finance by choosing as their target parts of its essential "financial-market infrastructure" (FMI), such as clearing houses or payments systems. FMIs are like the plumbing in a city: they facilitate the smooth flow of money. Because plenty can go wrong between the promise of a ▶▶



► payment (eg, writing a cheque or making a digital purchase) and its actual settlement (the money arriving into the bank account of the seller), clearing houses sit in the middle of transactions to process them and insulate both sides against credit risk.

If a major FMI is breached, it can turn from a source of market stability into a source of contagion. Target2, Europe's interbank settlement system, which handles large transactions, had total flows of €470 trillion (\$520 trillion), through 88m payments, in 2015. In America the Automated Clearing House saw more than 24 billion transactions with a total value of over \$41.6 trillion flow through its system in 2015, for everything from consumer payments to payrolls. An attack on such systems could quickly have systemic consequences if it leads to wayward flows of money. Central banks would soon become involved: without a speedy intervention, banks could become insolvent.

### Faking and entering

So how might such an attack unfold? Step one, several months before mayhem is unleashed, is to get into the system. Financial institutions have endless virtual doors that could be used to trespass, but one of the easiest to force is still the front door. By getting someone who works at an FMI or a partner company to click on a corrupt link through a "phishing" attack (an attempt to get hold of sensitive information by masquerading as someone trustworthy), or stealing their credentials when they use public Wi-Fi, hackers can impersonate them and install malware to watch over employees' shoulders and see how the in-

stitution's system functions. This happened in the Carbanak case: hackers installed a "RAT" (remote-access tool) to make videos of employees' computers.

Step two is to study the system and set up booby traps. Once in, the gang quietly observes the quirks and defences of the system in order to plan the perfect attack from within; hackers have been known to

## Banks could not settle their books when markets close

sit like this for years. Provided they are not detected, they pick their places to plant spyware or malware that can be activated at the click of a button.

Step three is the launch. One day, preferably when there is already distracting market turmoil, they unleash a series of attacks on, say, multiple clearing houses.

The attackers might start with small changes, tweaking numbers in transactions as they are processed (Bank A gets credited \$1,000, for example, but on the other side of the transaction Bank B is debited \$0, or \$900 or \$100,000). As lots of erroneous payments travel the globe, and as it becomes clear that these are not just "glitches", eventually the entire system would be deemed unreliable. Unsure how much money they have, banks could not settle their books when markets close. Settlement is a legally defined, binding moment. Regulators and central banks would become agitated if they could not see how solvent the nation's banks were at the end of the financial day.

At the latest, therefore, the affected banks should become aware of the attack at the end of the trading day when their books don't add up. And FMIs themselves should notice it too as part of their normal monitoring. The more sophisticated banks would probably spot it sooner, because they are increasingly moving to real-time monitoring. But even when institutions do realise what is going on, it could take longer before the scale and sophistication of the offensive becomes clear to all involved, because banks remain reluctant to speak up when they are breached.

The effects could spread quickly. If a bank can no longer trust the numbers on its balance-sheet, it will be reluctant to pay out other commitments such as payrolls and loans. Without a reliable payments system, shops and businesses would not be able to operate normally, supply chains would struggle and normal trading would stutter. Within days if not hours, even unaffected account-holders would probably want to fetch their money from banks as news spread that "the system" had been

compromised and people started to wonder whether their bank might be next.

The main concern at this stage would be of banks going bust. Normally if a bank has a run on its deposits, central banks will provide emergency liquidity. But if this happens to many banks concurrently, and nobody understands why, would central banks be able to save the situation?

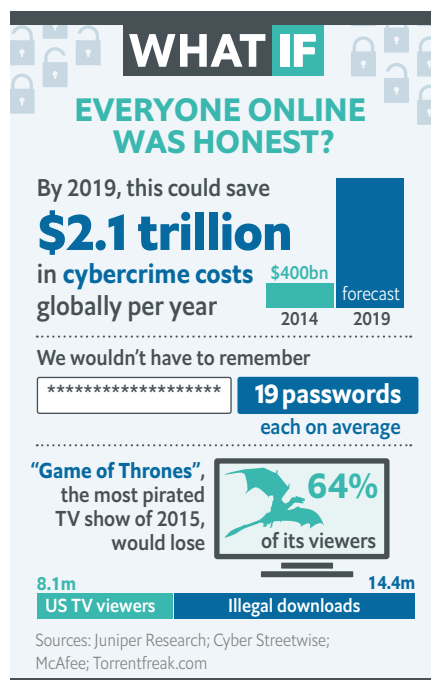
When computer systems go down, the typical response is to switch to the backup systems. Unfortunately these would have been corrupted as well, as they are a copy of the manipulated numbers. This would leave banks and FMIs with no other option but to shut everything down and eventually call a bank holiday.

At the same time as figuring out what had happened, a priority would be to get the system up and running again. This requires public confidence that the attacks have been stopped, or at least confined. Unlike a natural catastrophe or a physical war, it is often unclear when a cyber-attack has started. The extent of damage can take a long time to become clear and finding the perpetrator can be tricky. Worse, as opposed to the hit-and-run bank robbers of old, today's sophisticated hackers can linger in a system for ages: even now it is unclear whether the Carbanak attack has ended (Kaspersky Lab, a cyber-security firm, says with "complete confidence" that the gang is still active).

Broadly, there are three types of cyber-attacker: nation-states, criminals and hacktivists. The limited number of actors thought to have the capabilities to pull off something like this are tied to nation-states; and if the perpetrator did turn out to be a rogue state, NATO might even get involved. For now, thankfully, nation states have no interest in taking down the global financial system. But that is no cause for complacency.

### Bouncing back from disaster

Financial institutions are beefing up their cyber-capabilities, for example by hiring "white hats" (good hackers) to expose vulnerabilities, improve "threat intelligence" and develop plans for prevention and response. FMIs take cyber-security very seriously. Their sector-wide target is to get the system back up within two hours of a shutdown, though many acknowledge this is more of an aspiration than a reality. The CPMI, a branch of the Bank of International Settlements, and IOSCO, the international body of securities regulators, have taken the lead in co-ordinating efforts to increase cyber-resilience in systemic FMIs, as well as in designing response-and-recovery plans in case an attack is successful. They plan to issue new guidance soon. ►►



▶ The industry is at last starting to accept that not all attacks can be prevented. Response-and-recovery plans should now become a greater priority, says Coen Voormeulen from the Dutch central bank, co-chair of the CPMI-IOSCO group that has drafted the guidance, not least because “if you reduce the impact, attacks will stop being worth the trouble.” Today the two-hour recovery target would be a challenge for certain extreme but plausible attacks. Much to the frustration of organisations such as SWIFT, banks have been slow to share information about hacks, which means that other banks are not warned as fast as they could be to expect one.

Unfortunately, cyber-attacks seem to be

developing faster than defences against them. “We’re not keeping up, we’re losing,” says one insurer, who thinks most people remain blind to the real-world damage such assaults could do. So long as something as simple as clicking on an advert could ultimately give an attacker the keys to the kingdom, the financial system remains vulnerable. Just as a country with a threat of flooding would build dykes, and one with violent neighbours should guard its border, every country and institution at risk would be wise to double down on their cyber-defences as well as their plans for when—not if—they are breached. And since cyber-threats constantly change, so should the defence plans. ■

500 list of the world’s biggest companies are from greater China, and most of these goliaths are in the state sector.

Few Communist Party officials are keen to sell off what they see as crown jewels. Many would resist reforms that would loosen their grip on the economy. However, given the recent financial panics and policy bungling that have set the world on edge about China’s economic health, it is becoming possible to imagine a scenario in which the Chinese leadership feels compelled to embrace privatisation. Several forces could help to bring this about.

For one thing, it costs a fortune to keep China’s lumbering SOEs supplied with subsidies and cheap capital. By one reckoning, the government spent over \$300 billion, in nominal terms, between 1985 and 2005 subsidising the biggest state firms. These firms are also debt bombs waiting to explode (see chart 1 on next page). The IMF calculates that the average debt-to-equity ratio at SOEs rose from 1.3 in 2005 to about 1.6 in 2014, whereas the level at private firms in 2014 was below 0.8. Returns on assets at SOEs lag far behind those at private firms, and are dropping (see chart 2). A stalling economy or another financial shock could well force the country’s leaders to reconsider their ambivalence about privatisation.

If that happened, how should they go about it? For a start, China should avoid some mistakes. The temptation to move swiftly, as a way of overcoming resistance to reform, carries big risks. In Russia the fire sale of state assets after the collapse of the Soviet Union led to a massive transfer of official wealth to well-connected oligarchs, particularly in the raw-materials industries. Given China’s cosy nexus of party and state, there is a great danger that a drive to sell off state assets quickly would merely transfer them to China’s version of oligarchs, the “princelings”, as the influential descendants of early Communist leaders are known. Scott Kennedy of America’s Centre for Strategic and International Studies, a think-tank, insists that “the outcome would be one that Schumpeter would not be proud of...with princelings and others with *guanxi* [political connections] creating enclaves they would dominate.”

There are also lessons from Communist China’s own previous dalliances with the private sector. China’s economic reforms began after 1978 in the countryside, where most people lived in desperate poverty at the time. Officials decided to allow rural entrepreneurs to start businesses; land was decollectivised and contracted out to farmers; and market prices began to erode the fixed-price system. Many ailing “township and village enterprises” (including Wanxiang, now the world’s biggest independent manufacturer of car parts) were al- ▶▶



## IF CHINA EMBARKED ON MASS PRIVATISATION

# The greatest sale on Earth

SHANGHAI

How China sells its state-owned enterprises matters as much as whether it does

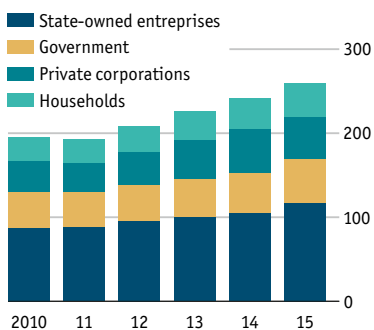
“CHINA must privatise,” insists Chen Zhiwu of Yale University, who serves on the board of PetroChina, the publicly traded arm of the China National Petroleum Corporation, one of the country’s biggest state firms. He cautions that, as long as state-owned enterprises (SOEs) are dominant in an industry, the rule of law suffers as state assets are used to provide benefits to company bosses and political elites. Within the Communist Party hierarchy some state firms’ chairmen have outranked the heads of the regulatory agencies charged with supervising them. The State-owned Assets Supervision and Administration Commission (SA-

SAC), the body responsible for managing big state firms, even engages in an obscene game of round robin whereby it occasionally rotates the bosses of SOEs within an industry—airlines, energy and banks are recent examples—even though these firms are supposed to be commercial rivals. This makes a mockery of competition, as does the fact that China’s state firms are rarely targeted by antitrust authorities.

Forty years after the death of Mao Zedong, who crushed the private sector, China today still has some 150,000 SOEs. Many of its best-known companies, from China Mobile to CITIC, are “red chip” firms. Nearly a fifth of the *Fortune* Global

## Ever more mountainous

China's debt as % of GDP



Sources: National statistics;  
Bank for International Settlements

lowed to be run as private firms. This rural “privatisation” drive did at least as much to reduce poverty and to spur economic growth and employment as did China’s subsequent opening to global trade and foreign investment. Alas, in the 1990s the party rolled back almost all of those rural reforms and related financial liberalisation, and opted instead for stronger control over the economy.

Before long, hard times again forced

## The effort has to be bold, transparent and long-term

Communist leaders to look to the private sector for salvation. In the late 1990s a wave of privatisation and restructuring saw thousands of smallish state firms disappear and tens of millions of workers lose their jobs. This may seem like an embrace of market discipline, but Yasheng Huang of Massachusetts Institute of Technology argues that it was flawed in two ways.

First, it was stealthy. Asset sales often took place without proper legal and institutional frameworks. As a result, property rights were insecure and assets subject to subsequent state seizure as well as appropriation by insiders. Second, leaders remained wary of market forces, using peripheral privatisations as part of a strategy to retain political control. China’s leadership revealed that the objective of reform was to “grasp the large, release the small”: the chief aim was not to increase the efficiency of the state sector or to boost consumer welfare through competition. Rather, it was to create bigger, more dominant national champions that would remain tightly controlled by the party.

The proof is in the pudding. SASAC saw its asset base (of the biggest state firms) increase from 7.1 trillion yuan in 2003 to 21

trillion yuan in 2009. Count all 150,000-odd SOEs today and that figure rises to over 100 trillion yuan in state assets.

So, to be serious, the effort should be bold, transparent and long-term. For example, a thoughtful plan to wind down holdings in several big industries currently dominated by the state—energy, telecoms and transport, say—in stages over the next decade could give enough time for markets to absorb the inevitable wave of sell-offs, acquisitions and bankruptcies. Successful experience with privatisation in these industries around the world belies the Communist Party’s claim that they are too strategic to be left in private hands.

Insiders will still try to game the system, but this can be made more difficult (as it was in the more sophisticated parts of post-communist eastern Europe) by holding competitive auctions that are open to all, including foreign investors. The government itself has proposed reforms to its foreign-investment laws that would, at long last, put foreign investors and domestic rivals on an equal legal footing. Another measure that would spread the wealth beyond the princelings would be the allocation of shares from any privatisations to government pension schemes. This would ensure a broad ownership of assets and may help win over a sceptical public worried about dodgy dealings.

To ensure that competition flourished, privatisation would need to go hand in hand with an equally ambitious agenda of legal and institutional reform. In a paper for the Paulson Institute, a think-tank, Curtis Milhaupt of Columbia University and Zheng Wentong of the University of Florida argue that China must “transform the role of the state from an active market participant to the designer and arbiter of neutral, transparent rules for market activity.” They are rightly sceptical of the government’s timid plans for “mixed ownership reforms”, which involve selling off bits and pieces of a few SOEs to private investors without yielding management control.

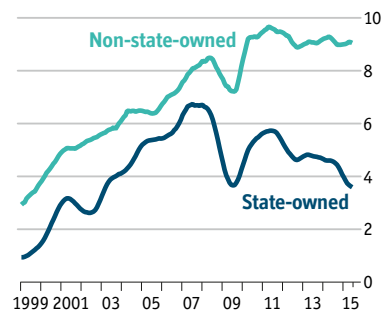
### Beware of mega-zombies

They are even more scathing in their critique of the government’s plans to consolidate the 100 or so biggest SOEs, many of which are lumbering zombies, into just 40 or so mega-zombies: “These massive consolidations will accentuate the role of the state in key sectors and will generate even more rent-seeking activities... [and] additional deadweight loss that would be generated by the creation of monopolies.”

Few know China’s rocky history of market reforms as well as Fred Hu does. He runs Primavera, a prominent investment fund in Hong Kong (which was involved in

## Spot the difference

Return on assets of Chinese industrial enterprises\*, by ownership type, %



Sources: CEIC;  
Gavekal Dragonomics

\*7-month centred moving average

the bold but, in the end, unsuccessful bid by China’s Anbang Insurance Group for America’s Starwood Hotels & Resorts Worldwide). Previously, he held big China-focused jobs at the IMF and Goldman Sachs. From painful experience, he declares that half-measures like “independent” boards do not work.

He wants President Xi Jinping to embrace a privatisation plan that “sells off all SOEs to the world” over his remaining seven years in office. Sequence the sales carefully, pull in strategic investors and put some shares into the state pension fund, and this veteran China dealmaker thinks this can be done entirely on domestic capital markets. If it really happens, and is accompanied by reform of the rule of law, it would prove transformative to China’s economy. As Mr Hu puts it, “it would be the greatest sale on Earth.” ■

## WHAT IF

### ASIAN ECONOMIES HAD MORE WOMEN IN WORK?

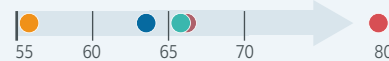
If **South Korea, Hong Kong, Singapore** and **Japan** boosted their share of women in work to **Sweden's** level

their annual GDP could increase by over **10%**



or around **\$670 billion**

Female labour-force participation rate\*, 2015, %



Sources: ILO; IMF; *The Economist*

\*15- to 64-year-olds



## IF ECONOMISTS REFORMED THEMSELVES

# A less dismal science

Reforming economists' tools, temperament and training could help to mitigate, if not to prevent, the next crisis

**B**ASHING economists is scarcely out of fashion. They are accused of being blinkered by mathematical models, of overestimating their predictive powers and churning out narrow-minded graduates. Some folk see them, rather than bankers, as the real villains behind the global financial crisis, asking, as Queen Elizabeth is said to have done at the London School of Economics, why no one had seen the credit crunch coming.

John Maynard Keynes once said that “if economists could manage to get themselves thought of as humble, competent people on a level with dentists, that would be splendid.” How could they achieve that? Through a strong dose of what they (and this newspaper) often prescribe for others: structural reforms.

To start with, that means tackling what Paul Romer, an economist at the Stern School of Business in New York, calls the profession's “mathiness”. The mountain of algebra in economic research is supposedly meant for clarification and rigour, but is too often deployed for obfuscation. Used responsibly, maths lends useful structure to economists' thinking, and weeds out sloppiness. But there needs to be a purge of maths-for-maths'-sake.

Related to mathiness is model-mania. Economists are good at reducing a complicated world to a few assumptions, then adding bells and whistles to make their models more realistic. But problems arise when they mistake the map for the territory. In 2008, on the eve of the financial crisis, Olivier Blanchard, then chief economist of the IMF, published a paper celebrating the convergence of thought within macroeconomics. Unfortunately, some key assumptions behind that consensus turned out to be wrong. It is now clear that different models of asset bubbles and banking crises would have better prepared policymakers for the Armageddon that ensued.

So economists should treat consensus with suspicion, and remain open to the idea that there might be more than one explanation of what they can see. Financial stability could represent policy success, for example, or it could mean that regulators are becoming complacent and hidden pressures are building. In future, big data and new “machine-learning” techniques

could help test the relative power of competing theories. With a better sense of what is influencing behaviour in the economy, economists might become less blinkered by their own theory, and better able to foresee the next crisis. Meanwhile, they would be wise to repeat (daily) the words: “My model is a model, not *the* model.”

New technology points to another desirable reform: the need for better numbers to work with. The main gauge used to measure the size and progress of the economy, GDP, was designed for a different era, and looks increasingly flawed for a modern world of services, apps and bots. Economists have work to do to improve these basic tools of their trade.

Their tendency to look down on other social sciences is ripe for change, too (one study showed that articles in the *American Economic Review* cite the top 25 political-science journals one-fifth as often as articles in the *American Political Science Review* cite the top 25 economics journals). Some of their most influential research—in behavioural economics, for example, which fuses psychology and economics—

has come about when they are willing to mix with others. Economists should get out more and mingle with historians and sociologists.

All this needs to start with the way economists are trained—a final area for reform. Today, graduate economists undergo “maths camp” before being bombarded with lectures. Too little focus is on getting real-world experience: visiting job centres, meeting entrepreneurs, spending time at a central bank or the national statistical agencies. Such work experience would increase the chances of theory being tied to practice. Exams would test critical reflection (for example, awareness of where the results a student is “proving” might not hold true) as much as algebraic prowess.

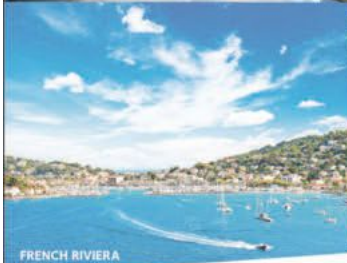
## Hedgehogs v foxes

Economists face two competing criticisms. Either they are lambasted for their arrogance or accused of being unwilling to draw firm conclusions (in exasperation at the hedging of his economic adviser, President Harry Truman requested a one-handed economist). Dani Rodrik of Harvard University, drawing on an idea from Isaiah Berlin, splits economists into two camps: hedgehogs and foxes. Hedgehogs take a single idea and apply it to every problem they come across. Foxes have no grand vision but lots of seemingly contradictory views, as they tailor their conclusions to the situation. More foxlike behaviour will not by itself prevent the next crisis; politicians anyway will still be making the decisions. But it could help policymakers be better prepared. ■





\*\*PENTHOUSE



FRENCH RIVIERA



\*\*PENTHOUSE ROOFTOP TERRACE

PARC DU  
CAP

## RIVIERA LIVING AT ITS BEST

Exclusive Residential & Spa Development Parc Du Cap, Cap d'Antibes, French Riviera  
Luxury apartments from €599,950\* Seaview penthouses from €4,500,000\*

\*Subject to Availability



Marketing Suite & Show Apartments  
33 Avenue George Gallice  
06160 Cap d'Antibes

Savills Riviera Office +33 (0) 4 97 06 06 91  
London Office +44 (0) 20 7877 4702



[WWW.PARCDUCAP.COM](http://WWW.PARCDUCAP.COM)

\*\*COMPUTER GENERATED IMAGES OF THE APARTMENTS ARE FOR INDICATIVE PURPOSES ONLY

# THE GALLIARD INVESTOR 6 DEVELOPMENT SUMMER SALE 2016 BRAND NEW FULLY FURNISHED APARTMENTS

WITH 1 YEAR'S LETTING & MANAGEMENT FEE PAID & PRICES FROM

# £139,995

**OVER 5%  
RENTAL  
RETURNS\*  
AGAINST 0%  
PREDICTED IN  
THE BANK!**

CENTRAL LONDON	ATRIA APARTMENTS	CARLTON HOUSE	PINNACLE HOUSE	ESSEX HOUSE	CRANESHAW HOUSE	CENTRAL HOUSE
	RELEASING FROM <b>£169,995</b>	RELEASING FROM <b>£139,995</b>	RELEASING FROM <b>£210,000</b>	RELEASING FROM <b>£225,000</b>	RELEASING FROM <b>£240,000</b>	RELEASING FROM <b>£275,000</b>
	<b>SLOUGH</b>	<b>LUTON</b>	<b>KINGS LANGLEY</b>	<b>BRENTWOOD</b>	<b>HOUNSLOW</b>	<b>HOUNSLOW</b>
	PADDINGTON <b>17 MINS</b>	ST PANCRAS <b>20 MINS</b>	EUSTON <b>23 MINS</b>	LIVERPOOL ST <b>23 MINS</b>	HYDE PARK CORNER <b>33 MINS</b>	HYDE PARK CORNER <b>33 MINS</b>



REGISTER NOW FOR GUARANTEED ADMITTANCE TO THIS UNIQUE EVENT



# 020 3770 6288

[galliardhomes.com/summer](http://galliardhomes.com/summer)



\* On selected plots and developments. Prices correct at time of going to press. Journey times are approximate, source google.com & TfL.gov.uk. Terms & conditions apply to all incentives.

**DOORS OPEN  
4.00PM THURS 21ST JULY**  
THE MAY FAIR HOTEL • CRYSTAL ROOM  
BERKELEY STREET FOYER • LONDON W1J 8LT

# The world is crazy. But at least it's getting regular analysis.

Get a grip on global events, with insight from *The Economist*

## SUBSCRIBERS ENJOY:



Full access to Economist.com including full blog content updated throughout the week and our online archive



The full weekly edition in print, on Economist.com or via our apps for a range of mobile devices



*The Economist* in audio, each week's issue read by professional broadcasters



The Economist Espresso, our morning briefing direct to your smartphone or inbox

Yet to subscribe? Try 12 weeks with our introductory offers and enjoy access to *The Economist* across print, online, audio and via our apps. Visit [economist.com/theworldiscrazy](http://economist.com/theworldiscrazy)

**The  
Economist**





IF THE OCEAN WAS TRANSPARENT

## The see-through sea

The ability to peer unhindered into the deep would reveal a host of wonders—and have huge practical consequences

**T**HE surface of Mars is better mapped than that of the Earth. Every dry, dusty square metre of it has been peered at by cameras and illuminated by altimeters. The lion's share of the Earth's surface has never been shown any such attention. This is not because Mars is more interesting. It is because it suffers from an insufficiency of ocean. In most respects, this is to its detriment; seas are fascinating things that make planets far more habitable. They also allow paddling, whalesong and other delights. But they do rather cover things up.

Water absorbs light. Despite this, seeing through a few metres of it is not too hard, sediment permitting. And some wavelengths can penetrate a lot more. A ray that is just the right shade of blue will still be half as bright after passing through 100 metres as it was when it started. If you were to sink into the ocean looking up, that shade of blue would be the last thing you would see. But even it would eventually fade to black. Almost the whole ocean floor is dark to those that inhabit it, and invisible to all.

What if it were not—if light could pass through the ocean as easily as it does through the atmosphere? What if, when you looked down from a trans-Atlantic flight, the contents of the ocean, and its floor, were as clearly visible as if seen through air: what would you see?

The most persistent feature would be a thin green mist extending a few tens of me-

tres down from the surface. It would be too sparse to be seen over much of the planet; but in some patches, and close to some shores, it would be a visible layer of light and life. This is the world's stock of phytoplankton, tiny photosynthetic algae and bacteria. Its total mass is far less than that of the plants that provide photosynthesis on land, but every year it takes 50 billion tonnes of carbon out of the atmosphere, turning it into organic matter for the ocean's inhabitants to eat. Scant though the planktonic biomass is, it does roughly as much biogeochemical work as all the continents' forests, savannahs and farms.

### Water, water, everywhere

From the smallest of the surface features to the largest, you would also see more than 11,000 ships hanging as if suspended in empty space, according to estimates of the size of the world's merchant fleet from IHS. They are the workplaces, and sometimes homes, of at least 1.5m seafarers, and more than 500 liners provide temporary accommodation to hundreds of thousands of passengers, too. This disassembled city of steel carries some 90% of all international trade by weight. Its wandering buildings can carry, between them, over 1 billion tonnes of cargo: a mass equivalent to one cubic kilometre of water, a little less than a billionth of the total volume of the ocean.

That brings home the most striking fea-

ture of the see-through ocean: its emptiness. People tend to focus on the bits of the ocean that are full of life (such as reefs) or of trade (such as shipping lanes). But these are only a tiny fraction of everything there is. And in much of that everything, there is close to nothing. Spread those ships out evenly and each one of them would have 3,000 square kilometres of ocean to herself—the size of the state of Rhode Island.

Ships are not the only man-made artefacts that float across the seas. There is an alarming amount of rubbish—in some places it outweighs the phytoplankton. As ecologically delinquent as this is, in terms of its bulk the problem would still be easy to overlook in a transparent sea. The “great Pacific garbage patch” consists of millions of tonnes of rubbish floating in the slowly circulating North Pacific Gyre. But the size of the gyre is such that the rubbish adds up to just five kilograms per square kilometre.

Indeed, rather than filling the ocean, humankind has been working hard at emptying it. Tuna stocks are thought to be half of what they were before modern commercial fisheries. Estimates of Atlantic whale populations based on DNA suggest they used to be between six and 20 times greater than they are today.

The opacity of the ocean makes a straightforward numerical census of what remains impossible. But Simon Jennings of CEFAS, a research centre in Lowestoft, in England, and Kate Collingridge have made a brave stab at estimating how many fish there are in the sea by applying ecological modelling. Their result is strikingly small: 5 billion tonnes of fish weighing between a gram and a tonne. If piled together, those fish would not even fill Loch Ness, which though an impressive body of water is nugatory compared with the whole ocean. Even if Dr Jennings is off by a factor of ten, the volume of fish would still be less than that of Lake Geneva. Broadly, the world boasts less than a minnow for every Olympic swimming pool of its seawater.

Yet life in the ocean can still mount sublime spectacles. Nicholas Makris of MIT and his colleagues have observed fish in the Gulf of Maine using a sonar system that comes as close as almost any technology to making this article's premise real, and rendering the ocean transparent. Employing longer wavelengths of sound than most sonars, and taking advantage of lightning-fast processing power, it is possible to create time-lapse movies of sea life over tens of thousands of square kilometres.

Dr Makris's team have been able to quantify the processes by which herring can gather themselves into shoals many kilometres long and comprised of hundreds of millions of fish, watching their depth and behaviour change with the time of day. In the Gulf of Maine they were able to ▶▶

▶ distinguish the calls and songs of various species of whale attracted by the herring shoals, to track them as they communicated with each other and to distinguish their different herring-snaffling strategies.

### And a thousand thousand slimy things

Other acoustic research has revealed a fundamental feature of ocean life invisible from the surface—a layer of small fish and other creatures that spend their days at depths of a few hundred metres before rising to the surface at night. In the early days of sonar this was regularly confused with the sea floor, because of the way the fish's bladders resonated with the sonar's sound waves. The daily rise and fall of this “deep scattering layer” would, in a transparent ocean, be revealed as one of the largest

## Altimetry has discovered at least 10,000 seamounts

mass movements of the animal kingdom.

Acoustic techniques produce pictures of the ocean's floor, as well as its contents. For most of the 20th century, though, the relevant measurements were sparse. Thus the pioneering maps put together by Marie Tharp and Bruce Heezen of Columbia University in the 1950s and 1960s—which first identified the structure of the mid-Atlantic ridge, and of the faulted “fracture zones” perpendicular to it—often relied on depth data from just a few ships making single crossings of the ocean to get a sense of vast swathes of the terrain below. The maps were works of extrapolation, interpolation and inspiration, not mere measurement.

Nevertheless, they had a huge impact. They let geologists visualise the processes at work in the nascent theory of plate tectonics; those mid-ocean ridges and fracture-zone faults turned out to be the boundaries of the “plates” into which plate tectonics cut the surface of the Earth. They were mind-expandingly right in their synoptic vision, if frequently inexact and sometimes mistaken in their specifics.

The side-scanning and “multibeam” sonar introduced for civilian use in the 1980s allowed a ship to map not just a thin strip of sea floor directly beneath it but a rich swathe to either side, and to provide detail on its texture, not just its depth. At first this acuity was used mostly for sites scientists wanted to focus on, or artefacts of particular interest. UNESCO estimates that there are 3m wrecks on the sea and ocean floors: 30 for every ship that now sails the surface. Sophisticated sonar has found some of the spectacular ones, such as *Bismarck*, and others whose cargoes are of commercial interest for salvage. It has also helped in the

laying of ever more cable ever more precisely across the abyss; according to Tele-Geography, there are now a million kilometres of submarine cable. Every second they can carry 31 terabits across the Pacific, 55 across the Atlantic.

Because GPS satellites allow ships to know exactly where they are, and thus exactly which bit of the sea floor they sit above, new sonar technology has also revolutionised mapping. The 2014 edition of the General Bathymetric Chart of the Oceans (GEBCO), an enterprise begun by Albert I of Monaco in 1903, includes sonar depth data from thousands of voyages, covering more than 60m square kilometres of the ocean floor. But even that represents only 18% of the ocean floor. The rest is mapped indirectly, by satellites.

Whereas light is absorbed by water, some forms of electromagnetic radiation bounce right off it. Satellites can thus use radio waves to get a very accurate picture of the height of the ocean's surface. This varies from place to place, reflecting the unevenness in the solid Earth's gravitational field that comes from the planet not being a perfect sphere. The sea level is, for example, slightly higher above a seamount—an ocean-floor protuberance that does not make it to the surface—because the water feels the gravitational attraction of its mass. This difference is only a couple of centimetres; but satellites can measure it.

Altimetry has discovered at least 10,000 such seamounts. Statistics suggest that hundreds of thousands of smaller ones remain to be found. Added together that's an ecologically interesting habitat about the size of Europe that was previous-

ly almost completely uncharted.

Since the 1990s radar-altimetry has allowed oceanographers to fill in the 80% or so of the ocean floor that sonar bathymetry does not cover. The latest GEBCO map still required some interpolation. But in both resolution and consistency such hybrid maps are far better than what went before. In some ways looking at these maps comes as close as one can get to seeing right through the ocean.

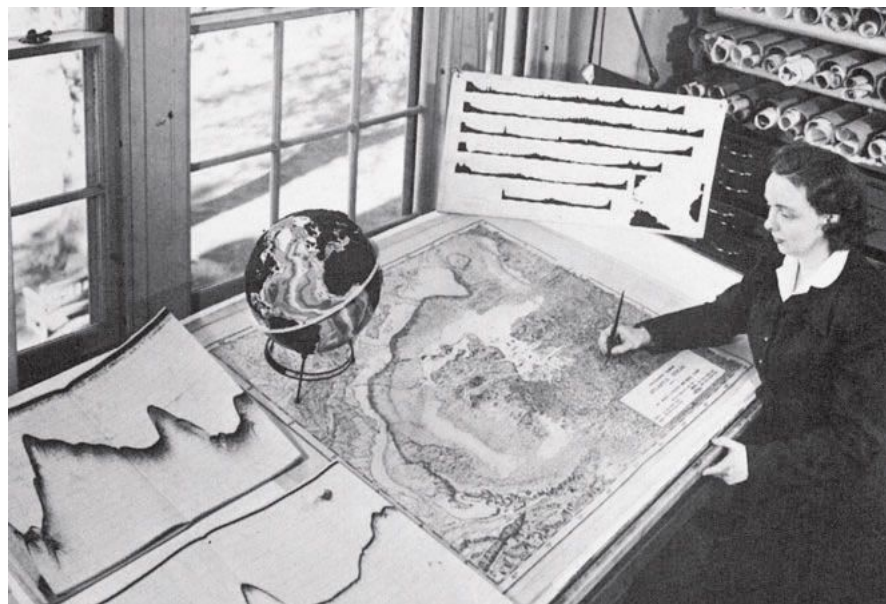
### The charmed water burnt away

There is a subtle distortion, though. Maps of the ocean floor are typically rendered in a “shaded relief” style (and computers now add a spectrum of “false colour”, with red for high and blue for low). For this to make sense to the untutored eye, the relief in question has to be exaggerated, typically by a factor of ten or 20.

So people have become used to seeing the ocean-floor world as interestingly craggy. It really isn't. In maps the drops that separate continental shelves from the abyssal plains far below them fall away like the edge of a flat Earth; in fact they have typical gradients of about 7%. Were it not for the water, few features in the ocean would present an off-road car with much difficulty.

Marie Tharp drew her maps in this way in part to emphasise the new features she, Heezen and their colleagues had discovered. But it was also because the obvious alternative was no longer legal. Earlier 20th-century maps of the ocean floor had, like maps of the land, used contours. In the 1950s the precise depths necessary for making contour maps were classified by the American government. The deep seas were becoming a cold-war battlefield.

Being unseen had given submarines a ▶▶



Tharp invents augmented reality



► tactical advantage since they entered widespread use in the first world war. In 1960 the obscurity of the depths took on a strategic importance, too. The nuclear-powered *George Washington*, launched that year, carried 16 Polaris missiles with nuclear warheads. That her location when submerged could not be known meant there was no way for all of America's nuclear weapons to be destroyed in a pre-emptive attack. The appeal of this "assured second strike" capability saw missile submarines adopted by Russia, Britain, France, China, Israel and India. These days about a dozen nuclear-missile-carrying submarines (known as SSBNs) patrol the ocean at any given time. If water were perfectly transparent you would see them, plump tubes of menace hanging in the void. And if you could see them, you could target them.

There is a certain irony, then, that the technologies which have done most to make the ocean transparent have come from the armed forces. The American navy developed multibeam sonar to understand the submarine battlefield. The gravitational-field mapping that lies behind satellite altimetry was needed so that submarines and their missiles would better know where they were and what they would hit. The cold war produced the experts as well as the technology: Dr Makris listened for submarines at the Office for Naval Research before he listened for herding off Maine. If you were interested in ocean remote sensing, he says, you more or less had to: "They had all the great toys."

The end of the cold war saw a big drop in undersea sensing as a military priority, but its strategic importance is hardly diminished. Britain, for example, is deciding whether to renew its SSBN fleet. It matters whether the submarines will, in the 2050s, be as impossible to trace as they are today.

### Under the keel nine fathom deep

What new technological approaches might be able to make the ocean transparent to submarine-hunters? Two are widely discussed: drones and big data. Uncrewed surface vessels and submersibles might be able to field far more instruments more cheaply than navies have in the past. And new data-processing capabilities might be able to make sense of signals that would previously have been swamped by noise.

Thousands of remote-sensing platforms are already scattered around the ocean. The Argo array currently consists of 3,918 floats which submerge themselves to about 2,000 metres and then return to the surface, measuring temperature and salinity as they rise and fall and sending their data back by satellite. By gauging the amount of heat stored in the ocean they are crucial to studies of climate change. These floats go where the currents take

them, but that is not mandatory. The wings of "seaglid-ers", which also rise and fall by changing their buoyancy, allow them to traverse large distances as they sink. They can operate autonomously for months at a time and traverse whole ocean basins.

There do not yet appear to be any seaglid-ers designed for detecting or tracking submarines—but in April DARPA, the Pentagon's developer of futuristic technology, commissioned *Sea Hunter*, a small non-

## The ocean will surely become more see-through

submersible trimaran that needs no crew, but carries sensors. It is intended to prove that once an enemy submarine is located it can be trailed indefinitely.

*Sea Hunter* is designed to track conventional diesel-electric submarines, not SSBNs. The American navy got a shock in 2006 when a previously unnoticed Chinese diesel-electric boat surfaced less than 10km from one of its aircraft-carriers, *Kitty Hawk*, in the Philippine Sea. If it wants to keep its carriers safe it needs to be able to keep better tabs on such craft. But what can be used for one sort of submarine today might be adapted to track another tomorrow. It is likely that drones above, on or below the surface will come to play a much bigger role in anti-submarine warfare; the underwater ones, though, will still have to deal with the sea's opacity. A swarm of airborne drones can co-ordinate itself by radio, but things are harder underwater.

New data-processing approaches could also make submarines easier to see. America's Ohio-class submarines displace 18,750 tonnes when submerged. Moving such a big object, even slowly, will leave a wake of sorts on the surface. Computers are getting better and better at picking small signals out of noisy data. And being metal, submarines have an effect on the Earth's magnetic field, another potential giveaway. Flying drones equipped with new sorts of magnetometer could make submarine-hunting easier.

Turning these possibilities into operational systems could make vital parts of the ocean—for example, some of the seas off Asia—transparent. Scaling them up to cover whole ocean basins, though, would be a huge endeavour. Remember the first insight of the transparent ocean: very big, very empty. That array of 3,918 Argo floats works out as one per 340,000 cubic kilometres of water. And SSBNs are sneaky.

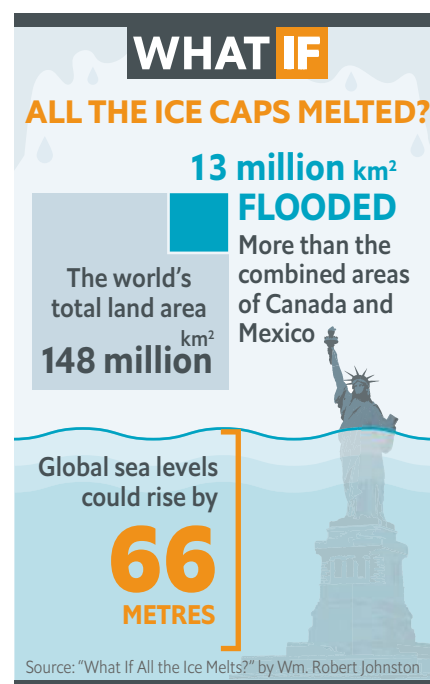
If the SSBNs can still find somewhere to lurk, for now, the ocean will surely become more see-through, especially at the edges. Dr Makris would like to make sonar sys-

tems like that which he and his colleagues have pioneered available for fisheries management. As Dr Jennings points out, the seas are already transparent for a lot of fishing fleets, thanks to short-range fish-finding sonar and spotter planes. Letting managers see what is going on might be a boon for conservation in some fisheries.

Charting of the deep seas will continue, too. The task is daunting: Larry Mayer of the University of New Hampshire says multibeam-sonar mapping of all the remaining deep ocean would take 200 years of a research ship's time. But bit by bit it will be done. In June a GEBCO forum in Monaco discussed the way forward.

Being able to see is only the start; then you have to learn to look, to distinguish, to understand. What ecological patterns could be discerned from those as yet unmapped seamounts? What secrets lie in the ecosystems of the deep sea? What archaeological surprises may lurk in those millions of wrecks—or in the abandoned homes of those who, in the last ice age, lived in plains that today are sea floors? Where is the heat the Argo floats are tracing ending up—and how likely is it to come back out? What sorts of clever management could restore some of the riches that have been fished away?

There is a fear that making things visible will strip them of their mystery. Maybe so. But it need not strip away curiosity or wonder. As mappers of both Mars and the ocean bear witness, there is no void, abyssal or interplanetary, that those feelings cannot fill, if given a chance. ■





## IF COMPUTERS WROTE LAWS

# Decisions handed down by data

NEW HAVEN, CONNECTICUT, CIRCA 2030

**Might future law-school graduates look to machines rather than the judges, rules and standards that have underpinned the legal system?**

**S**ONIA picked up her hoverboard, put it under her arm and trudged up three flights of stairs illuminated by stained glass to a vast room with old portraits of judges and shelves of dusty books. New students wondered why all this paper existed. All treaties, regulations and court decisions had long since been digitised. The answer for the continued accumulation of paper, students learned, was that the American Bar Association required it. It was by itself a lesson in law, Sonia concluded. Regulation never kept up with reality.

The move to electronic forms of information was briefly believed to be a momentous change in the law. In retrospect it was little more significant than going from a pencil to a pen: different means, same end. The struggle for every student now was to understand how technology was turning the foundations of law upside down. Specific rules and broad standards, the two approaches through which law was applied for thousands of years, were becoming obsolete, along with the judges who weighed in with the last word.

Change was everywhere. On Sonia's scooter to school, streets had been empty so traffic lights were off. Who needed them? Preset rules shifting red to green had been replaced by "micro-directives", really a standard, tied to safety and efficiency. As traffic picked up, lights came on, programmed to optimise the flow. Needs could change in an instant, such as when a car hit a fellow hoverboarder. The micro-directive controlling the lights ensured her ambulance received all green lights to the hospital. That, of course, caused problems for others. A woman in labour was held up by the sudden red lights and gave birth in the back of a cab. Sonia understood why all the most ambitious third-year students were hoping to get jobs at government agencies vetting the micro-directives that computers put into practice. They determined who got the green lights.

Even hospital treatment was changing. Micro-directives had replaced the broad standard controlling medical care: that a doctor aspire to act in a patient's best interest. Her injured friend was scanned and prodded; then, as she was wheeled into the operating room, screens listed procedures to be done, and one that should be



delayed concerned her mangled hand. The computers noted that courts had levied heavy penalties on hospitals when the treatment of a hand resulted in the loss of dexterity, since that had an impact on lifetime earnings. Treatment, the screens said, should await the arrival of a specialist.

It all seemed "reasonable"—that essential legal word—and even smart. But not fun. Over-strict rules could be challenged, standards could be vague but allowed for responsibility and initiative. Not so micro-directives. Among the portraits on the library wall where Sonia studied was one of Potter Stewart, a Supreme Court justice famous for his definition of pornography: he knew it when he saw it. Now, focus groups evaluated a handful of films and television shows in terms of their impression of what might be offensive. The results and the material were then evaluated by computers which rated every production released, or not released, to the public.

When, Sonia wondered, did the system begin to take this effective, but nonetheless oppressive, shape? She had inadvertently spoken out loud, prompting the screen she carried to display the first draft of an aca-

demical paper, written in 2015, by two professors, one at the University of Chicago, the other at the University of Toronto\*. They envisaged machines able to assemble data and produce predictive outcomes, and then distribute these everywhere, instantly, turning rules and standards upside down and replacing them with micro-directives that were more responsive to circumstances, and rational.

One of the paper's co-authors had gone so far as to join a startup combining law and machine learning to provide answers about complex areas of tax, such as how to determine if a person is an employee or independent contractor, or whether an expenditure should be treated as current or depreciated—murky stuff that even tax authorities preferred coming from machines. That was novel in 2016. Each year since then it had expanded.

Students aspiring to work in investment management now routinely used machines to assess whether a shareholder in a firm that was sold through a leveraged buy-out would be retrospectively liable for a "fraudulent transfer" if the company subsequently collapsed, a risk that defied being addressed because it was so hard to measure. The entire world of negligence had been transformed. Live in a remote location and it was fine to install a swimming pool. A child moves nearby and a computer sends out a notification that the pool has become an "attractive nuisance" and a fence should be built immediately. The physical topography may not have changed, but the legal one had.

Criminal law once revolved around externally observed facts. Then DNA evidence entered the picture. Now, cases often hinged on data about pulse rates, intoxication and location, drawn from the wristbands that replaced watches. It was much fairer—but creepy, because the facts came from perpetual monitoring.

## A formula for justice

The most important introductory course faced by Sonia and her classmates had long ceased to be about contracts or procedure; it was algorithms and the law. One student melded data on work attendance, high-school grades, standardised tests and documented preferences in music into a program for use by states to determine an individual age of consent for sex and alcohol. She was voted by Sonia's class the most likely to have a portrait added to the library wall—the first of many replacing old judges, who had somehow gained fame for making decisions that now seemed hopelessly devoid of data. ■

\* "The death of rules and standards", by Anthony J. Casey of the University of Chicago Law School and Anthony Niblett of the University of Toronto



# TAKING A FLYING LEAP

**THE ELATION OF FLYING IS THE STUFF OF DREAMS...**

**DRONES**

**PERSONAL DRONES, AKA PRONES,** COULD LIFT ALL OUR LIVES!!

**BUT WHAT IF...** COULD MAKE OUR DREAMS COME TRUE?

CLEANING GUTTERS WOULD BE A CINCH!!

TRIPS TO SCHOOLS & SHOPS WOULD BE A BREEZE!!

PRONES WOULD REVOLUTIONISE TRANSPORT!

PETROL CONSUMPTION & CARBON EMISSIONS WOULD PLUMMET...

PLUS PRONES WOULD BE GREAT FUN!!

MEGA COASTER

WEEEEEE!

CLOSED

HELPING TO MITIGATE CLIMATE CHANGE

CLUTTERED ROADS WOULD BE RELIEVED...

LIKE HAVING YOUR OWN PERSONAL AMUSEMENT PARK!

**BUT** PRONES IN THE SKY COULD ALSO RATTLE PEOPLE ON THE GROUND

PERSONAL PRIVACY

AND BUSINESS SECURITY...

NEW RULES FOR AERIAL INTERACTION...

NO-HOVER ZONES OVER SPORTING VENUES

WOULD BE CHALLENGED FROM THE AIR...

IT'S A KNOCK-OUT CUP MATCH

WOULD NEED TO BE DRAFTED

WOULD SOON BE ENFORCED.

**THEN...** IF YOU THINK IT IS HARD TO STEM THE FLOW OF MIGRANTS TODAY... IMAGINE THE CHAOS WHEN...

SWARMS FLOAT OVER BORDER WALLS

... AND ACROSS BODIES OF WATER

QUICK! RALLY THE SPITEIRES!

SUDDENLY THE STUFF OF DREAMS

COULD TURN INTO THE NASTINESS OF NIGHTMARES

TRAIN TICKETS?

STATION

WE'VE HAD IT WITH FLYING!

GET MEXICO TO PAY FOR A HUGE FLY SWATTER!



WHAT IF GERMANY HAD NOT REUNIFIED?

# A German question

BERLIN

Joining East and West together within NATO and the European Union was the worst option, except for all the others

WHEN the Berlin Wall fell in November 1989 it quickly became clear that the cold war was over. The reunification of Germany, however, was not a foregone conclusion. The West German government's priority was freedom for the East Germans, with no timetable for reunification, says Horst Teltschik, who was then advising the chancellor, Helmut Kohl. "Internally, we thought at the end of '89 that it would take five to ten years." Even the East Germans at first could not conceive of reunification; they proposed vague "confederative structures".

Moreover, the leaders of three of the four Allied Powers of the second world war, which still had a say in German affairs, initially opposed reunification: Britain's Margaret Thatcher, France's François Mitterrand and the Soviet Union's Mikhail Gorbachev. They feared resurgent German power (as Thatcher is said to have put it, "We've beaten the Germans twice. Now they're back!"). Only America's George Bush senior was in favour of German unity from the start.

So history could easily have gone another way, and kept two Germanys. Europe would have evolved very differently. Looking back from 2016, two of today's crises might have been avoided.

## Crises? What crises?

First, there might have been no euro crisis. Reunification put a strain on the economies of the other 11 members of what was then the European Community. Even before political unity in October 1990, East Germany's money was exchanged into West Germany's D-mark at an economically fantastical rate of 1:1 for prices, wages, rents and small savings. Germany then ran budget and trade deficits to finance reconstruction in the east. And western Germany's trade unions, afraid that the east's low wages would hollow out their collective-bargaining powers, colonised the east, winning huge pay rises for easterners.

All this prompted Germany's Bundesbank to raise interest rates to "keep the D-mark credible", recalls Otmar Issing, who was on its board at the time. Because the Bundesbank, through its weight, influenced interest rates in all of western Europe, Italy, France and other economies were burdened with higher rates than they should have had. Indirectly, the trend even forced Britain to drop out of the European exchange-rate mechanism in 1992.

Without reunification, moreover, Europe would have moved much more slowly, if at all, towards the euro. The idea of a common currency predated the fall of the Berlin Wall. But an accelerated march towards it was the precondition that Mitterrand, who viewed the D-mark as the symbol of German power, demanded from Mr Kohl in return for blessing reunification. Without that time pressure weaker EU economies could have continued devaluing against the D-mark when needed. They would have had time to adjust before eventually adopting the euro.

Second, relations with Russia might be less fraught. A smaller European Union with a smaller Germany could have continued its own "deepening" instead of prematurely "widening" towards the east, says Mr Teltschik. Russian troops would not have had to leave East Germany in a hurry. NATO could still have expanded eastward later, and Russians would still have been traumatised by their bloc's disintegration. But they could not today blame their



trauma on Western expansion beginning with Germany reunited as part of NATO.

That narrative, however, leaves out what would have taken place in East Germany had it remained a separate country. Its economy was on the verge of collapse in 1990, recalls Lothar de Maizière, who was East Germany's last leader in 1990 (and its only democratically elected one ever). In the winter of 1989-90, several thousand East Germans were migrating west every day. Their chant was: "If the D-mark comes, we stay/or else to her we move away". Without reunification, says Mr de Maizière, East Germany would have been emptied of all but the old and frail.

East Germany was thus different from, say, Poland or (from 1993) the Czech Republic. Poles and Czechs spoke their own language and did not have West German citizenship. They had no choice but to stay, reform and rebuild. Under the West German constitution, however, East Germans had an automatic right to West German citizenship. "It was a race between capital going east and people going west, and the people were faster," says Karl-Heinz Paqué, an economics professor in Magdeburg.

A depopulated East Germany could have become a failed state, destabilising all of central Europe. Such a "wild east" could either have run into conflict with Russia in a pre-run of today's Ukraine crisis, or chosen "resubmission" to Russia, thinks Ulrich Speck of the Transatlantic Academy, a think-tank in Washington, DC. Neither sounds appealing. To stabilise central Europe, West Germany's allies, even Britain and France, would before long have begged it to rescue the failed eastern state. This would eventually have led back to reunification. But "that path would have been more chaotic and more dangerous," says Mr Teltschik.

As it happened, the great powers came to that conclusion by themselves in 1990. The breakthrough occurred on June 3rd, during a meeting between Mr Bush and Mr Gorbachev. Until then Mr Gorbachev had demanded that a reunited Germany be neutral—in effect, a "Finlandisation". Mr Bush casually opined that the matter was really for Germans to decide. Mr Gorbachev did not contradict him. And so history turned.

Not without costs. Mr de Maizière recently asked a Czech friend how the experiences of Czechs and eastern Germans differ today. Czechs, his friend replied, compare their lives now with their lives in the past, and are happy; eastern Germans compare their lives with those of western Germans, and are unhappy. Czechs are proud that they changed themselves; eastern Germans know they were changed by westerners. Many are alienated and follow populist parties. This is the price for a stabler Europe than any alternative scenario could have offered. ■






---

**Also in this section**


---

**40 Twin crises in Mozambique**


---

**41 Zambia's pressured press**


---

**41 Legal woes for Binyamin Netanyahu**


---

**42 Egypt's uncivil service**


---

For daily analysis and debate on the Middle East and Africa, visit

[Economist.com/world/middle-east-africa](http://Economist.com/world/middle-east-africa)

**Land ownership**

## Title to come

NAIROBI

### Property rights are still wretchedly insecure in Africa

**C**OSMAS MURUNGA was always proud to show off his mud-walled home, set in a clearing on the wooded slopes of Mount Elgon; to explain how his people coexisted with, and cared for, the forest and its wildlife on the border with Uganda. But that home is no more, burnt to the ground by around 50 Kenya Forest Service (KFS) rangers and police, along with 200 other dwellings, on June 20th and 21st. “We lost everything,” he says.

Evictions are almost routine for the Ogiek, a group of around 80,000 indigenous hunter-gatherers who have suffered repeated expulsions since being moved by the British colonial government in the 1930s. Yet this one still came as a surprise: the community is in the middle of negotiating a settlement with the local government that should see formal recognition of its right to live, graze livestock and forage on land it has inhabited for centuries.

In all rich countries, property rights are secure. Formal, legal title makes it easier to buy, sell and develop land. Buyers can be confident that the seller really has the right to sell what he is selling. Owners can use their property as collateral, perhaps borrowing money to buy fertiliser and better seeds. Legally recognising land ownership has boosted farmers' income and productivity in Latin America and Asia.

But not yet in Africa. More than two-thirds of Africa's land is still under custom-

ary tenure, with rights to land rooted in communities and typically neither written down nor legally recognised. In 31 of Africa's 54 countries, less than 5% of rural land is privately owned. So giving peasants title to their land seems like an obvious first step towards easing African rural poverty.

However, it has proven extremely hard. Rwanda, for example, rolled out a programme over three years, whereby local surveyors worked with land owners and their neighbours to demarcate and register 10.3m parcels of land. By the time the scheme was completed in 2013, 81% of plots had been issued with titles, at relatively low cost; investment and women's access to land have both improved. But even a relatively well-organised place like Rwanda has had problems keeping records up to date when land is sold or inherited.

#### This land is your land? Prove it

In Kenya a large-scale titling programme was carried out in colonial times and carried over to independence. The first president, Jomo Kenyatta, and his cronies bought the huge estates of white settlers who left. But the system is costly and ill-run. Most Kenyans cannot afford to update titles, and the government has not maintained the registry. Recognising land rights, whether customary or titled, needs to be done as cheaply and simply as possible, says Ruth Meinzen-Dick of the Internation-

al Food Policy Research Institute (IFPRI). “The more you increase the cost, the more likely it is that urban elites and men with more education will be able to register the land in their names, rather than poor people, the less educated and women.”

Being able to prove you own your land may be a necessary condition for using it as collateral, but a title deed does not guarantee that anyone will lend you money. As Abhijit Banerjee and Esther Duflo, two economists, observe in their book “Poor Economics” (2011), banks need a lot more information to judge borrowers' credit-worthiness and be sure of repayment. And the administrative costs of offering very small loans to very small farmers, even those with collateral, are often prohibitive.

Africa's rickety infrastructure does not help. Where there are no roads or warehouses to help get crops to market, many of the benefits of formal tenure will go unrealised. And legal property rights offer less protection in countries where big men can flout the law with impunity—a particular problem in Africa.

Customary rights have the advantage that they already exist, people understand them and they offer at least some security. “Law and policy should recognise what is working on the ground. So if it is customary rights, so be it,” says Esther Mwangi of the Centre for International Forestry Research. A USAID survey conducted in Ethiopia, Guinea, Liberia and Zambia found that less than a third of people had experienced land disputes. About the same number thought confiscation of, or encroachment on, their land was likely. That suggests that their property is far less secure than it would be in any rich country, but not as insecure as one might expect, given that less than 10% of households have any documents proving their land ▶▶

ownership in the latter three countries.

In recent years land grabs have sometimes made a mockery of customary ownership. In Ethiopia, all land is still officially state-owned. The government has successfully registered customary rights in some regions: about 30% of Ethiopian households now have such documents. But it has also leased to foreign investors large tracts of land in Oromia that have traditionally been used by smallholder farmers for growing crops, grazing livestock and collecting firewood—and brutally suppressed the protests that erupted as a result.

In Ghana chiefs have used their right to administer communal land to sell large tracts without their community's permission. Property rights are even less respected in Zimbabwe. Over the past decade and a half, Robert Mugabe's government has seized most of the country's commercial farms with little or no compensation. Traditional chiefs have also sold communal land to private firms, leaving many peasants destitute. In South Africa the ruling African National Congress (ANC) has generally been trying to weaken individual land rights by declaring more land "communal". This puts it under the control of chiefs and shores up the ANC's rural support, since people afraid of being evicted tend to vote for whomever they are told to.

In several places custom dictates that only men can inherit land. In Uganda stories abound of widows being turfed off their marital land by in-laws. One woman was thrown out of her home a week after her husband died in an accident; she had refused to marry any of his five brothers, and her children were taken away to a sister-in-law. Individual land ownership is often ineffectual for forests and rangelands, which lose their value when parcelled up. There is evidence that recognising the communal rights of indigenous forest communities can mean their lands are conserved better.

Around Mount Elgon successive governments have argued that, when evicting the Ogiek, they were protecting the forest and the rugged moorland above it to make way for a national park and forest reserve. Yet where the woodland is under the control of the KFS, whole areas have been razed to rent out to maize farmers. The Ogiek, by contrast, graze their cows in glades and above the tree line, relying on the forest to provide honey and medicine.

Land rights are still a combustible issue in Kenya. The constitution of 2010, which recognises customary tenure, was passed after the post-election violence of 2007-08, sparked in part by politicians inciting Kalenjin in the Rift Valley to attack Kikuyu "squatters" who had migrated there for work. The constitution may help the Ogiek fight their corner. But until the men in power respect the law, the law can do little to protect property rights. ■

## Mozambique

# Fishy finances

MAPUTO

## A donor darling stumbles towards bankruptcy

**“W**HO cares about the tuna fish?” asked a fund manager a year or so ago, explaining his decision to buy bonds issued by a Mozambican government-backed company that planned to use the money to buy a brand new fleet of fishing boats. Instead this investor, and many others, looked simply at the government guarantee that underpinned the deal: even if not a single tuna were caught, the loans would still be repaid, since the government would step in.

That assurance was as full of holes as an industrial-sized tuna net. Although the government has indeed stepped in to honour the debt, its own finances are horribly stretched, not least because it has borrowed far more than it had previously admitted. Faced with a shoal of troubles, it now appears to be on the brink of default.

For a start, its decades-long civil war, which raged from 1977 to 1992, has returned. Vehicles are being burned and people killed daily in parts of central Mozambique where Renamo, a former rebel movement that became an opposition party, has gone back to guerrilla warfare. Highways, including those linking neighbouring countries such as Malawi to the sea, are no longer safe to travel without a military escort. Government forces are returning Renamo's violence with interest.

Drought compounds the misery: in the southern half of the country some 1.5m people are hungry after rains failed for the second year in a row. And weak oil and gas prices have slowed the development of reserves in the north that many had hoped would provide huge dollops of cash to pay off the country's debts. Instead, investors are running scared. Government bonds are trading at about 70% of face value. This week Moody's, a ratings agency, downgraded the country, saying it was very near



to defaulting.

At the heart of Mozambique's debt crisis is a series of three foreign-currency loans that, between them, add up to about 15% of GDP. The first was for \$850m that was meant to have been spent on a fishing fleet. Yet it seems to have bought ludicrously expensive boats, and a chunk went on high-speed patrol craft. The fishing boats that did arrive generally spend their days tied up on the docks, though occasionally one is seen puttering about inside the harbour. Earlier this year Empresa Moçambicana de Atum (EMATUM), the state-owned tuna-fishing company, said it could not repay its debt. A rescue plan was cobbled together under which investors swapped their EMATUM bonds for ones issued by the government.

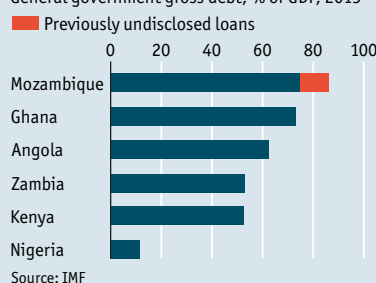
That ought to have settled the matter. But just as the swap was going through it was revealed that Mozambique had secretly borrowed another \$1.4 billion, or about 10% of its GDP, making it the most indebted country in sub-Saharan Africa (see chart). The revelation shocked the IMF and western donors into freezing disbursements to the government, whose budget relies on international aid. It also led to red faces at Credit Suisse and VTB, the two banks that helped arrange the various bond sales. Some of the investors who bought the bonds complain that the banks should have given them more information.

Yet it seems to have induced almost no shame in the government. The IMF and western donors are pressing for an independent audit of the secret loans. Yet Filipe Nyusi, Mozambique's president, is dragging his feet, prompting speculation that a cover-up is under way.

Mozambique is not alone in its fiscal fishiness. Economic crisis is stalking Angola, which is also suffering from the slumping price of oil, its main export. Its bonds tumbled earlier this month after Jose Eduardo dos Santos, its president since 1979, said the country was collecting barely enough revenue to service its debt. It, too, had been in bail-out talks with the IMF, but called them off after seeing the fund's conditions on fighting corruption. ■

### Worse than they thought

General government gross debt, % of GDP, 2015





## Zambia

## Cry press freedom

LUSAKA

A lively government critic feels the heat

IT IS mid-afternoon in Lusaka, the capital of Zambia, and a newsroom has formed on a pavement. Journalists tap away at laptops in the shade of a tree; phone conversations are held on mobiles against the sound of traffic. Cables lead out of cars. An ice-cream salesman does brisk business out of a cool box mounted on a bicycle.

The newspaper is the *Post*, a punchy tabloid that is Zambia's biggest independent media organisation. Opposite the makeshift office on the street are the real ones—but the journalists cannot enter. The paper, a staunch critic of President Edgar Lungu's government, was shut down on June 22nd by the Zambian tax authorities; its reporters were pushed out with tear gas. A week later, its editor, Fred M'Membe, was arrested and beaten. Coming barely a month before elections, it is a sign of how dissenting voices are being quietened.

Press freedom is under assault in much of Africa. Jihadists threaten and sometimes murder journalists in northern Nigeria and Mali. Eritrea's despotic regime bans independent journalism entirely. Elsewhere, hacks are most likely to be harassed around voting time, when politicians particularly resent criticism. According to Reporters Without Borders, an NGO, press freedom declined in Uganda, the Republic of Congo and Djibouti over the past year—all of which had elections. In Burundi, it has all but disappeared. Zambia seems to be the latest country to fall victim.

The government says that the closing of the *Post* is about taxes, not politics. The authorities demanded \$6m in unpaid taxes and when it was not paid, seized the paper's assets, including its offices and printing presses. A week later, on June 28th, Mr M'Membe claimed to have a court order declaring the seizures illegal and reopened the offices—only to be arrested for trespass and using false documents.

Nobody disputes that some taxes have gone unpaid. The dispute is over the scale. The government says the *Post* has been underpaying taxes for a decade and that the taxman is acting independently. Mr M'Membe says his business is far more up-to-date than most organisations in Zambia. He points out that government-owned competitor newspapers have had their tax debts written off, and accuses Mr Lungu of ordering the crackdown personally.

Proving who is right is impossible. But Zambia's only source of independent news is now struggling. And that has an outside effect. Though few people actually buy newspapers, the *Post*'s stories—full of lurid details about vote-rigging and corruption—are repeated on radio stations across the country. Now they will have to rely more on the official media, which are nakedly pro-government and all but ignore the opposition. In a recent bulletin on public radio, eight out of the ten headlines began with the words "President Lungu".

For now, the *Post* carries on, printed on cheap paper at a secret site. It has plenty to write about. On July 11th the government banned campaigning after a man was killed at an opposition rally. "We are still doing what we know best," says Mr M'Membe, flat cap on his head, apparently thriving despite having only just been released from jail. "For us, the most important thing is to keep coming out every day." That, sadly, is a lot to ask. ■



Israel's prime minister

## The law looms larger

JERUSALEM

Binyamin Netanyahu's legal tribulations are worsening

A LACONIC announcement by Israel's attorney-general, Avichai Mendelblit, confirmed weeks of rumours: his office and the police, he said, have indeed been looking into allegations against Binyamin Netanyahu, the prime minister. Mr Mendelblit provided no further detail and stressed that no criminal proceedings had begun. The prime minister's spokesman later reminded reporters that Mr Netanyahu had previously been the subject of allegations "that turned out to be baseless" and that "there will be nothing here either—because there is nothing."

It is true that Mr Netanyahu has never been indicted, but in two separate cases, in 1997 and 2000, police investigators opined that there was enough evidence to charge him with fraud and breach of confidence. Each time, however, they were overruled by the then attorney-general, who criticised Mr Netanyahu's conduct but said it fell short of criminal. The latest inquiry may, however, be more menacing because law-enforcement chiefs are considering a whole raft of allegations regarding the prime minister and his close circle. Among other things, the attorney-general is looking into the sources of funding for some of Mr Netanyahu's trips abroad more than a decade ago when he was finance minister, and into payments Mr Netanyahu received from Arnaud Mimran, a Frenchman subsequently convicted of tax fraud.

In both cases the prime minister says that all payments to him were above board. Another decision awaiting Mr Men- ▶▶



Without fear or favour

delblit is whether to act on the police's recommendations to indict his wife, Sara Netanyahu, over misuse of public funds for the upkeep of their private weekend home. In recent days two members of Mr Netanyahu's inner circle—a former political adviser and a former chief of staff—have also been revealed to be under investigation for alleged dodgy dealings.

This accumulation of corruption allegations will not make Mr Netanyahu step down. Although he has been in power for more than ten years in all, he has made it clear he has no plans to resign in the foreseeable future and has already been confirmed as the ruling Likud party's candidate for the premiership in the next general election. Not that he wants it to take place soon: the current parliament could serve for another three years and Mr Netanyahu has only recently broadened his coalition. That said, there is no lack of disgruntled ex-ministers from Likud and other parties who would be glad to see him go; but they

have so far proved incapable of rallying around a viable challenger. Meanwhile, the main opposition group, Zionist Union, is being torn apart by infighting.

But a criminal indictment could force Mr Netanyahu out of office. In recent times Israel's legal system has shown itself fearless in the face of power. Ehud Olmert, Mr Netanyahu's predecessor as prime minister, was forced to resign in 2009 over bribery allegations and is now serving a 19-month sentence in prison, while possibly facing further convictions.

The independence of the current law-enforcement chiefs has yet to be thoroughly tested. Mr Mendelblit is Mr Netanyahu's former cabinet secretary and the police commissioner, Ronny Alsheikh, has reason to hope that one day he will become head of Israeli's security service, Shin Bet, a post in the prime minister's gift. Indeed, both men owe their promotions to Mr Netanyahu. They may soon have to decide his political fate. ■

are few incentives to perform well. It is impossible to get anything done without a certain amount of *baksheesh* (bribery) and *wasta* (connections). An MP called Amr al-Ashkar tendered his resignation on account of his own frustrations. "I have not been able to solve a single problem," said Mr Ashkar, who accused the bureaucracy of turning the lives of the poor "into a hell".

Gamal Abdel Nasser, Egypt's president from 1956 to 1970, expanded the public sector to create a middle class "that relied on the state for its livelihood and on which the state, in turn, depended for political support", writes Amr Adly of the Carnegie Middle East Centre, a think-tank. This symbiotic relationship has hindered reform. Egypt's leaders have long purchased stability by increasing government wages and adding to the public payroll, so that it now contains some 7m employees. (By comparison Britain, with 80% of Egypt's population, has under 500,000.)

Faced with a strained budget, Abdel-Fattah al-Sisi, the president, has tried to rein in the bureaucracy at least a tiny bit. A law he decreed last year, in the absence of parliament and as he was to host a conference of international donors, aimed to limit some forms of compensation and tie bonuses and promotions to performance. Workers might even be sacked if they performed poorly. Mr Sisi said that the state only needed 1m workers—but still promised that all 7m would keep their current jobs and wages.

Even these mild reforms enraged public workers, who claimed Mr Sisi was ramming through drastic cuts. Several protests were held. In January a new parliament approved most of the president's decrees, but rejected his civil-service reforms. (It may soon vote on a modified version of the law.) Concerns linger and Egypt's bureaucrats have proven that, when properly motivated, they can take action. ■

### Egyptian bureaucracy

## A movable beast

THE MOGAMMA, CAIRO

**Egypt's bureaucrats can act fast when they want to**

IT IS hardly surprising that Adel is having trouble obtaining an official certificate of movement, which documents a person's travels and is often required for visas. Waiting outside the Mogamma, an enormous administrative building in downtown Cairo, he explains that he submitted his paperwork a week ago, came back as instructed and—after pushing through a mob of other applicants—was told to reapply. Amid all the jostling he may not have noticed that the government's travel records were scattered beneath his feet.

For over 60 years Egyptians have gone to the Mogamma (roughly, "the complex") seeking official documents, such as passports and driver's licences. They wait in disorderly queues, often for hours, only to be frustrated by indifferent civil servants. Egyptians' relationship with the building is captured in one of the country's most popular films, called "Terrorism and Kebab", in which a man becomes fed up with the bureaucracy, and inadvertently takes the Mogamma hostage.

So it does not come as a surprise that few Egyptians have mourned the government's decision to shut down the complex and move its 30,000 employees to more remote offices, supposedly to improve the flow of downtown traffic. News reports had this happening last month, but the building is still occupied. Inside there is

even more confusion than normal. A security guard says he is moving next month. An official down the hall says it will take six or seven months. But he doubts it will happen at all. The government has promised to close the Mogamma before.

Few expect the change of address, if it does occur, to improve Egypt's bureaucracy. Government jobs are often handed out based on connections, not skill. There







## Macron and France's presidential election

# L'internationaliste

PARIS

The young economy minister wants to change French politics. If he runs, he may

WHEN he passed the lingerie shop, the minister hesitated. It was not on the schedule. But the store manager insisted, and Emmanuel Macron, France's young economy minister, found himself greeting astonished shoppers as they leafed through piles of lace-trimmed bras. By the time he made it out, a crowd had gathered, some eager for selfies, others for a chance to unload their discontent. He lingered and listened. "It's rare to see a minister stop to talk to people like us," said one woman. A young man agreed: "He's a fighter. He knows what he wants and he wants to make a difference."

Mr Macron is the face of France's youngest political movement, *En Marche!* ("On the Move!"), which he launched earlier this year as a platform for a possible bid for the presidency in 2017. Although a member of President François Hollande's Socialist government since 2014, Mr Macron insists that his new movement is "neither on the right nor the left". Rather, it is a response to a new fault line that is emerging in Western liberal democracies confronted with the rise of populist nationalism. "The new political split is between those who are afraid of globalisation," he told *The Economist*, "and those who see globalisation as an opportunity, or at least a framework for policy that tries to offer progress for all."

His diagnosis is based on France, but applies to other European countries, from Britain to Poland. The old divide between

left and right is being eroded by the rise of the National Front (FN), once an extremist fringe party, which seems better able to offer hope to those disillusioned by the political elite and buffeted by globalisation. Under Marine Le Pen, the anti-immigration, Eurosceptic FN has become the most popular party among working-class voters, supported by 43% of them, next to just 20% for the Socialists. She now tops most polls for the first (though not the second) round of next year's presidential election.

The geography of voting reflects this new divide. Thriving, cosmopolitan cities such as Lyon, Grenoble and Bordeaux, with their smart pedestrian centres, tech hubs and gourmet food, vote for either the left (Lyon) or the centre-right (Bordeaux)—but not for the FN. By contrast, in battered second-tier towns full of betting shops and half-empty cafés, the FN is on the rise. Less than 9% of voters in Grenoble, a centre of high-end scientific research, voted for the FN at municipal elections in 2014. In the same elections Hénon-Beaumont, a town in the former mining basin of northern France, elected its first FN mayor.

Mr Macron calculates that this creates a new political space for progressives who believe in an open and mobile society, including, he says, "those who haven't benefited from globalisation but are ready for change". He judges that peeling such voters away from both left and right is a way to confront the conservative forces that push

### Also in this section

44 Ireland's crazy economic statistics

44 Unwilling to trade even with Canada

45 Spain, Gibraltar and Brexit

46 Charlemagne: Single-market blues

For daily analysis and debate on Europe, visit

[Economist.com/europe](http://Economist.com/europe)

for closed, Eurosceptic, inward-looking solutions. "The biggest challenges facing this country and Europe—geopolitical threats and terrorism, the digital economy, the environment—are not those that have structured the left and the right."

To this end, Mr Macron has enrolled 16,000 volunteers to knock on doors and gather ideas over the summer, and signed up 50,000 members. His hope is to carry out a different sort of politics, based on direct contact with voters through social media and emerging local networks, in order to respond to political disillusionment. At his first political rally this week in Paris, before a packed audience of about 3,000 supporters, Mr Macron hinted that he might lead the movement into elections next year—but stopped short of declaring his candidacy.

### Think positive

In the long run, Mr Macron may be right about the coming shift. Yet his effort raises tough questions. One is whether combining left and right to confront nationalism runs the risk of lending such forces legitimacy. He brushes aside such concerns, pointing out that the FN is already France's top party in recent voting. His argument is that politicians cannot just fight fear (of immigration or globalisation) with fear (of an FN victory): they need to make a positive case for progress, and equal opportunity, in an open society.

Another question recalls the difficulties experienced by tech start-ups, which Mr Macron champions in the face of protected industries. As so often happens in French business, the incumbent parties may crush Mr Macron before he can disrupt politics. Manuel Valls, the reformist prime minister, who has his own presidential ambitions, is infuriated by Mr Macron's circumvention of the party system. "This has got to stop," ►►

he huffed earlier this week. It is difficult to see the insubordinate Mr Macron remaining much longer in government.

Outside, however, he will be on his own, and he has never run for elected office. Both right and left plan their own presidential primaries in coming months. It takes a leap of faith to see the space for a serious candidate outside either structure—and, to the frustration of some of his impatient backers, it is unclear whether Mr Macron would run were Mr Hollande, his former boss, to seek re-election.

A final question is whether Mr Macron has what it takes. His inexperience can betray him: in April it led to an embarrassingly gushing photo splash with his wife, his former high-school French teacher and 20 years his senior, in a celebrity magazine. A graduate of the high-flying *Ecole Nationale d'Administration*, Mr Macron is also a former banker, and thus is distrusted within

the Socialist Party. He is loathed by unionists for, among other things, his critique of the 35-hour working week. Polls say Socialist voters would prefer Mr Valls or Mr Hollande as their nominee.

Yet if one polls all French voters, Mr Macron is the favourite. And his cross-party support reaches into unlikely corners. At a recent event for start-ups in the *banlieues*, Paris's high-rise suburbs, participants were unbothered by his establishment ties. "We like his message that it's OK to want to succeed," said Daniel Hierso, a young black businessman. "In France we never try new things, it's always the same faces," said Yacine Kara, an entrepreneur of Algerian origins. "His political inexperience is positive. He's taking a risk, like us." Nobody denies that it is a long shot, and could flop badly. But as a response to Europe's populist convulsions, it is one of the most intriguing attempts around. ■

## The EU-Canada trade deal

# Fear of the maple menace

## One of Brussels' biggest trade deals looks uncertain after Brexit

OF ALL the countries with which the European Union might conclude a trade agreement, Canada ought to be the least controversial. The land of maple syrup and baffling politeness has had a patchwork of sectoral trade and investment deals with Europe since the late 1970s. It currently boasts a liberal government led by an affable young prime minister who is keen on protecting the environment and taking in Syrian refugees. As Chrystia Freeland, the Canadian trade minister, put it in Brussels earlier this month: "If the EU cannot do a deal with Canada, I think it is legitimate to say: Who the heck can it do a deal with?"

The question is apt. On July 5th the European Commission announced that the Comprehensive Economic and Trade Agreement (CETA), a long-awaited deal between the EU and Canada, would not be signed by the European Council and European Parliament alone, but would need to be ratified by at least 36 parliaments, both national and provincial. This appeared to contradict previous statements by Jean-Claude Juncker, the commission's president. It could add four or five years before the agreement takes effect. And it implies that an intercontinental deal which has been a decade in the making could in principle be scrapped by the local parliament of the Belgian province of Flanders.

Britain's vote to leave the EU appears to have sapped the European Commission's energy for a fight with its fractious member states. Several countries oppose aspects of the deal. Bulgaria and Romania are irked that their citizens would still need to apply for a visa to visit Canada, while other Europeans can go moose-hunting in Ontario without one. Activists in Germany and the Netherlands complain about a clause which lets investors sue national governments. In April the Dutch parliament passed a motion against letting the deal apply provisionally, and activists have threatened a referendum to overturn it if it is ratified. In the same month the Walloon parliament in Belgium voted against the agreement.

Ms Freeland and Cecilia Malmström, the EU's trade commissioner, stress the benefits of the deal, which would remove tariffs and other barriers to trade and is more ambitious in terms of services and investment than any previous deal. It would make both sides somewhat richer, but few national politicians in Europe have spent

## Ireland's economic statistics

# Not the full shilling

## Why GDP growth of 26% a year is mad

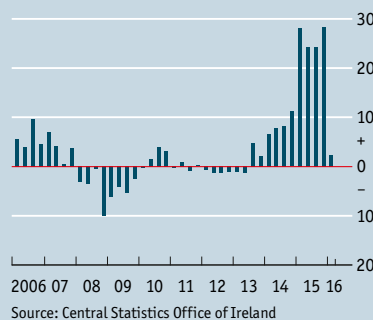
THE year 2015 was a busy one in Ireland, what with protests against water charges, a referendum legalising same-sex marriage and speculation over a coming general election. No wonder the Irish failed to notice their country's record-breaking economic growth. On July 12th, in front of gobsmacked journalists, Ireland's Central Statistics Office (CSO) revised up GDP growth for 2015 from 7.8% to 26.3%. In modern economic history, only poor countries experiencing natural-resource booms or the end of wars have grown faster.

Few economists take the revised figure seriously. "It's complete bullshit," says Colm McCarthy, an economist at University College Dublin. "It's Alice in Wonderland economics." But while the 26.3% figure may distort economic reality, it has real political consequences.

The CSO calculations are not flawed, Mr McCarthy says. The change stems from a Europe-wide shift in the way investment is treated in GDP statistics. When a company executes a "tax inversion", registering in Ireland to benefit from its low 12.5% corporate tax rate, it and its intellectual property are now added to the country's capital stock, and the returns are included in GDP. Ireland's capital stock grew by one-third in 2015, as American firms rushed to pull off tax inversions in anticipation of a likely crackdown. Ireland's booming air-leasing sector also inflates the figures: planes owned by local firms are included even though most never visit the country.

## Gross domestic blarney

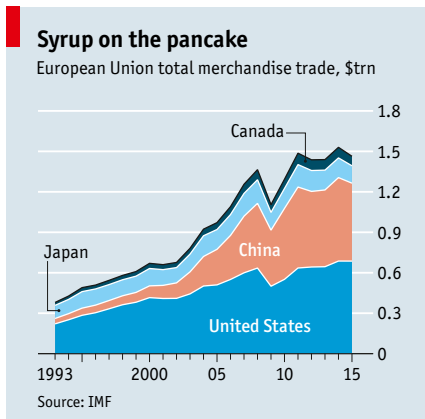
Ireland's GDP, % change on a year earlier



Spectacular growth sounds good. It will make it easy for Ireland to satisfy the euro zone's demand that countries keep their budget deficits below 3% of GDP. But this may allow politicians to return to bad habits. The finance minister promises not to indulge in tax cuts or spending increases, but his minority government may ditch that pledge to win friends in parliament. Ireland will be the country hit hardest by Brexit. It should be building up fiscal firepower, not spending it.

A second risk is that the Irish will lose all trust in economic figures. Voters are already alienated because most growth is concentrated in Dublin and does not reach the countryside. Fairy-tale GDP statistics will worsen their scepticism. One can hardly expect voters to embrace sound economics when the statisticians seem to be living in virtual reality.





► much time trying to enthruse voters. Partly this reflects the fact that Canada has more at stake: last year the EU was Canada's second-largest trading partner, accounting for 9.5% of its trade, while Canada represented just 1.8% of the EU's. The EU trades much more with other countries (see chart). Canadian free-marketters also hoped that the deal would force their government to dismantle convoluted internal trade barriers between provinces and territories. (For

instance, there are different provincial standards for maple syrup, organic foods and the size of milk containers; firms must often register in every province where they do business.)

But it also hints that the EU is growing more protectionist. Anti-trade activists fear that this deal sets a precedent for a more controversial one currently being struck with America, known as TTIP, and complain that the deal has been shrouded in secrecy. "Brussels has received a message: people do not feel like they have enough control over their own fates," says Pieter Cleppe of Open Europe, a think-tank.

Several of the EU's trade deals have been ratified by national parliaments. But the Commission's move to defer to them first, rather than argue for EU institutions to fast-track the deal, is unprecedented, and risks making the EU look weak. "This was a golden opportunity for the Commission to show that despite Brexit they would continue to deal with the business of governing," says John Manley of the Business Council of Canada, which represents the country's largest companies. "They let the opportunity slip by," he laments. ■

tion is as a gateway into Europe."

Some industries will prove immune. Roughly 90% of Gibraltar's insurance and online-betting business consists of transactions with Britain, Mr Picardo reckons. Low tax rates will help keep firms in place. "We don't see Gibraltar plc collapsing," says John Westwood, managing director of Blacktower, a financial-services company based in the territory. And Mr Picardo gives short shrift to Mr Garcia-Margallo's threats over sovereignty: "Another day, another stupid remark." The British Foreign Office insists it will not even discuss the issue.

Moreover, self-interest is likely to mute Spanish sabre-rattling. Gibraltar provides 25% of the economy of the neighbouring Spanish area of Campo de Gibraltar; the region of Andalusia as a whole suffers 32% unemployment. "Our economy is completely dependent on Gibraltar," says Juan Franco, mayor of the border town of La Línea de la Concepción. Thirty-year-old Tamara Gómez commutes daily from La Línea to her waitressing job, and has never been able to find a job in Spain: "The only money I've ever earned is in Gibraltar."

Some even think the future will be brighter. A Shell-operated liquid natural gas terminal will come online by mid-2017. A new secure data facility is housed deep within the Rock. The government hopes to forge tighter links with Morocco and Africa beyond. Tarik El-Yabani, one of the few local Leave activists, thinks that Gibraltar could position itself as "the Hong Kong of Europe".

Nevertheless, many are hoping that Gibraltar will somehow avoid Brexit. Mr Picardo is conferring with his counterparts in Scotland about how to remain within the EU, and has called for a second referendum to be held once the details of Britain's prospective relationship with Brussels are hashed out. Whatever the result, Gibraltar's politicians and people have displayed remarkable unity, both in their stance during the referendum and in their efforts to cope with the consequences. In this, red phone booths or no, Gibraltar looks very little like Britain. ■

## Spain, Gibraltar and Brexit

# Rock out

### GIBRALTAR

**A territory is dragged from Europe against its will. Spain looms**

**R**ED post boxes and phone booths line the streets. Musket-bearing re-enactors march past helmeted policemen. The pubs serve pie and chips even in 25-degree heat. It seems like a Brexiteer's paradise. Yet while 17m Britons were voting to leave the European Union on June 23rd, Gibraltar—a tiny British Overseas Territory dangling from the southern coast of Spain—voted by 19,322 to 823 to stay. Their votes "did not even move the needle", Gibraltar's chief minister, Fabian Picardo, told a crestfallen public the following day. The peninsula now faces an uncertain future outside the EU, which has helped underwrite decades of prosperity and kept the all-important border open. Spain has periodically pressed its claim to Gibraltar (and laid siege to it twice) since ceding it to Britain in 1713.

For now, the EU flag still flutters alongside the Union Jack above the government building. Inside, Mr Picardo is confident that his government can deliver the 8.25% annual growth promised in its pre-election manifesto in November, which had supposedly priced in the risk of Brexit. But many worry that Spain could close the border again, as it did between 1969 and 1985. Within hours of the result, the Spanish for-

eign minister, José García-Margallo, crowed: "The Spanish flag is now much closer to the Rock."

Gibraltar's booming economy (growth came in at 10.6% last year) relies on the thousands of Spanish workers who cross the border every day. Christian Hernandez, president of the chamber of commerce, says the peninsula's thriving financial-services sector is at risk, too: "The whole way we've marketed the jurisdic-



The European vision

# Charlemagne | Single-market blues

The European project that Britain helped build is grinding to a halt



“NO EUROPE à la carte.” “The four freedoms are indivisible.” “There can be no cherry-picking.” It takes a lot to get the European Union’s leaders to agree, but Britain’s vote to leave has managed it. The merest hint from Brexiteers that they might seek the full benefits of the EU’s single market while curbing immigration was enough to galvanise the rest of the club to action. Angela Merkel, Germany’s chancellor, emphasised the point again this week: Britain could expect no “free access” to the single market if it shut its borders to EU workers.

Ah, the single market. The €14-trillion (\$15.6 trillion) jewel in the EU’s crown, the pinnacle of European integration. Unlike the single currency it covers all EU members and is largely considered a success, generating a 2.1% increase in GDP in its first 15 years. It has quickly acquired a totemic role in debates on both sides of the English channel. Almost half of Britain’s exports by value go to the rest of the EU; any curbs on that trade could seriously injure an economy already tumbling towards recession. On the EU side, governments trying to hold their fracturing club together are hardly minded to offer privileged market access to a country that has chosen to leave.

More than a traditional free-trade area, the single market eases intra-EU commerce by reducing non-tariff barriers, facilitating capital flows and trade in services, and granting full mobility to European workers, a right 7m have chosen to exploit. (Hence the “four freedoms”: movement of goods, services, people and capital.) The idea is to allow Europe’s businesses to operate as freely across borders as within them.

If only. Although goods are easily traded and EU citizens have the right to live and work where they please, elsewhere the single market remains a work in progress. Energy, finance and transport markets are far from integrated. The service sector, 70% of the EU economy, is particularly hampered: in 2012 it accounted for only one-fifth of intra-EU trade. Professions are often hard for outsiders to penetrate, thanks to licensing rules, training requirements and other barriers to entry. Ask architects or notaries trying to set up shop outside their home country, or anyone trying to break into Germany’s heavily regulated (and low-growth) services sector. Some countries have over 400 regulated professions. A special diploma is needed to become a corset-maker in Austria.

The European Commission, which polices the single market, has tried to prise open some of the more protected areas of Europe’s economy. A services directive in 2006 cut red tape and made it easier for firms to establish operations abroad, but its scope was limited and implementation patchy. A “single-market strategy”, launched almost unnoticed last October, sought to do better at applying existing rules. But this is hardly visionary stuff.

Among the first to argue that this was hypocritical was John Major, a former British prime minister. In a speech in 2014 warning of the risk of Brexit, he suggested that the incomplete EU market in services was reason not to be dogmatic on labour mobility. If Germany could, in effect, limit foreign businesses from operating inside its borders, why should Britain not cap EU migrants? That argument seemed reasonable in Britain, where high EU immigration rates had become divisive, but found scant support on the continent. Some governments even grumbled at the terminology: EU workers are not “migrants”, they fumed, but citizens with legitimate free-movement rights. They had a point: plenty of services can only be delivered in person (think waiters or tattoo artists). Herein lies the “indivisibility” of the four freedoms.

But the energy devoted to defending the single market is apparently not available for deepening it. Jean-Claude Juncker, the commission’s current boss, took office almost two years ago vowing to accelerate integration in energy, digital services and Europe’s fragmented capital markets. But progress has been slow (and Jonathan Hill, the British commissioner in charge of the capital-markets union project, resigned after the Brexit vote). Consumer-friendly measures, such as preventing “geoblocking” (altering website access for users in different countries), will grab headlines but are unlikely to do much for growth.

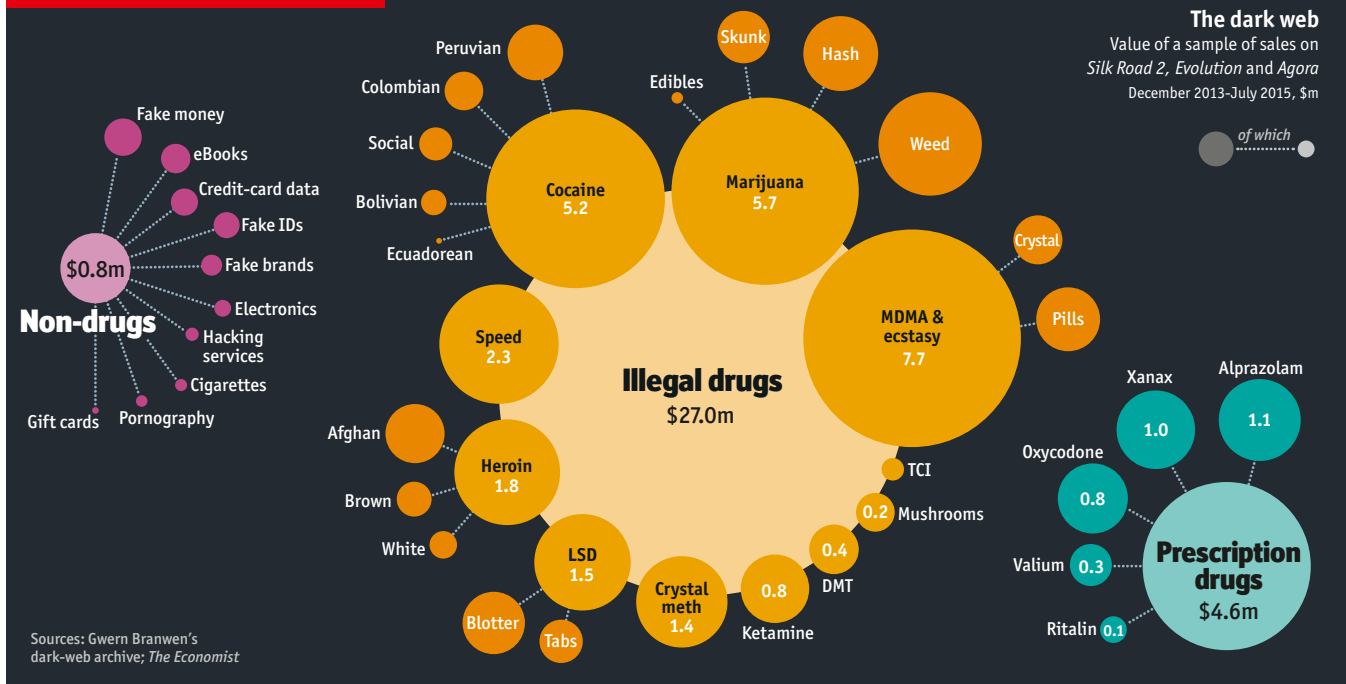
## The market that Jacques built

That is a shame. Or, as one senior EU official puts it, “it is borderline criminal”. The commission reckons that merely implementing current law on services trade could boost EU output by 1.8%. A proper digital market could add 3%. Other estimates are higher. Across the EU growth is slow, investment low and, in most countries, fiscal space limited. Deepening the single market looks like a good way to boost long-term output. And yet progress has ground almost to a halt. Why?

First, the low-hanging fruit has been plucked. It is much easier to liberalise trade in goods than in jealously protected services markets, as the EU has learned during its painful attempts to negotiate “next-generation” trade deals with Canada and America. Second, the euro crisis forced governments to focus on macroeconomic stability rather than the fiddly business of market regulation. Third, the commission is not the mighty beast that, under the guidance of a French Socialist, Jacques Delors, assembled the rudiments of the single market in the 1980s. Today power in the EU rests firmly with governments, and few seem minded to take on vested interests at home when the benefits of freer trade will be so diffuse. One Brussels-based lobbyist notes ruefully that in 2008 industrial firms tried to stop the commission from regulating so much. Now they are desperate for it to be more aggressive.

Calls to deepen the single market will not go away, but they are starting to acquire a sepia tinge. Momentum has stalled and looks unlikely to pick up, not least because the departure of Britain will deprive the single market of its biggest champion. For some, who never trusted the EU’s great project of liberalisation, that is no great loss. Others may come to regret it. ■





Buying drugs online

# Shedding light on the dark web

**The drug trade is moving from the street to online cryptomarkets. Forced to compete on price and quality, sellers are upping their game**

LEAVING vacuum-sealed bags, digital scales and stashes of marijuana lying around was a mistake. So was getting T-shirts and hoodies emblazoned with “Cali Connect”, under which name drugs were dealt online. Selling pot to an undercover officer was a further slip-up. All this is part of the prosecution evidence in an ongoing case against David Burchard in California. But the crucial piece of evidence, according to the police who arrested him in March, was that he had trademarked Cali Connect to protect his brand.

Mr Burchard is awaiting trial; the charges against him may be demolished in court. But even if the police officers’ story does not hold up, in its outline it is typical of recent developments in the drug trade. Though online markets still account for a small share of illicit drug sales, they are growing fast—and changing drug-dealing as they grow. Sellers are competing on price and quality, and seeking to build reputable brands. Turnover has risen from an estimated \$15m-17m in 2012 to \$150m-180m in 2015. And the share of American drug-takers who have got high with the help of a website jumped from 8% in 2014 to 15% this year, according to the Global Drug Survey, an online study.

Online drug markets are part of the “dark web”: sites only accessible through

browsers such as Tor, which route communications via several computers and layers of encryption, making them almost impossible for law enforcement to track. Buyers and sellers make contact using e-mail providers such as Sigaint, a secure dark-web service, and encryption software such as Pretty Good Privacy (PGP). They settle up in bitcoin, a digital currency that can be exchanged for the old-fashioned sort and that offers near-anonymity during a deal.

Almost all sales are via “cryptomarkets”: dark websites that act as shop-fronts. These provide an escrow service, holding payments until customers agree to the bitcoin being released. Feedback systems like those on legitimate sites such as Amazon and eBay allow buyers to rate their purchases and to leave comments, helping other customers to choose a trustworthy supplier. The administrators take a 5-10% cut of each sale and set broad policy (for example, whether to allow the sale of guns). They pay moderators in bitcoin to run customer forums and handle complaints.

Once a deal is struck and payment is waiting in escrow, drugs are packed in a vacuum-sealed bag using latex gloves to avoid leaving fingerprints or traces of DNA, and dipped in bleach as a further precaution against leaving forensic traces. A label is printed (customs officials are suspicious

of handwritten addresses on international packages). Smart sellers use several post-offices, all far from their homes—and, preferably, not overlooked by CCTV cameras. Some offer to send empty packages to new customers, so they can check for signs of inspection. Smart buyers use the address of an inattentive or absent neighbour with an accessible postbox, and never sign for receipt. Judging by the reviews, around 90% of shipments get through.

Despite the elaborate precautions, until now cryptomarkets have tended not to last long. The first, Silk Road, survived almost three years until the FBI tracked down its administrator, Ross Ulbricht, aka “Dread Pirate Roberts”. He is serving a life sentence for money-laundering, computer-hacking and conspiracy to sell narcotics. Its successor, Silk Road 2, lasted just a year before law-enforcement caught up with it. Buyers and sellers migrated to the next-biggest sites, Evolution and Agora. The former vanished in March 2015 with \$12m-worth of customers’ bitcoin in an “exit scam”. Then Agora disappeared, claiming that it had to fix security flaws. The biggest still standing is Alphabay, though the recently opened fourth version of Silk Road could knock it off the top spot.

**Quality assurance**

The secretive nature of dark-web markets makes them difficult to study. But last year a researcher using the pseudonym Gwern Branwen cast some light on them. Roughly once a week between December 2013 and July 2015, programmes he had written crawled 90-odd cryptomarkets, archiving a snapshot of each page.

The Economist has extracted data from the resulting 1.5 terabytes of information ▶▶

▶ for around 360,000 sales between December 2013 and July 2015 on Agora, Evolution and Silk Road 2. In total the deals were worth around \$50m. For each transaction we know what was sold, the price in bitcoin, the date of completion, shipping details, the customer's rating and the vendor's pseudonym.

There are, inevitably, flaws in the data. Mr Branwen's scrapes probably missed some deals. We excluded any sale that was more than a week old when the scrape took place. If a price was absurdly high we ignored the page; such "holding prices" are used by dealers to indicate a lack of supply. Vendors may fake sales (though probably not often, since cryptomarkets take a cut) or reviews (though dissatisfied real customers would soon catch outright fraudsters). The volatile exchange rate between bitcoin and dollars means our conversions of prices are not completely accurate.

MDMA (ecstasy) sold the most by value (see graphic on previous page). Marijuana was the most popular product, with around 38,000 sales. Legal drugs such as oxycodone and diazepam (Valium) were also popular. A third of sales did not belong in any of our categories: these included drug kit such as bongs, and drugs described in ways that buyers presumably understood, but we did not (Barney's Farm; Pink Panther; Gorilla Glue).

Some of the products cater to niche interests. You can consume "with a good conscious [sic]", promises one vendor for his "ethically sourced" THC chocolate, which costs 13% more than the ordinary, immoral stuff. "Conflict-free" cocaine is also available for the humanitarian (or delusional) drug-taker. And "social" coke—a less pure version sold at a discount of 5-25%—is aimed at buyers who want to look lavish on a budget.

The first striking finding is that drugs bought on the dark web are comparatively pricey (see chart 1). Even though buyers can browse for a bargain, in most countries a gram of heroin costs roughly twice as much online as on the street. The markup for cocaine is around 40%.

Australia bucks this trend. Narcotics prices there are usually three or four times higher than the rich-world average. Australia is so remote that sending drugs there is much more expensive, plus their customs officials are better at securing their border, notes David Décary-Héту, a cyber-security expert at Montreal University. But the competition from an international market drives online prices below those on the street. Using the postal system makes arbitrage possible, says Nicolas Christin of Carnegie Mellon University. An enterprising dealer could, for instance, pick up a gram of heroin from the Netherlands for \$75. If it makes it through customs into Australia, the price jumps to \$288.

One reason for the higher price of dark-

web drugs in most of the world, says Mr Christin, is that vendors must build in some of the cost of parcels being intercepted (some promise to split the loss with the seller; others say they will abide by a moderator's decision). And using the postal system makes it hard to introduce economies of scale. To avoid suspicion, vendors do not buy vacuum-seal bags in bulk. A package can take an hour to prepare. The common precaution of using a distant post office is costly: on an online forum, one dealer complains that dispatching a single package a day would mean losing money on petrol alone. Postage and packing raises prices as much as 28% (see chart 2).

The main reason for the online price premium, though, appears to be that dark-web drugs are of higher quality. If you order from someone with thousands of reviews you are unlikely to get a poison in place of a psychedelic, explains a regular buyer of LSD. An online dealer who flogs drugs gets bad reviews and loses clients.

A study by Energy Control, a Spanish think-tank that asked volunteers to send samples of dark-web drugs for testing, confirms the existence of this quality premium. It found an average purity level for cocaine, the drug for which it gathered the most data, of 71.6%, compared with 48% for cocaine bought on Spanish streets. Over half of the dark-web samples contained nothing but cocaine, compared with just 14% of those bought offline. Taking purity into account, it is probably cheaper to score online than via your local dealer, says Judith Aldridge of Manchester University.

The price gap differs from drug to drug. Some of the variation can be explained by where the cryptomarket sits in the supply chain. With the right know-how and access to chemicals it is possible to produce synthetic drugs such as LSD and ecstasy anywhere. Cannabis can be grown indoors, if bathed in high-powered electric

light. But heroin and cocaine still have to be sourced from Afghanistan or Latin America. So their sellers, even online, are likely to be middlemen, with the associated risks, rather than producers.

For most drugs, though, cryptomarkets allow dealers to avoid the dangers they face on the street. They no longer run such risks as being shot by a rival or stabbed by a junkie. Customers are less likely to be arrested, or sold dodgy products. But there are also new dangers.

Ms Aldridge points to "doxxing"—the release of personal details online—as one. An aggrieved (or opportunistic) vendor who thinks a customer's review was unfair may publish the delivery address or threaten blackmail. On a forum, one user complains that he received a letter postmarked Hawaii saying that someone "has my info and he's going to give it to the cops" unless five bitcoin (\$1,217 at the time) are sent to an untraceable account. And cryptomarkets themselves have suffered distributed denial-of-service attacks, in which a website is brought down by a flood of bogus page requests. These may be orchestrated by rivals who want to grab market share, says James Martin, a cryptomarket expert at Macquarie University in Australia, just as offline gangs engage in turf wars.

### Medicine man

As the drug trade moves to cryptomarkets, ancillary services are springing up. Outfits such as Mr420 claim to offer vendors public-relations services—and fake reviews. Online forums allow dark-web users to warn each other about rip-off vendors, and addicts to seek advice on how to manage their habits. Dealers, too, share information: leaked customs and post-office manuals are mined for tips on how to lower the odds that a shipment is stopped.

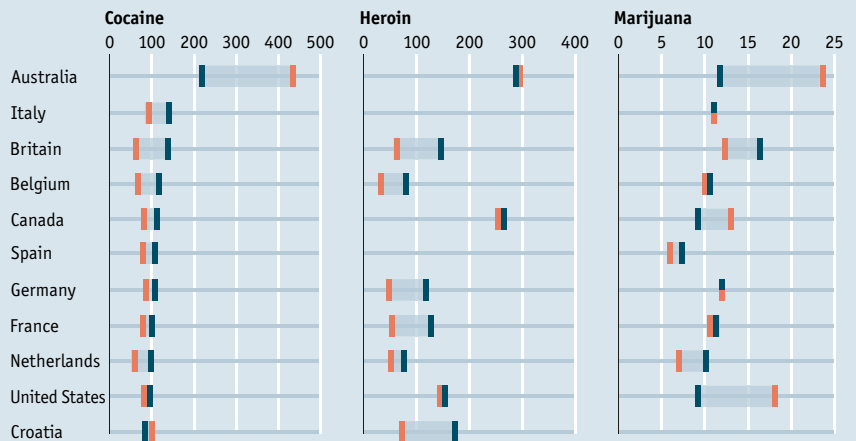
DNMA vengers, a website that launched last November, funded by donations, uses ▶▶

### High times

Price of drugs, 2014-15, \$ per gram

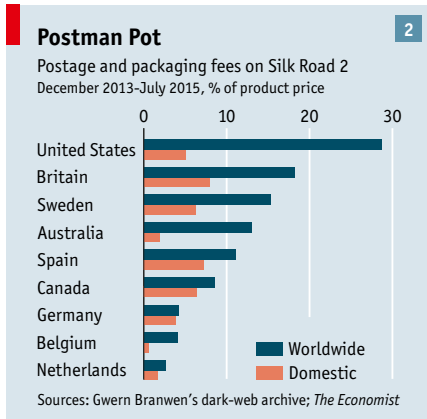
Street price

Median dark-web price



Sources: Gwern Branwen's dark-web archive; UN; European Monitoring Centre for Drugs and Drug Addiction; The Economist





trained chemists to analyse samples of dark-web drugs sent in by users. It publishes the results on its website. Fernando Caudevilla, a physician based in Madrid who is better known as DoctorX, dishes out free drug-related advice on dark-web forums. Drug-users do not come into hospitals, he says, so health workers need to go and find them. He has responded to about a thousand queries in the past few years, from “Can I take MDMA if I have diabetes?” (Yes, if you follow the guidelines and closely monitor blood tests) to “Can I use marijuana while I am breastfeeding?” (No; it gets into breast milk).

Other developments are making the job of law-enforcement harder. Tails, an operating system popular among dark-web fans, blocks almost all non-anonymous communication to or from a computer. Mr Christin and Kyle Soska, another cyber-security expert, found that the share of vendors using PGP encryption jumped from about 25% in July 2013 to over 90% in January 2015. “Bitcoin-tumblers” make the digital currency harder to trace. A customer’s bitcoin are poured into a virtual black box and mixed with other bitcoin. Afterwards the same amount is returned, but made up of bits of other people’s stashes, making transactions even harder to track.

OpenBazaar, a trading site launched in April, works on a peer-to-peer basis, rather than through a central website. Users download a program that links their computers to all others on which it is installed, thus creating a network through which deals can take place. This model could make dark-web markets less susceptible to exit scams, since the escrow system requires either the buyer’s or seller’s approval to release the bitcoin, and nearly impossible to take down.

Around three-fifths of dark-web vendors are groups of people rather than individuals, judging by the share of profiles that refer to themselves as “we”. And a small number are responsible for most of the sales. The study by Mr Christin and Mr Soska found that just 2% of sellers made more than \$100,000 between July 2013 and January 2015.

Another study, by Mr Décarry-Hétu and Ms Aldridge, suggests that roughly a quarter of deals on dark-web markets appear to be for wholesale purposes. Purchases of cannabis costing over \$1,000 (roughly three ounces) make up 24% of marijuana sales by value. Ecstasy orders worth the same amount make up 47%. Other sellers are probably users who have bought a bit more than they need and have no one to sell to. They find buyers online, drop their surplus in the post and leave it at that.

We crunched numbers for around 2,000 vendors, splitting them into quintiles and analysing their characteristics. Those who did well look a lot like the best sellers on legitimate marketplaces such as Amazon and eBay. The sellers with the highest revenues tend to offer a wider range of products and to ship globally. They seek to distinguish their brands by developing a reputation for quality, reliability and speed. They get the best reviews.

Since little other information about the seller is available, a good track record matters even more in illicit markets than in ordinary ones. Most of the ratings in our dataset are close to five, but there is still a gap between the best and the rest. The big fish were awarded scores of 4.9 on average, compared with 4.7 for the minnows.

Breaking into such a market can be tough. So newcomers use promotions such as free samples to win their first reviews. Low prices help, says one vendor: once you have a following you can raise them. Some use stunts: one outfit somehow convinced a customer to get its logo tattooed on his back. The photo, circulated on forums, helped attract new buyers.

Once established, vendors work hard to keep clients happy. “Customer service is usually excellent,” notes a regular weed-

buyer, who finds that dealers online are “very polite and friendly”. Good feedback may be rewarded: some sellers respond to positive reviews by putting a little extra in the next parcel. Diversifying is another way to increase revenue. Vendors split into two distinct groups: those who peddle drugs and those who do not (see chart 3). Within those categories, bigger vendors typically stock at least two products; smaller vendors often sell just one. And when drug dealers decide to branch out, what they add depends somewhat on what they already peddle. Those who sell speed, for instance, are more likely also to stock MDMA, another synthetic drug. Those who sell cocaine are likely to diversify into heroin; and those who sell marijuana not to diversify at all.

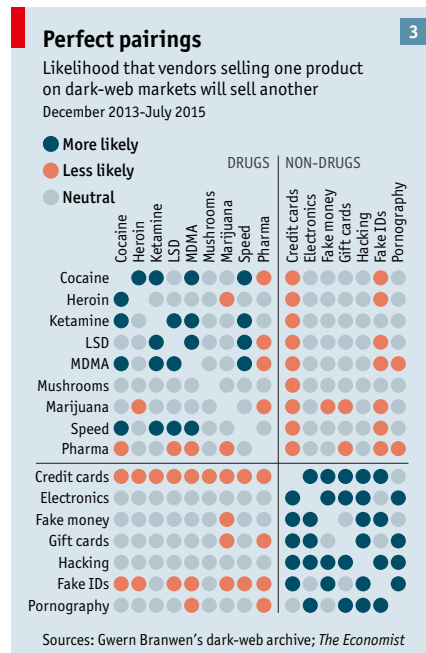
Just as on the “surface” web, going global can be profitable. About half the dealers in the upper bracket of sales ship worldwide, compared with a third at the bottom end. But this is riskier: customs officers are more likely to inspect suspicious packages than postal workers are. Australian officials seem to be the nosiest: of the 126 dealers in our dataset who name regions where they will not ship, 112 exclude Australia.

Compared with legal online markets, trust in cryptomarkets lies more with sellers than with the platform on which they operate. Exit scams and police takedowns mean no site becomes dominant, and customers are resigned to none lasting long. Buyers tend to have accounts on multiple markets and to jump ship as soon as things go wrong. Grams, a dark-web search engine modelled on Google, allows punters to hunt for bargains across different markets, further eroding sites’ ability to gain market share. Its logo even mimics the internet giant’s colour palette, and Grams Trends lets users see what other people have been searching for (mostly marijuana). Dedicated forums and dark-web news sites keep track of which websites are active, and recommend specific dealers.

### Legitimate businessmen

Thus far the powerful “cartels” that have long dominated the drugs trade seem to have taken little interest in the dark web. One reason is that they have established supply chains that they are not keen to disrupt. Their special skills—smuggling, intimidation and violence—are useless online. And their comparative advantage is in shifting drugs in tonnes, not kilograms.

According to Mr Martin, the drug trade may be experiencing the equivalent of the online retail boom of the 1990s, when department stores downplayed the threat posed by insurgent e-tailers. Those department stores have since built websites of their own—or gone out of business. Old-style drug lords might want to think about investing in cryptomarkets, or risk being disrupted out of existence. ■





### The future of television

## Cutting the cord

### Television is at last having its digital-revolution moment

THE future of television was meant to have arrived by around now, in a bloodbath worthy of the most gore-flecked scenes from “Game of Thrones”. The high cost of cable TV in America, combined with dire customer service and the rise of appealing on-demand streaming services as inexpensive substitutes, would drive millions to “cut the cord” with their cable providers. Customers would receive their TV over the internet, and pay far less for it. Many obscure channels with small audiences, meanwhile, would perish suddenly.

So, at least, many in the industry thought. Instead, the death of old television has been a slow bleed. American households have started to hack away at the cable cord, but the attrition rate is only about 1% a year. Television viewership is in decline, especially among younger viewers coveted by advertisers. Yet media firms are still raking it in, because ad rates have gone up, and the price of cable TV continues to rise every year. The use of Netflix and other streaming services has exploded—half of American households now subscribe to at least one—but usually as add-ons, not substitutes. Overall, Americans are paying more than ever for TV.

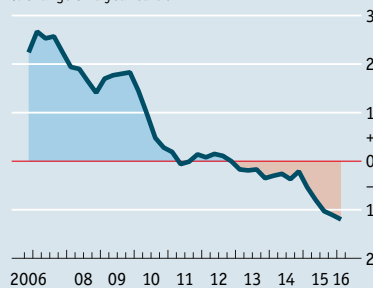
This cannot last for much longer. The fat, pricey cable bundle of 200 channels is fast becoming antiquated as slimmer streaming options emerge. Now two tech giants, Amazon and YouTube (owned by

Google), as well as Hulu, a video-streaming service that is jointly owned by Disney, Fox and NBC Universal, are negotiating to offer live television over the internet by the end of the year or early next year. They would offer America’s major broadcast networks and many popular sports and entertainment channels, at a price that would cut the typical monthly bill almost in half, to \$40 or \$50.

That threatens to upend what was, and still is, the best business model in media history. The media conglomerates delivered a package of something for everyone—at first, at a reasonable price. The audience kept on growing along with the number of channels, which was good for

### Switching over

Pay TV subscribers in the United States  
% change on a year earlier



Source: MoffettNathanson

### Also in this section

- 51 Pokémon goes ballistic
- 52 The Theranos saga
- 52 Fads in corporate architecture
- 53 Indian conglomerates
- 53 Booming missiles
- 54 Corporate philanthropy in China
- 55 Schumpeter: The nerd economy

For daily coverage of business, visit

[Economist.com/business-finance](http://Economist.com/business-finance)

advertisers, for studios that produced shows, and for sports leagues that sold broadcast rights. Cable operators and networks enjoyed gross margins of 30-60% and merrily pushed new gear, such as digital video recorders, and still more channels towards their loyal customers.

They are becoming less loyal. The pace of cord-cutting has not been as fast as many expected, but it has begun to quicken. The number of people leaving cable each year outnumbers those joining, and has done so since 2013. For a while the losses were modest, at just over half a million households in total in 2013 and 2014, out of 101m subscribers. Last year, however, traditional pay TV suddenly lost 1.1m subscribers. Lots switched to an early internet “skinny bundle” from Sling TV, a new product from Dish Network, a satellite-TV provider. Investors panicked. When Bob Iger, chief executive of Disney, acknowledged last August that people were severing the cord even with ESPN, a sports network and the firm’s most profitable media property, a media rout ensued. Since then, shares in Disney and Fox have fallen by almost 20%.

Those that do chop the cord almost never come back, joining the ranks of millennials who avoid signing up for cable in the first place, dubbed “cord-nevers” by media executives. They are lost to the world of subscription video-on-demand: Netflix, Amazon Prime video, Hulu, HBO Now and the like, services that cost around \$10 to \$15 a month each.

To stanch this flow, cable operators can offer “triple-play” packages that combine broadband, television and telephone service, which gives them a pricing advantage. They can also rely on older Americans. Older viewers watch more television than any other group, they watch more of ▶▶



▶ it than they used to, and more are tuning in; and they are not going anywhere. Internet services may also blunder as they go into TV-streaming. An internet service from HBO, owned by Time Warner, a media conglomerate, recently suffered a blackout just as a much-anticipated episode of its “Game of Thrones” was about to begin, enraging customers. Early adopters will sign up; others will wait and see.

But over time the changes threaten to cripple several actors that now live off the big bundle: large media companies with weak programming, like Viacom (the firm may sell a large stake in its film studio to Dalian Wanda Group, a Chinese entertain-

ment conglomerate, to raise cash); small independent channels that have benefited from being part of the “long tail”; and satellite operators, who have little to sell but TV. The winners and survivors will be media companies who provide the most “must-see” TV and the fewest unwanted channels. Coveted content will still be king, as seen in the recent sale of a niche martial-arts league for \$4 billion. Cable firms can still earn their keep selling broadband internet and, perhaps, streaming services.

The clearest winners will be consumers. In 2008, cable subscribers had 129 channels to choose from, and they watched an average of 17 channels in a giv-

en week. Five years later, they had 189 channels, and were still watching only 17.5, or just under a tenth of the available offering. Their bills, unlike disposable incomes, have doubled in this century.

The fact that more TV viewers have not switched channel to a better model is mainly the result of two factors. The first is that customers are still addicted to live TV, especially sport, and fat, pricey bundles reliably give that to them. Media firms have bid up sports rights to fantastic sums. Disney’s ESPN, and TNT, owned by Time Warner, are paying a combined \$24 billion for the rights to broadcast NBA basketball games for the next nine years, almost triple the amount they were paying under their former deal. The second factor is that customers have lacked reliable, cheaper options until now. That is changing with the arrival of services like Sling TV, which now has 700,000 subscribers, reckons Michael Nathanson of MoffettNathanson, a research firm. Another new “skinny” bundle, from Sony PlayStation Vue, recently passed 100,000 subscribers.

Many more may end up going to Hulu. Its old-media parents appear to have accepted the risks of disrupting the existing model in order to keep a stake in the future through younger viewers; channel negotiations are expected to go smoothly. And Hulu’s product at least continues the highly profitable concept of the bundle. One owner, NBC Universal, is owned by Comcast, a cable firm that could lose much from cord-cutting, but it has no say in the operations of Hulu, and would probably have little choice but to participate under competition terms set by the media regulator. Time Warner is also considering joining in.

Hulu is now testing channel combinations at various prices, including around \$40 to \$50 a month, close to similar packages from Sling TV and Sony PlayStation Vue. That would mean a slim margin, but its chief executive, Mike Hopkins, says getting people to cut the cord is all about price. It can profit from extra services, such as options to stream on multiple devices, to record and store shows in the cloud, and to subscribe to premium channels.

Amazon and YouTube are sure to generate yet more buzz, although their plans are still under wraps. Traditional players know full well that the dominant pay-TV operators of the future could well be the internet giants. New competitors will not have things all their own way. Apple failed to launch its own live TV service last year, perhaps because it could not agree with local broadcast affiliate stations on how much they should be paid for retransmitting their feeds. But the cable networks are keenly aware of what happened to the music business after Apple’s iTunes and other streaming services disaggregated the album. They will do what they can to prevent TV from being Spotifyed. ■

## Video games

# I mug you, Pickachu!

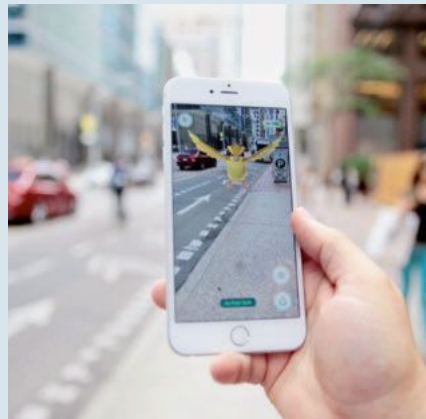
A hit video game shows how the real and virtual worlds are merging

ON JULY 10th police in O’Fallon, a Missouri town of about 80,000 people, made a statement about the modus operandi of an armed gang that had been using “Pokémon Go”, a video game, to prey on the locals. “You can add a beacon to a Pokéstop to lure more players,” the lawmen explained. “Apparently they [the muggers] were using the app to locate people standing around in the middle of a parking lot or whatever other location they were in.”

If that sounds like gibberish, it might be best to consult your nearest millennial. “Pokémon Go”, an app for smartphones published by Nintendo, a Japanese video-gaming firm, has proved a smash hit since its release on July 6th in America, Australia and New Zealand. It is the latest instalment of the Pokémon franchise, which began as a video game in 1996, before branching out into collectible cards, toys, books, TV shows and comics, and grossing ¥4.8 trillion (\$46 billion) in the process. Players take part in a sort of lighthearted digital dogfighting, in which the protagonists are not canines but cute magical animals discovered and trained by players.

“Pokémon Go” applies that formula to the real world. Smartphones direct players to various locations, either to find Pokémon or useful virtual items (at the aforementioned Pokéstops), or to deploy their charges in battle. An optional “augmented-reality” feature uses the phone’s camera to show a picture of the real world with a Pokémon digitally superimposed (pictured).

There have been unforeseen side-effects, some macabre. As well as the muggings in Missouri, a player in Wyoming found a dead body in a river while looking for Pokémon. A civilian (ie, not a



Profits over here

player) discovered that the old church in which he lives had been tagged by Niantic, the firm that developed the game, as a “gym”—a meeting-point for players wanting to do battle, dozens of whom had duly begun arriving outside his house. Most gyms seem to be in public places, suggesting the man’s home was tagged by mistake, though there is, at present, no way to have the tagging undone.

Much like Pokémon, pundits are now engaged in a virtual battle over what the game’s success means. Is it just a fad? Possibly. Will it help augmented reality go mainstream? Probably. How much money will Nintendo make with “Pokémon Go”? Although the app itself is free, players buy virtual items to strengthen their Pokémon. That “freemium” model has earned riches for other firms. And Niantic wants retailers and other firms to sponsor locations in its virtual world. In any case, Nintendo’s owners should be happy: the firm’s shares are up by over 50% since the game’s release, adding \$11 billion to its valuation.

## Diagnostics

## Red alert

## Theranos's fortunes worsen again

“FIRST they think you're crazy, then they fight you, and then all of the sudden you change the world,” said Elizabeth Holmes as troubles mounted for her blood-testing startup, Theranos, last year. Things look ever less likely to go beyond the fighting stage.

On July 7th a government regulator, the Centres for Medicare and Medicaid Services, said Ms Holmes would be barred from owning or running a laboratory for two years. It will also revoke her company's licence to operate one of two laboratories where it conducts tests. As *The Economist* went to press the firm was due to reply to a letter from Congress, which asked how, exactly, Theranos is going to handle the tens of thousands of patients who were given incorrect test results. Even so, Ms Holmes looks set to remain in position even as the situation deteriorates around a firm that once commanded a multi-billion-dollar valuation.

These may be some of the last twists in a story which will be turned into a Hollywood film by the director of “The Big Short”. Theranos's troubles began last year

when the *Wall Street Journal* questioned whether the firm's core technology—the ability to perform multiple tests on a tiny droplet of blood—actually worked. More problems piled up after news of flaws in its lab testing. The Securities and Exchange Commission said it would investigate whether Theranos's investors, who funded the company to the tune of \$690m, were misled. In May it emerged that in 2014-15, results from its proprietary blood-testing device had been thrown out entirely (see table).

These made up only a tiny proportion of the millions of tests that Theranos ran, but there are concerns that patients may nonetheless have been harmed by receiving the wrong test results. Theranos's own industry is turning upon its erstwhile star. The chief executive of HealthTell, another blood-diagnostics startup, says it is now clear that Theranos did not spend enough time developing the necessary clinical evidence before launching its new blood-testing product.

Theranos's chief business partner, Walgreens, an American drug retail chain, ended its three-year partnership with Theranos in June. It will now close Theranos's lab-testing services inside 40 of its shops. Theranos has also been hit with lawsuits from patients claiming fraud and false advertising, with Walgreens as a co-defendant. Walgreens confirmed to *The Economist* earlier this year that it had not validated or verified Theranos's tests (contradicting earlier assurances by the firm).

If Theranos is to limp along with Ms Holmes at the helm, one option the firm will be considering is to close down its laboratories (to comply with her ban) and focus the business on developing new blood tests. This was what she had been trying to do before the ill-fated move into the reference laboratory market, one that offers many commonly used tests to customers at one location.

The move into the reference market made it seem as if the firm was not committed to developing finger-stick tests. When customers arrived for testing they were often required to give blood from a vein, albeit blood taken in unusually small samples with tiny needles. That heightened concerns about the company. But behind the scenes it was moving towards its aim of using ever smaller volumes of blood in more consumer tests.

Whether the company has any technology worth saving from its mess is now the most intriguing question. The firm still claims to have a family of new clinical diagnostic methods that can reduce the amount of blood needed for testing and that can perform a wide range of tests in centralised and decentralised settings. A Hollywood ending would involve some sort of redemption for Ms Holmes. The real world is not always as kind. ■



## Fads in corporate architecture

## Putting on the glitz

PARIS

Everyone wants buildings as trendy as those of tech firms

PICTURE a set of Lego that covers 50,000 square metres (540,000 square feet), costs over one billion Danish kroner (\$150m), and has a mini-golf course on its roof. In reality the new global headquarters of the Lego Group will be of real bricks and concrete, but its boss, Jorgen Vig Knudstorp, describes it with childlike glee. It will rise up in Billund, in rural Denmark, he says, as “a great facility, not opulent, very playful, for children too.” “People house” will be a totem of the firm's success.

Mr Knudstorp is allowed to brag. The toymaker's annual return on invested capital has topped 100% for each of the past eight years. Pre-tax profits leapt by 28% last year and sales are buoyant. His “stick-to-the-brick” strategy has done handsomely, after an earlier crisis. Warner Brothers makes and owns brand-boosting Lego movies and others run Lego-themed parks, leaving him to sell toys. After years of recruitment, he says the 4,000 staff in Denmark have outgrown their offices.

Getting a glitzy new building with an indoor prairie, open space and bright yellow staircases is a fine way to celebrate. The design is packed full of fads common to others' new headquarters: staff who get “hot desks” to share, not their own workspaces; a big atrium and lots of glass to suggest a transparent firm culture and not much hierarchy; space for exercise plus lots of green features, notably low energy use.

That will sound familiar to others. Last month Siemens's boss, Joe Kaeser, unveiled a pricey new corporate HQ in Munich, and has described it as a place where encounters occur. Airbus, too, just cut the ▶▶

## A bloody mess

Theranos

2003	Company founded
2004	Elizabeth Holmes drops out of Stanford
2013	Theranos announces a partnership with Walgreens to allow blood testing at its pharmacies
2014	Company valued at more than \$9 billion
July 2015	FDA approves Theranos's test to detect infection by herpes simplex virus 1
October 2015	<i>Wall Street Journal</i> questions whether technology works
January 2016	Government regulator (CMS) finds serious problems, one of which poses a threat to patient health
March 2016	CMS says it is not satisfied with the reply it received and threatens sanctions
April 2016	SEC says it will investigate whether private investors were misled by Theranos
May 2016	Theranos voids two years of tests from its proprietary testing machine
June 2016	Congressional committee demands to know what steps Theranos is taking to comply with federal law and address inaccurate test results
July 2016	CMS bars founder from operating a lab for two years and revokes the certificate to run a laboratory

Source: *The Economist*



ribbon on its “Wings Campus”, a new group head office in Toulouse. A big canteen, fitness centre and “collaborative office space” are supposed to get staff talking. Tom Enders, its boss, claimed it all shows his firm is “open-minded, innovative and future-oriented”. Meanwhile Adidas, which makes running shoes, is splashing over €500m (\$550m) on a head office in tiny Herzogenaurach in Germany. It insists the design will ensure workers’ “spontaneous interaction”.

Big, old firms try to package themselves as nimble and open because they have to compete ever harder for talent, including against tech firms. Mr Knudstorp frets that in ageing Europe, labour markets will grow ever tighter for skilled designers, software engineers and others. Offering them a career in a windowless cubicle won’t do. Luka Mucic, chief financial officer of SAP, Europe’s largest software firm, notes a change of attitude among recent graduates, saying recruits care less than previous generations did about status and title. They want to know about a firm’s “vision”, and whether it has “an environment where they have a sense of choice”, he says.

Whether non-tech firms can really win in a battle of the buildings is another thing. Apple is spending an estimated \$5 billion on its new flying saucer-shaped campus in Cupertino, California; nearby Google will erect such futuristic headquarters that one website calls it a “spiderweb canopy utopia”. Amazon, not to be outdone, is putting up tree-filled “spheres” in downtown Seattle so staff can hold meetings in forests. For European firms in out-of-the-way company towns such as Billund or Herzogenaurach, it might be hard to compete, however appealing the minigolf course. ■

### Indian conglomerates

## Sell me if you can

MUMBAI

### India’s indebted tycoons are under pressure to flog their prized assets

A STAKE in a Formula One team, four planes and a slew of posh hotels including the Grosvenor House Hotel in London: the troubles of Sahara, an Indian conglomerate whose founder has been in and out of prison, has resulted in a neat pile of trophy assets for the discerning buyer. The often unmanageable debt levels at India’s largest firms now mean plenty of less glamorous assets are up for grabs, too, from cement and steel plants to airports and toll roads. Once adept at giving their bankers the runaround, tycoons are now less able to fend off pressure to pay down debt with sales of prize assets.

Given how indebted India’s largest firms are—ten prominent ones taken together have interest payments bigger than their annual profits, according to Credit Suisse, a bank—there should soon be a long list of items on the block. A few big groups have already raised fresh funds by selling off parts of their businesses. Analysts at State Bank of India reckon that deals worth 2 trillion rupees (\$29.8 billion) have been signed or are on the way, enough to make a dent in the total debt of the companies involved, which amounts to around 10 trillion rupees.

So far, more deals have been rumoured than actually completed (the Qatar Investment Authority is poised to snap up the London hotel). Many of the investment bankers who had hoped for fat mandates worry that the founder-shareholders who dominate India’s business scene (and its debt) are keener to talk about break-ups than actually preside over them. Others prefer to flog overseas trophies, for example a stake in Sabiha Gökçen airport in Turkey, sold by GMR, an infrastructure group, to a Malaysian rival.

But a sea-change is on its way. Formerly, company founders had the clout to keep their empires intact. They could put in a call to their pals in government to keep down any pesky banker demanding repayment. India had no proper bankruptcy regime, so promoters, as company founders are known, could effectively blackmail banks with an implicit threat: keep funding me or face years of litigation as the business implodes.

Banking reforms championed by Raghuram Rajan, the departing central-bank governor, have made such tactics harder. The government passed a new bankruptcy law in May. It will mean that banks should from next year onwards be able to foreclose on insolvent firms. A new mood in the offices of regulators and government officials is also emboldening bankers to recoup dud loans rather than, as in the past, extend new ones. Better still, under Narendra Modi, India’s prime minister, tycoons appear to have lost their direct access to ministers’ offices.

Even with the coming changes, India is far from using an efficient, American-style procedure in which over-indebted firms are swallowed by their lenders and then disposed of, either whole or in parts, to new owners. One reason is that buyers are scarce. A web of regulation makes it hard in India to run the private-equity firms that could smooth the process. And promoters are hesitant to swoop for each other’s assets, bound as they are by long histories of their families doing business together (and, often, by marriage, too).

Much of corporate India’s unsustainable debt is also in cyclical industries such as steel or mining. Shareholders often hang on for far too long hoping that rising com-

modity prices might resurrect an ailing firm’s fortunes. Meanwhile, tycoons are good at making money from the businesses they own even when no profits are forthcoming. One ruse is getting firms to overpay for rent on a head-office building ultimately owned by family members.

Nor will asset sales be a panacea. If a profitable part of a conglomerate’s business is sold to raise cash, its profits won’t be available to service what remains of the debt, so leaving both bankers and businessmen only a bit better off. But it is surprising even to see the deals happening—and that a regulatory change is already having such a visible effect. ■

### Defence firms

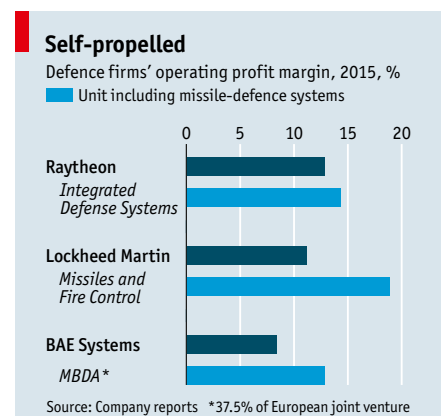
## Rocketing around the world

FARNBOROUGH

### Weapons-makers reckon missiles will be their next big hit

THE F-35 stealth fighter is designed to be unnoticeable—at least by enemy radar. Nonetheless, it was the showstopper at this week’s Farnborough air show in Britain, impressing crowds in the show-ground’s terraces with its smooth manoeuvres and party tricks such as flying backwards. Such was the buzz around the new jet that CEOs attending the show to hammer out big deals broke off meetings to watch. But at Farnborough’s trade show, which opened on July 11th, all the talk was of the missiles the F-35 can fire, as well as the new missile-defence systems that could eventually shoot it down.

Missiles excite, for unlike other weapons, demand for them is growing strongly. Global defence spending grew by just 1% last year—after five years of severe budget cuts in many countries—but the global market for missiles and missile-defence systems is racing ahead at around 5% a year. The capabilities of such weapons are increasing, and with that their price and ▶▶



▶ profitability. Missiles are no longer just flying bombs; they now often contain more computer than explosive to help find their target autonomously.

Sales are rising along with the military threats they help address, says Wes Kremer, who runs Raytheon's integrated missile-defence business. NATO has been upgrading its European ground-missile defences to prepare for Russian aerial attacks since Vladimir Putin annexed the Crimea in 2014; last week an initial version was declared operational. In Asia several countries are spending on systems to defend against China and North Korea. And in the Middle East, the use of targeted air-to-ground missiles has dramatically risen to try and reduce casualties in conflicts against IS and in Yemen.

For defence firms, missile systems are among the most profitable products they can offer (see chart on previous page). One reason is that the current generation of weaponry has not faced the same scale of development problems as new plane projects such as the F-35, or Airbus's A400M military transporter, both of which are billions of dollars over budget.

Executives are putting missiles at the forefront of their efforts to expand abroad and to reduce their reliance on home governments. This week the West's big three missile-makers (Raytheon, Lockheed Martin and MBDA) showed off their kit to visiting military delegations, festooned with colourful aiguillettes and decorations, from across the world. Small countries can afford the million-dollar-plus price tags for missile systems compared with \$80m for a new F-35. The most go-ahead so far has been MBDA, a European joint venture, which last year won more missile orders outside Europe than within its home continent. Others are now catching up on foreign sales. Raytheon hopes soon to sign a \$5.6 billion deal with Poland to upgrade its Patriot missile-defence shield, while Lockheed and MBDA plan to ink a deal with Germany for their air-defence systems.

Investors reckon this will surely all translate into fatter profits for the defence industry. The share prices of Lockheed and Raytheon have both risen by a third over the past year. But there also are reasons to be cautious. "We're unlikely to see returns as good in the sector over the next few years as we have since 9/11 from which point American military spending surged," says Michael Goldberg, a defence consultant at Bain & Company.

Another reason to be cautious is that defence ministries have become better at procurement and at fostering competition. That means missile divisions at Western firms are facing more competition from Chinese, Israeli and Russian firms in some export markets, where the latter are upping their game. However good the missile, not every target will be hit. ■



### Corporate philanthropy in China

## The emperor's gift

HANGZHOU

Chinese bosses are giving more to charity

WHEN Warren Buffett and Bill Gates held a banquet for Chinese billionaires in 2010, they hoped to win them over to philanthropy. They got the cold shoulder. Many wealthy industrialists stayed away, and none of those who attended signed their "Giving Pledge". This meanness was not due to penury: China boasts more dollar billionaires today than does America. Asked why he and his compatriots rebuffed the evangelisers, Jack Ma, boss of Alibaba, an e-commerce giant, insists it is not because they were stingy. At a conference on private-sector philanthropy hosted by his firm this month in Hangzhou, he explained that China's charitable sector was then still in its infancy.

The outlook has since improved. Charitable giving in China still lags that in America, but it is rising (see chart). Oscar Tang, a Chinese-American billionaire and philanthropist, tells of another banquet for fat cats in Beijing, this one hosted earlier this month by Ban Ki-moon, secretary-general of the United Nations, and the C100, a group of prominent Chinese-Americans. Unlike at the frosty meeting in 2010 with the "two white men" telling them to give away money, he recounts, the mainland bosses were enthusiastic about his exhortations to share the wealth.

One reason for this shift in attitude is a generational change. Scholars at Harvard University have looked at patterns of giving among China's top donors. In the past, the most generous were property tycoons who gave to educational outfits, especially elite universities in their home provinces along the wealthy coast. It was a careful approach, suited to a political system where making pots of money had only recently

become normal. But it meant poor schools and indigent interior provinces lost out.

As the economy modernises, a crop of youngish technology billionaires, keen to "democratise" philanthropy, has emerged. On the eve of Alibaba's initial public flotation in New York two years ago, Mr Ma and Joseph Tsai, the firm's co-founder, donated options worth about 2% of their firm's equity to a new charitable trust (Alibaba's market capitalisation today is around \$200 billion). Pony Ma (pictured), founder of Tencent, a Chinese gaming and social-media giant, said in April that he will donate shares worth over \$2 billion to his firm's charitable foundation.

Many entrepreneurs are following their lead. The younger generation is much more likely than older ones to give money to more politically sensitive areas such as the environment and public health, as the two Mas are doing with their respective foundations. They are also applying whizzy digital tools, from the mobile internet to cloud computing, in order to help charities to modernise their operations.

Such beneficence is helping to address some of the flaws in the non-profit sector. There is a lack of proper management and not enough transparency. Governance is weak. Various prominent charities have been ensnared in corruption scandals in recent years. Numerous research institutes and academic training programmes have sprung up of late to address the problem.

The last, and most surprising, push towards philanthropy comes from the government. Chinese rulers have long viewed private philanthropy with suspicion, worrying that the public might recognise in it the manifold failings of the state. Many would-be donors also resisted giving money, or did so furtively, for fear of attracting unwanted official attention. But the government has pushed through a sensible philanthropy law, due to come into force later this year, that makes it easier to donate. It also clarifies regulations governing local charities and pushes for transparency. If the implementation is as good as the framework, China's corporate giving will surely surge. ■





# Schumpeter | Be nice to nerds

Forget the cool kids. Geeks are now shaping new products and services



**F**IVE years ago Zach Sims, a sprightly, striving 21-year-old, launched Codecademy, a startup, to offer online courses about how to write software. He remembers pitching his idea to prospective investors only to hear a “chorus of no”. At the time, the naysayers thought coding was a weird, fringe activity for computer-science geeks. They were wrong. Since 2011, more than 25m people have signed up for Codecademy. Meanwhile, in-person crash courses that teach computer programming, called coding boot-camps, have spread worldwide, as more people aspire to tech jobs or running their own startup. This year tuition fees at these boot-camps will reach around \$200m in America alone.

“Be nice to nerds. Chances are you may end up working for them,” wrote Charles Sykes, author of the book “50 Rules Kids Won’t Learn in School”, first published in 2007. Today there are more reasons than ever to treat nerds with respect: never mind the fact that every company is clamouring to hire them, geeks are starting to shape markets for new products and services.

Stephen O’Grady of RedMonk, a consultancy, calls developers the “new kingmakers”: they are driving decisions about the technology that their companies use to an extent that has never before been possible. From personal computers to social-media companies like Twitter and Facebook, many gadgets and platforms started out with curious tech enthusiasts experimenting in their garage or dorm room, only to turn into mainstream hits. Slack, a two-year-old messaging firm that aims to displace e-mail, started as a tool for software developers to communicate with one another before it spread to other functions and companies.

But nerds’ influence now goes well beyond technology. They hold greater cultural sway. “Silicon Valley”, a show on HBO which will soon start filming its fourth season, presents the “brogrammer” startup culture in all its grit and glory, and suggests that mass audiences are transfixed by what really happens behind closed (garage) doors. Techies in San Francisco don not only hoodies but also T-shirts with “GEEK” emblazoned on the front. Those too risk-averse to become university dropouts like Microsoft’s Bill Gates and Mark Zuckerberg of Facebook rush in rising numbers to Silicon Valley as soon as they graduate, forsaking careers on Wall Street to code their way into the 1%.

Nerds carry more clout in part because their ranks have

swelled. IDC, a research firm, estimates there are now around 20m professional and hobbyist software developers worldwide; that is probably low. Geeky, addictive video games are drawing more into the fold. Each month at least 70m people play “League of Legends”, a complex multiplayer online game; that is more than play baseball, softball or tennis worldwide.

As a result, companies had better pay attention to the rise of a “nerd economy” that stretches well beyond their direct technology needs. Venture capitalists were first to pick up on this. Chris Dixon of Andreessen Horowitz, a Silicon Valley venture-capital firm, says he is constantly watching “what the smartest people are doing on the weekends”, because it hints at what the mainstream will be up to in ten years’ time. With this rationale, Andreessen Horowitz has invested in various gadgets and products that early adopters have embraced, including a nutrient-rich drinkable meal for engineers too busy to take a break from coding, called Soylent. Another investment is in a company called Nootrobox, which makes chewable coffee for people too lazy or antisocial to order a liquid shot from a barista. The “mouth of the cultural river” has shifted from New York and Los Angeles to San Francisco, says Mr Dixon.

Not only nerd food has won venture capitalists’ attention, but also their fashion choices. Warby Parker, a glasses firm, and Stance, a startup that makes bright, geeky socks, have attracted \$200m in venture capital. Both cater to techies as well as the fashion-aware (the line between hipster and nerd can be fuzzy). The “sharing economy”, exemplified by Lyft and Airbnb, also was originally a nerd thing: they prefer renting to buying stuff.

Incumbent businesses, too, have started to take their cue from all this nerdiness. Brands like Mountain Dew and Doritos have sponsored video-game competitions and “rodeos” where competitors race drones around stadiums. By intrepidly going where the nerds go, brands hope to get some credibility. “Hackathons”, where companies invite prospective and current employees to stay up all night, eat pizza and code, are de rigueur as a means to recruit engineers. Even very traditional companies like MasterCard and Disney have started to hold them.

Sometimes, however, it can all be a bit embarrassing. GE, an industrial giant, has run a television ad campaign about how it hires software developers that feels as awkward to watch as an engineer trying to do stand-up comedy for the first time. Haagen-Dazs, an ice cream-maker, has put up billboards in San Francisco that proudly declare “We’re a 56-year-old startup” and present the written recipe for vanilla ice cream as if it were code.

## It’s all geek to me

As the success of Pokémon Go, an augmented-reality game, shows (see page 51), there can be big profits in the avant-garde areas where nerds like to experiment. Unfortunately, trying to observe and appeal to nerds is not a sure-fire strategy. Not every product or pastime embraced by software engineers will become a hit. “Brogrammers” may embrace Soylent and Nootrobox. But your correspondent, who has tried both to her stomach’s displeasure, is sceptical on whether they will ever be a match for solid food and hot coffee.

And if they try too hard to speak geek, large companies will come off as inauthentic and alienating, exactly what they were trying not to be. Nerds may be a powerful commercial force, but many of them harbour disdain for big brands and overt marketing. Firms will have to try hard to send a cool, coded message. ■



### Turkey's economy

## Sugar highs

ISTANBUL

**Turkey's economy needs boring reforms. Instead, it is getting quick fixes**

LAST year Soner Tufan, straining to keep up with demand for guided tours around Istanbul, decided to move to spacious new offices. "Those were the days," sighs Ali Emrah, his business partner. Despite running one of the top-rated tour-guide companies in Istanbul, they have seen daily inquiries about tours fall from 20 or 30 to three or four following a series of terrorist attacks in Turkey, the most recent on Istanbul's main airport. Their expansion now feels like an error. Many tour guides, they say, are looking for new jobs.

Turkey's tourism slump is already visible in deserted sights and empty hotels, but not yet in its economic statistics. Banks have restructured loans to the industry; non-performing loan ratios will begin to rise only next year, says Ozlem Derici of DenizBank. The impact on Turkey's current account—last year revenues from tourism paid for half of Turkey's trade deficit in goods—will become clearer as the summer wears on. Nihan Ziya-Erdem of Garanti Bank says the slowdown could shave as much as one percentage point off this year's growth rate.

That is bad news for Recep Tayyip Erdogan, Turkey's president. As it is, growth has slowed from rates of 7-8% a year when he was prime minister (see chart). The relatively healthy clip of 4.5% in the first quarter, year on year, was largely the result of a 30% boost to the minimum wage on Janu-

ary 1st, which lifted consumer spending. The IMF expects growth to decline further, to 3.5% in 2018.

Turkey's current-account deficit, however, is already large and persistent. Cheap oil and reduced demand for imports of other goods because of the weakness of the Turkish lira helped keep it to 4.5% of GDP in 2015. But Nafez Zouk of Oxford Economics, a consultancy, expects that the tourism slump will lead to a current-account deficit of 5% this year and 5.4% in 2017.

This is worrying, as it leaves Turkey dependent on flighty foreign lenders and investors to cover its import bill. Turkey's foreign debts have risen rapidly, from 38% of GDP in 2008 to 55% of GDP at the end of 2015. And more than 90% of them are denominated in foreign currency, not in lira. Further depreciation of the lira risks a mismatch between what companies owe and what they can afford. And if the foreigners take fright, funding could dry up.

Yet the economy does not seem to be on the brink of crisis. Most firms borrowing in foreign currency are taking out long-term loans, Mr Zouk notes, and many, such as energy and property firms, price their products in dollars, providing something of a hedge against further depreciation. Besides, expected interest-rate rises in the rich world, which might have drawn capital out of emerging markets, have been de-

### Also in this section

- 57 Buttonwood: The curse of low rates**
- 58 The agony of Deutsche Bank**
- 58 Prosecuting financial firms**
- 59 The unhappy growth of temping**
- 60 Payouts for whistleblowers**
- 61 Free exchange: Comparing economies**

For daily analysis and debate on economics, visit [Economist.com/economics](http://Economist.com/economics)

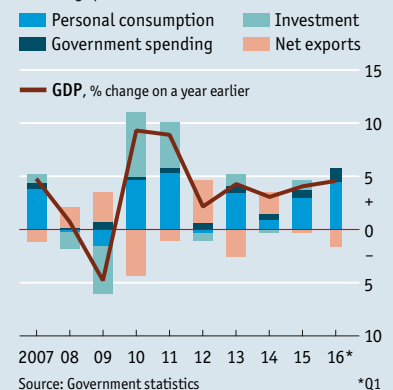
ferred again in the wake of Brexit and a broader slowdown in the world economy.

There is much that could be done to boost growth, however, including scrapping rules on firing that discourage hiring, improving the quality of education and bringing the huge informal economy onto the books. Investment shrank in the first quarter. Reviving it requires greater political and economic stability, says Zumurat Imamoglu of TUSIAD, Turkey's main business lobby. Raising the pitifully low savings rate would reduce Turkey's reliance on flighty foreigners. Without such reforms, growth will inevitably falter at some point, she argues.

Yet Mr Erdogan's speeches suggest a preoccupation with quick fixes instead of worthy but arduous reforms. He has publicly criticised the (theoretically independent) central bank for keeping interest rates too high, accusing a mysterious "interest-rate lobby" of choking off investment. To the befuddlement of economists, he has ▶▶

### All carbs, no protein

Turkey, contribution to changes in GDP  
Percentage points





▶ even suggested that lower interest rates would dampen inflation, the exact opposite of the conventional view.

Unfortunately, Mr Erdogan's fulminations seem to be influencing the central bank. Annual inflation ticked up to 7.6% in June, well above the official target of 5%. Nevertheless, the bank has been easing monetary policy over the past few months, under the guise of simplifying an (admittedly complex) interest-rate regime. Cevdet Akcay of Yapi Kredi, another Turkish bank, found that inflation has become less responsive to monetary policy. That will make it much harder to bring it back down

without raising rates sharply and thus injuring the economy.

Instead of improving the investment climate more broadly, Mr Erdogan is scattering subsidies and tax breaks. On June 28th the government announced an investment-promotion package, including an exemption from property tax for investments, cuts to stamp duty on contracts and subsidies for research and development. For now, the budget remains in primary surplus (ie, before interest payments), but that is largely thanks to one-off revenues, including an auction of broadcasting spectrum. A bill to improve tax collection,

meanwhile, is idling in parliament.

Mehmet Simsek, the deputy prime minister, admits that the electoral cycle has got in the way of reform over the past few years. But he argues that beneath the rhetoric, the government will keep pushing more substantive measures. He says that the becalmed tax reform should eventually become law, as will a new policy automatically enrolling people in pensions, which should boost private savings. "If we are successful in implementing reforms, then Turkey should return to high growth," he says. Left unsaid is the corollary: without reform, Turkey will merely scrape by. ■

## Buttonwood | Slow suffocation

The financial system isn't designed to cope with low or negative rates

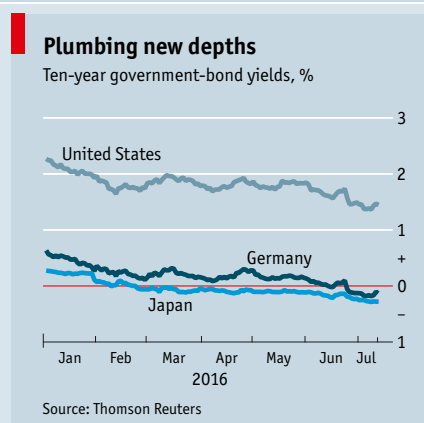
EVERY time commentators say that bond yields cannot go any lower, the markets take delight in proving them wrong. After Britain's shock decision to leave the European Union, yields dropped again: the income on ten-year Treasury bonds reached a record low, and German and Japanese yields headed further into negative territory (see chart). The prospect that monetary policy would remain accommodating also helped shares on Wall Street reach new highs.

Interest rates are the oil in the financial system's engine, helping capital to flow from one area to another. There is a reason that rates have been positive for the past three centuries, despite world wars and the Depression. The system isn't designed for a world of ultra-low, let alone negative, rates.

The traditional business of banking is to take money from depositors (a bank's liabilities) and lend it, at higher rates and over longer periods, to borrowers (its assets). So an important driver of profits is the shape of the "yield curve"—the chart of interest rates for different durations. The smaller the gap between short- and long-term rates (the flatter the yield curve, in the jargon), the harder it is for banks to make money. The problems become even greater as bond yields near zero. Banks face resistance from depositors if they try to charge them for the privilege of having money in an account. Even as the return on banks' assets declines, it is hard for them to reduce the cost of their liabilities.

When a central bank imposes negative interest rates on the reserves commercial banks keep with it, as those in Europe and Japan have done, it is thus very hard for the banks to pass this cost to depositors. Negative rates act as a tax on bank profits.

According to Jason Napier, an analyst at UBS, there is another factor at work.



Many commercial banks own portfolios of government bonds, in part because regulators require them to keep a stock of liquid assets on hand. The interest payments on those bonds used to be a handy source of income. But as older, higher-yielding bonds mature, they are being replaced with much lower-yielding assets.

Mr Napier estimates that this factor alone will cut European bank profits by 20% over several years. Offsetting this effect will be hard. Either costs will have to be cut by 10% or banks will have to charge their borrowers an extra 0.3% a year. But pulling off the latter trick would not be economically helpful; central bankers are trying to reduce, not increase, the cost of corporate borrowing.

Banks are not the only institutions to be affected. Insurance companies used to follow the Warren Buffett model for making money: collect the premiums upfront, invest them wisely, and use the returns to create a cushion against bad news on the underwriting front. These days, thanks to regulations, insurers have very little exposure to risky assets like equities. They buy bonds to match their assets with their li-

abilities. But insurance companies in Germany and Switzerland are stuck with savings products they sold in happier times, which guaranteed returns well above current yields. A similar problem hit Japanese insurers in the 1990s and 2000s.

Insurance companies that have asset-management arms have some protection from this pressure. The savings products they sell are not guaranteed, instead offering returns linked to the financial markets. But the impact of low returns is slowly squeezing asset managers too: clients tend to notice the impact of fees much more than they did when returns were in double digits. New business is gravitating towards low-cost exchange-traded funds and index-trackers. A similar problem afflicts private banks, whose wealthy clients are starting to wake up to the impact of fees.

In a way, each sector's problem is a manifestation of the same phenomenon. Short-term interest rates and government-bond yields are the risk-free rates that form the basis of all financial returns. The expected return on equities comprises the risk-free rate plus a premium to allow for the volatility of the stockmarket and the risk of capital loss. A good chunk of the income of financial-services companies is the "cut" they take out of these returns. Now there is simply less return to share around.

The irony is that low rates were initially devised as a policy to save the financial sector, and through the mechanism of higher lending, the rest of the economy. Many voters protested about the bailing out of the very institutions that caused the crisis. Those protesters can take only cold comfort that the same policies are now slowly suffocating the industry.

## Deutsche Bank

## In a rut

## Brexit is merely one more worry for Germany's leading lender

THE biggest bank in Europe's most robust economy may seem an unlikely victim of Brexit. Yet in the fortnight after Britons voted to quit the European Union Deutsche Bank's share price tumbled by 27%—putting Germany's biggest lender in the unexalted company of British and Italian banks. On July 7th it slid to €11.36 (\$12.58), a record low.

The price has since clambered back towards €13. But Deutsche still trades at only a quarter of the supposed net value of its assets—far behind its peers (see chart). Its shares fetch half of what they did a year ago and an eighth of what they did in 2007. It lost a staggering €6.8 billion in 2015. The newish chief executive, John Cryan, is carrying out an overdue spring-clean: he has told investors to expect no profit or dividend this year (and scrapped last year's too). Brexit makes the job a little harder.

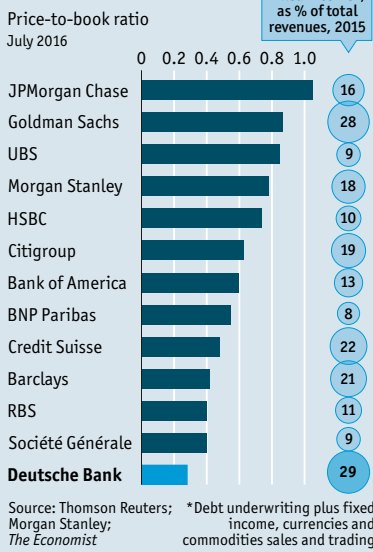
Mr Cryan is overhauling Deutsche's rickety computer systems, closing offices and shedding 9,000 jobs. But his most pressing task is to thicken Deutsche's capital cushion. The bank is not in mortal danger, but in these post-buccaneering days regulators insist that lenders have ample means to withstand big losses. European "stress tests" this month may not flatter Deutsche, partly because they take no account of its capital-boosting plans.

Deutsche's ratio of equity to risk-weighted assets, an important gauge of resilience, is 10.7%. Had the latest regulations been in place in 2009, estimates Autonomous, a research firm, Deutsche's ratio would have been a threadbare 2.4%, and just 5.5% even in mid-2012. Despite this improvement, Deutsche still lags its peers. Mr Cryan wants to lift its score to 12.5% by 2018.

The sale of a stake in Hua Xia, a Chinese bank, due to be completed soon, should close around 0.5 points of that 1.8-point gap. The disposal of Postbank, a German mass-market retail bank of which Deutsche took control in 2010, is slated to bring in most of the rest. (Deutsche also has another, posher retail operation under its own name.) But Mr Cryan has soft-pedalled on the sale. Postbank relies chiefly on deposit-taking and mortgage lending, and the euro zone's ultra-low interest rates have made it less attractive to would-be buyers. Hurrying to sell makes little sense.

The Brexit vote portends weaker growth in Europe and thus even lower rates, making Postbank even less alluring. Still-lower rates also make it harder for

## Bottom of the class



Deutsche to fatten capital by making and retaining profits. Its net interest income (the difference between what it pays depositors and charges borrowers) dropped by 7%, year on year, in the first quarter.

Slower growth in Europe is also little use to Deutsche's investment bank, which suffered with the rest of the industry in the market turmoil at the start of the year. The second quarter may have been better—and Brexcitement boosted trading volumes. But the second half may be weaker again. And in recent years Deutsche has been hampered by its focus on fixed income—selling, trading and underwriting bonds—in which it is among the world's leaders. According to Huw van Steenis of Morgan Stanley, industry revenues from bonds, currencies and commodities fell by 9% a year in 2012-15, while equities businesses grew by 6% annually. Among big banks, none relies on fixed income more than Deutsche does.

The bank has legal worries too. The biggest of these is an allegation by America's Department of Justice that Deutsche misrepresented the value of residential mortgage-backed securities before the crisis of 2008. Other leading banks have already settled similar claims. American and British authorities are also examining whether slack controls at Deutsche let money-launderers spirit cash out of Russia. Deutsche has set aside €5.4 billion to cover legal bills. Another looming headache is a proposal by international regulators that would sharply increase capital requirements for mortgages and other loans.

Mr Cryan said this month that he didn't see his bank as a takeover target. He's right about that: regulators think banks are big enough. He also said that Deutsche would reach its capital target without needing to tap up investors. He may be right about that, too—but it's much less certain. ■

## Prosecuting financial firms

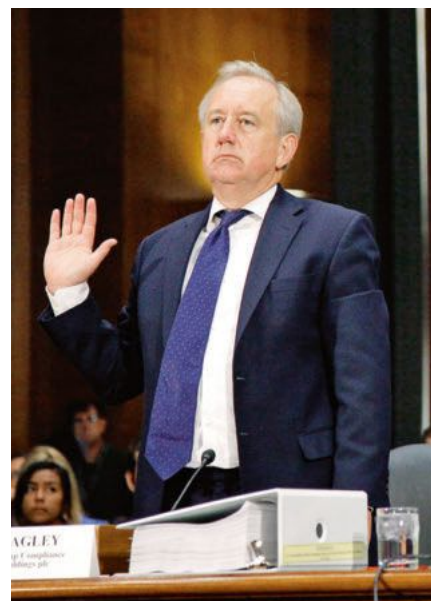
## Hongkong and Shanghai

NEW YORK

## An investigation into an investigation of HSBC

THERE are two conflicting views of the American regulators' response to the financial crisis, and to misdeeds at big banks more broadly. The first holds that Uncle Sam has gone easy on Wall Street, sparing individuals from prosecution, for the most part, and punishing institutions with nothing more serious than fines. The other contends that banks have been the victims of a capricious and unjustified shakedown, driven entirely by politics, with little opportunity for redress. A new congressional report examining one bank's travails provides grist for both arguments. The process that led to a swingeing fine for HSBC in 2012 does indeed look arbitrary, but the government was also less severe than it might have been.

In 2012 HSBC agreed to pay American authorities \$1.9 billion, admitting that it had violated sanctions against Cuba, Iran, Libya, Myanmar and Sudan, and had failed to impose tight enough safeguards to avoid handling drug money in Mexico. Some observers complained that the government should have brought criminal charges against the bank instead, even if that led to the loss of its American licence and, as a result, its potential collapse. Soon after, Eric Holder, the attorney-general at the time, who had participated in the negotiations with HSBC, told the Senate that the dire economic consequences had an "inhibiting influence" on plans to prosecute big fi- ▶▶



It could have been much worse



financial firms. Later, he said had been “misconstrued”, and that decision to prosecute rested simply on whether wrongdoing could be proved.

The Republicans of the Financial Services Committee of the House of Representatives, convinced that Mr Holder had admitted that big banks were above the law, decided to investigate. Their 245-page report, published this week, concludes that big banks were indeed seen as “too big to jail”. It points to the fact that some officials in the Justice Department had recommended a criminal prosecution for HSBC, but were overruled.

Yet the report also makes clear that HSBC could never have fought the government’s charges. The Office of the Com-

troller of the Currency, a financial regulator, could not provide any assurance that a successful prosecution of HSBC would not lead both to the closure of its American unit and to the revocation of its right to process transactions in dollars—a fatal outcome the bank could not risk. There was definitely political intervention: Britain’s chancellor interceded on HSBC’s behalf both with his American counterpart and with the head of the Federal Reserve, although whether this had any effect is unclear. Just how regulators arrived at \$1.9 billion, or at any of the \$219 billion of fines they have heaped on financial firms since the crisis, remains opaque. The report, in short, leaves everyone cross with the government—just as they were before. ■

teachers on holiday and middle-class housewives—to earn a little extra cash. One early study found that about half of female temps during the 1960s had some college education, nearly twice the national rate. The typists, stenographers and other clerical workers supplied by temping agencies earned wages only slightly below those of permanent workers. Perhaps most important, temp agencies were not seen as second-rate employers. “There is nothing demeaning about working for such an organisation,” *Barron’s* wrote in 1962; “Many workers prefer to do so.”

According to the Census Bureau, temps today are disproportionately young, single and black or Hispanic. More than half are men. If the temps of the 1960s were relatively educated, today’s are more likely than permanent workers to be high-school dropouts. Just 8% of them have an advanced degree compared with 12% of permanent workers. Perhaps unsurprisingly, given all that, temps earn 20-25% less than their permanent counterparts. Even after controlling for demographic characteristics such as age and education, Lawrence Katz, an economist at Harvard University, reckons temps face a 15% earnings penalty. In 1970 8% of temporary workers lived below the poverty line; in 2014 it was 15%.

Such conditions have stigmatised temporary employment—so much so that workers seek out temping jobs only as a last resort. In 2005, the last year temporary workers were thoroughly surveyed by the Census Bureau, eight in ten said they would prefer a permanent job. More than half said they were working as a temp not for the added “flexibility”, a claim frequently made by industry boosters, but because it was the only work they could find. A survey by the Federal Reserve in 2013 found that a big share of temps consider themselves overqualified for their jobs. Less than a third see their job as a “stepping stone to a career”.

Although temps account for just 2% of America’s workforce, there is wide variation at the local level. In Queens County, New York (home to the borough of the same name), fewer than one in 200 workers is employed by temp agencies. In Greenville County, South Carolina, just a few miles from BMW’s factory, it is nearly one in ten. Big, concentrated and enduring pockets of temporary workers suggest that temping agencies are being used not just to smooth out fluctuations in demand, but also to lower labour costs.

The proliferation of ill-paid temp work affects temporary and permanent workers alike. Many of the costs that employers of temps avoid, including prevailing wages and health-care costs, are now borne in part by taxpayers in the form of increased spending on Medicaid, food stamps and other welfare schemes. More than 26% of temps participate in at least one of these ▶▶



### Temporary work

## How the 2% lives

### Temping is on the increase, affecting temps and staff workers alike

**A**T THE BMW factory in Spartanburg, South Carolina, brand new sport-utility vehicles roll off the assembly line with the regularity of a German express train. Work rotas at the vast facility, alas, are not always so reliable. Between 2007 and 2009, amid the turmoil of the financial crisis and ensuing recession, BMW hired, then laid off and then re-hired some 700 temporary workers through a firm called Management, Analysis and Utilisation (MAU). Josef Kerscher, the luxury carmaker’s American boss, likened the conditions that prompted the wild fluctuations in Spartanburg’s temporary workforce to a “rollercoaster”. Such volatility is not uncommon for America’s temps, however,

whose numbers are growing even as their lot in life diminishes.

Demand for temps has never been higher (see top chart on next page). The industry now provides work for some 2.9m people, over 2% of the total workforce. The American Staffing Association, an industry group, reckons that it generated over \$120 billion in revenue in 2015. Since the economic recovery began in 2009, temporary employment has been responsible for nearly one in ten net new jobs.

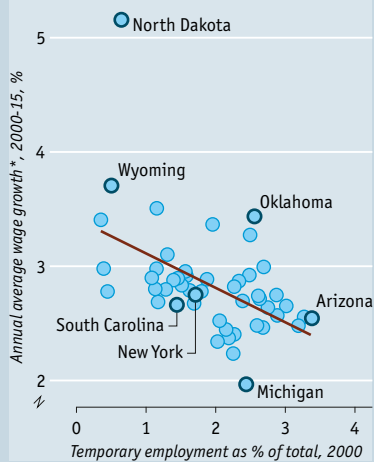
But as temping has grown, the quality of the jobs it provides has deteriorated. In the 1950s and 1960s temping was seen as a way for educated people with time on their hands—college students, school

### A lasting problem

United States temporary employment  
As % of total employment



Relationship with wage growth by state



Source: BLS

\*Permanent workers

► social safety-net programmes, compared with 14% of permanent workers.

The growth of the temping industry affects labour markets in other ways. On the positive side, by offering positions to workers who might otherwise be unemployed, temping reduces the unemployment rate. Temps also insulate permanent employees from downturns in the business cycle, thereby improving job stability.

Yet according to a paper published in 2013 by David Pedulla of Stanford University, permanent employees who work alongside temps worry more about job security. They also take less pride in their firm and have worse relationships with managers and co-workers. A study published in 1999 by Mr Katz and Alan Krueger of Princeton University found that states with a higher share of temporary employment in the late 1980s experienced lower wage growth in the 1990s. These results have held up: in states where less than 2% of the workforce was employed by temping firms in 2000, wages of permanent workers grew an average of 3% a year between 2000 and 2015; in states with a higher proportion of temp workers, wages grew at an annual rate of 2.6% (see bottom chart). Such findings lend support to the view of David Autor of MIT that the use of temping agencies, while beneficial to individual workers and firms, “may exert a negative externality on the aggregate labour market—that is, it is a ‘public bad’.” ■

### Payouts for whistleblowers

## Whistle while you work

OTTAWA

### Ontario offers finance workers millions to blow the whistle on fraud

CANADA has long had a reputation as a security fraudster’s playground, where misdeeds go undetected and unpunished and investors must take extra care. David Dodge, then governor of the central bank, provoked outrage in 2004 when he said foreigners perceive Canada as a “Wild West” in terms of the degree to which financial rules and regulations are enforced. At the time Mr Dodge was advocating a single national securities regulator, which despite the efforts of successive federal governments has yet to be created. But stung by the criticism, Canada’s 13 separate securities commissions—one for each province and territory—have at least been trying much harder to get to grips with securities fraud.

The regulators, often working in concert with the police, the government or the courts, have experimented with all kinds of fraud-fighting schemes. They have set up multi-agency enforcement teams, brought in no-contest settlements akin to those used by America’s regulators and allowed institutional investors to finance lawsuits on behalf of aggrieved investors in exchange for a cut of the proceeds. The results to date have been underwhelming. Between 2012 and 2015, 1,205 individuals and companies were prosecuted for securities offences in Canada, but fewer than 40 went to jail, according to FAIR, a lobby group for investor rights. “From a swindler’s point of view, these are great odds,” says Neil Gross, FAIR’s boss.

This week the Ontario Securities Commission, Canada’s biggest, decided to up the ante, by setting up an office to encourage whistleblowing, with the power to offer financial rewards of as much as C\$5m (\$3.8m). “It will be a game-changer,” says Kelly Gorman, who heads the new office. She expects insiders will help uncover difficult-to-detect frauds and offer the kind of meaty evidence that investigators would normally spend years accumulating. It should also prompt financial firms to improve compliance systems to catch misconduct before it becomes fodder for a tip. The payouts for whistleblowers, modelled on those offered by America’s Securities and Exchange Commission, will be an especially powerful tool, she says.

The creation of a new office to encourage whistleblowing has broad support, but the decision to offer financial rewards has been much more controversial. Some see the hand-outs as too timid: the commis-

sion, confusingly, has decided not to make payments in cases in which it plans to pursue a criminal conviction. There is an administrative logic to that: the commission does not handle criminal cases itself, but hands them to Ontario’s prosecutors. Nonetheless, says Mr Gross, the distinction “could have a chilling effect on whistleblowers, who will be reluctant to come forward in the most serious cases.”

Others think the promise of payouts will create an “avaricious mentality among employees and agents”. Similar programmes run by Britain’s Financial Conduct Authority and Australia’s Securities and Investments Commission do not offer money. Nor does the new whistleblower office in neighbouring Quebec, which opened its doors in June.

Quebec looked at the American, British and Australian systems and concluded there was not enough evidence to show that money generated more or better tips. Ms Gorman defended Ontario’s choice, saying that while the prime motivation of most whistleblowers is to stop wrongdoing, the offer of a reward might tip the balance for those who fear blowing the whistle will be a career-ending move.

It will take time to see whether Ontario has struck the right balance with its financial inducements. Yet just by opening its doors the new office helps send a message to investors that regulators are on the case. Mr Dodge, the former central-bank governor, says the situation has changed since he made his comments in 2004, with many new rules and regulations now in place. “The West is not so wild as it was,” he says. ■



# Free exchange | Econometrics

It is not easy to compare the size of economies—even across the Channel

FRANCE is renowned, fairly or not, for its long holidays and short working weeks, subsidised farmers and unionised workers, high culture and higher taxes. Less than two-thirds (64%) of its working-age population was employed last year, according to the OECD, compared with almost three-quarters (73%) in Britain. But is France's well-lunched workforce of 26.4m now producing more than Britain's harried 31.1m employees?

Many people seem to think so. France's GDP in 2015 was about €2.18 trillion. Britain's was a little over £1.86 trillion. On July 6th the pound fell below €1.17 on the currency markets, rattled by Britain's vote to leave the European Union (EU). Since 1.86 multiplied by the exchange rate of July 6th is less than 2.18, many commentators jumped to the conclusion that Britain's economy had slipped overnight from fifth-biggest in the world to sixth. It was one more humiliation among many.

Comparing the size of national economies can be a frustrating exercise. The measuring tape is not always consistent from place to place or period to period. This week Ireland's statisticians added over 19% to last year's GDP after folding multinationals' aircraft and intellectual property into its economy. Both China and India, two of the biggest economies in the world, have recently revised their methods for calculating GDP, bringing them closer to international standards agreed on in 2008. India's controversial overhaul recalculated everything from manufacturing output (drawing on a new database of corporate e-filings) to the value of dung. (This latter revision added over \$180m to India's GDP, assuming an "evacuation rate" of 0.3kg a day for goats and rather more for sheep.)

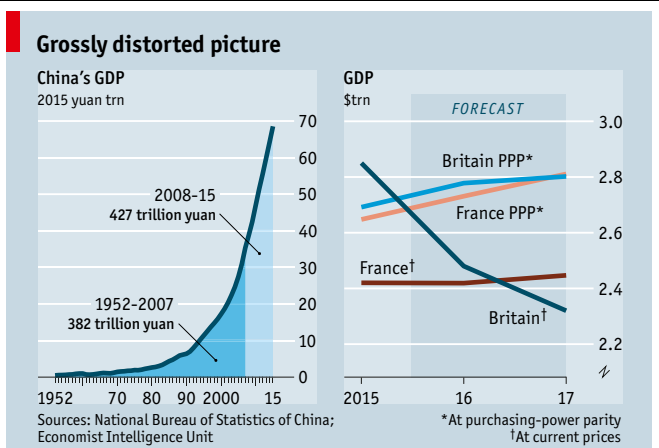
China, for its part, last week added R&D spending to its measure of economic size (just as advanced countries already do). It also took the opportunity to revise its figures all the way back to 1952 (see chart). The new numbers suggest that China's GDP was over 68 trillion yuan last year, compared with only 478 billion yuan in 1952 (at 2015 prices). The difference between those two numbers, however sketchy they may be, represents the greatest economic story of the modern age. But the statisticians keep fiddling with the earlier chapters.

When laypeople reflect on the size of their national economy, they may think of a vast inventory of productive assets: humming factories, gleaming skyscrapers, fertile lands, cosy homes and teeming workers, full of brains and brawn. Similarly, when they look at a chart of GDP, like China's above, it may remind them of a pile of money accumulating steadily over time, like an unusually successful stock portfolio.

Viewed this way, it may seem natural to recalculate the value of an economy in the light of sudden currency fluctuations, like the yuan's decline since August or the pound's since June 23rd. Why not mark these economies to market? It seems unobjectionable to reprice Britain's GDP at the lower July 6th exchange rate, just as a Frenchman in London might recalculate the diminished euro value of his sterling bank account or his Battersea flat.

But such an exercise betrays a misunderstanding of GDP. This deceptively familiar gauge of economic size does not represent a stock of assets but a flow of goods and services. It is more akin to the wages and interest someone earns during a year than to the money in an account at the end of the year. It cannot therefore be valued at a point in time, like a bank balance, dwelling or stock portfolio. It must instead be evaluated over a span of time.

Most often, this span is a year (which obviates the need for seasonal adjustment) or a quarter. Other periods are possible, both



longer and shorter. From 1952 to 2015 China's GDP amounted to over 809 trillion yuan (at 2015 prices), according to our calculations, based on the government's revised figures. Incredibly, of all the goods and services ever produced by the People's Republic of China, over half were produced from 2008 onwards.

Shorter timespans are also possible: Canada publishes a monthly GDP estimate. In theory, one could even calculate the output of Britain and France in the few weeks since the EU referendum. But weekly GDP figures do not exist and would be hideously volatile if they did.

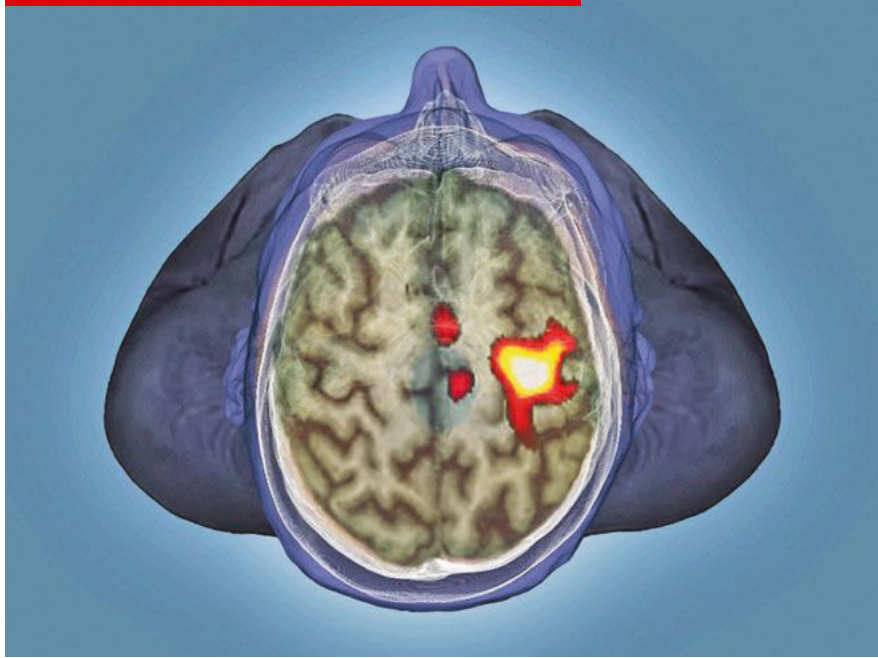
Because GDP represents a flow of goodies over time, it makes sense to value it at the exchange rates that prevailed during that time. It seems odd, in contrast, to reprice what happened last year at an exchange rate that arose only last week. Many of the items that constitute GDP are perishable, disappearing shortly after their creation. Hot meals and long journeys, a stirring night at the theatre, a warm radiator on a winter's morning—Britain produced many such necessities and conveniences over the course of 2015. But these items left nothing behind that could be marked to market in July 2016.

This is not to deny that the pound was overvalued. Its strength was rooted not in the international appeal of British goods but in the widespread appeal of British assets—including gilded homes and gilt-edged securities. Foreign purchases of these assets added little directly to British output (because GDP includes only newly built homes and factories, not financial securities or pre-existing properties or companies sold to new owners). But these buyers did bid up the currency in which GDP was priced.

## Liberty, fraternity, purchasing-power parity

The size of Britain's GDP, when converted into euros, thus reflected an uneasy amalgam of demand for its goods and services and a somewhat separate demand for the pounds required to buy British assets. The combination made Britain an expensive place to visit: all told, its prices were about 16% higher than France's last year, according to the World Bank and the IMF. As it happens, if similar items were priced similarly in both countries (bringing their purchasing power into parity with each other), France's GDP would have been almost the same size as its neighbour's in 2015, even before Britain's recent setbacks and indignities. ■






---

**Also in this section**


---

**63 Unreliable palaeoclimatology**


---

**64 Starving cancer to death**


---

**64 A new electric plane**


---

**65 The problems of high-seas fishing**


---

For daily analysis and debate on science and technology, visit

[Economist.com/science](http://Economist.com/science)

When science goes wrong (I)

## Computer says: oops

**Two studies, one on neuroscience and one on palaeoclimatology, cast doubt on established results. First, neuroscience and the reliability of brain scanning**

**N**OBODY knows how the brain works. But researchers are trying to find out. One of the most eye-catching weapons in their arsenal is functional magnetic-resonance imaging (fMRI). In this, MRI scanners normally employed for diagnosis are used to study volunteers for the purposes of research. By watching people's brains as they carry out certain tasks, neuroscientists hope to get some idea of which bits of the brain specialise in doing what.

The results look impressive. Thousands of papers have been published, from workmanlike investigations of the role of certain brain regions in, say, recalling directions or reading the emotions of others, to spectacular treatises extolling the use of fMRI to detect lies, to work out what people are dreaming about or even to deduce whether someone truly believes in God.

But the technology has its critics. Many worry that dramatic conclusions are being drawn from small samples (the fuff involved in fMRI makes large studies hard). Others fret about over-interpreting the tiny changes the technique picks up. A deliberately provocative paper published in 2009, for example, found apparent activity in the brain of a dead salmon. Now, researchers in Sweden have added to the doubts. As they reported in the *Proceedings of the National Academies of Science*, a team led by Anders Eklund at Linköping University

has found that the computer programs used by fMRI researchers to interpret what is going on in their volunteers' brains appear to be seriously flawed.

fMRI works by monitoring blood flow in the brain. The idea behind this is that thinking, like any other bodily function, is hard work. The neurons doing the thinking require oxygen and glucose, which are supplied by the blood. The powerful magnetic fields generated by an MRI machine are capable of distinguishing between the oxygenated and deoxygenated states of haemoglobin, the molecule which gives red blood cells their colour and which is responsible for shepherding oxygen around the body. Monitoring haemoglobin therefore monitors how much oxygen brain cells are using, which in turn is a proxy for how hard they are working.

### I want to look inside your head

In an fMRI study, an image of a brain is divided into a large number of tiny "voxels"—3D, volumetric versions of the familiar pixels that make up a digital image. Computer algorithms then hunt for changes in both individual voxels and clumps of them. It was in that aggregation process that Dr Eklund and his colleagues found the problems.

To perform their test, they downloaded data from old fMRI studies—specifically, in-

formation from 499 resting volunteers who were being scanned while not thinking about anything in particular (these scans were intended for use as controls in the original papers). The researchers divided their trove arbitrarily into "controls" and "test subjects", and ran the data through three different software packages commonly used to analyse fMRI images. Then they redivided them, in a different arbitrary way, and analysed those results in turn. They repeated this process until they had performed nearly 3m analyses in total.

Since all the "participants" in these newly conducted trials were, in fact, controls in the original trials, there ought to have been no discernible signal. All would presumably have been thinking about something, but since they were idling rather than performing a specific task there should have been no discernible distinction between those categorised as controls and those used as subjects. In many cases, though, that is not what the analysis suggested. The software spat out false positives—claiming a signal where there was none—up to 70% of the time.

False positives can never be eliminated entirely. But the scientific standard used in this sort of work is to have only one chance in 20 that a result could have arisen by chance. The problem, says Dr Eklund, lies with erroneous statistical assumptions built into the algorithms. And in the midst of their inspection, his team turned up another flaw: a bug in one of the three software packages that was also generating false positives all on its own.

The three packages investigated by the team are used by almost all fMRI researchers. Dr Eklund and his colleagues write that their results cast doubt on something like 40,000 published studies. After crunching ►►

▶ the numbers, “we think that around 3,000 studies could simply be wrong,” says Dr Eklund. But without revisiting each and every study, it is impossible to know which those 3,000 are.

Dr Eklund’s results blow a hole in a lot of psychological and neuroscientific work. They also raise the question of whether similar skeletons lurk in other closets. Fields from genomics to astronomy rely on computers to sift huge amounts of data before presenting summaries to their human masters. Few researchers are competent to check the assumptions on which such software is built, or to scour code for bugs—which, as programmers know, are virtually guaranteed to be present in any compli-

cated piece of software.

There is another problem, says Dr Eklund: “it is very hard to get funding to check this kind of thing.” Those who control the purse strings are more interested in headline-grabbing discoveries, as are the big-name journals in which researchers must publish if they wish to advance their careers. That can leave the pedestrian—but vital—job of checking others’ work undone. This may be changing. Many areas of science, including psychology, are in the midst of a “replication crisis”, in which solid-seeming results turn out to be shaky when the experiments are repeated. Dr Eklund’s findings suggest more of this checking is needed, and urgently. ■

## When science goes wrong (II)

# Shell shock

### Tiny fossils used to date rocks may not be the accurate clocks once believed

UNDERSTANDING past climates is crucial to understanding future ones, and few things have been more important to that historical insight than fossil foraminifera. Forams, as they are known, are single-celled marine creatures which grow shells made of calcium carbonate. When their owners die, these shells often sink to the seabed, where they accumulate in sedimentary ooze that often gets transformed into rock.

For climate researchers, forams are doubly valuable. First, regardless of their age, the ratio within them of two stable isotopes of oxygen ( $^{16}\text{O}$  and  $^{18}\text{O}$ ) indicates what the average temperature was when they were alive. That is because different temperatures cause water molecules containing different oxygen isotopes to evaporate from the sea at different rates; what gets left behind is what shells are formed from. Second, for those forams less than about 40,000 years old, the ratio of an unstable, and therefore radioactive, isotope of carbon ( $^{14}\text{C}$ ) to that of stable  $^{12}\text{C}$  indicates when they were alive. That means the rock they are in can be dated.

How accurately such rocks have been dated, though, has just been called into question by Jody Wycech and Clay Kelly, of the University of Wisconsin-Madison. A paper they have published in *Geology* suggests many foram-derived dates may be too old.

$^{14}\text{C}$  is formed in the atmosphere by the action of cosmic rays on nitrogen atoms, and often subsequently reacts with oxygen to form carbon dioxide. This  $\text{CO}_2$  may be taken in by plants as part of photosynthesis, or by shell-forming creatures to

make calcium carbonate for their armour plating. When an organism dies, radioactive decay gradually diminishes the concentration of  $^{14}\text{C}$  in its remains. The isotope has a half-life of 5,730 years, and that steady decay rate means it can be used as a clock. This clock, however, can reach back only so far. After around 40 millennia (ie, seven half-lives) only 1/128th of the original amount is left. That puts a practical limit on such radiocarbon dating.

Moreover, for the technique to be accurate the remains in question need to have been chemically undisturbed. In particular, post-mortem contamination by other sources of carbon can sprinkle grit into the radioactive clockwork. Ms Wycech and Dr Kelly wondered whether foram shells provide quite such a precise timepiece as palaeoclimatology researchers assume. In particular, though the shells of living fo-

rams are translucent, those fossilised in rocks are often chalkily opaque. This means their chemical composition has changed in the process of fossilisation.

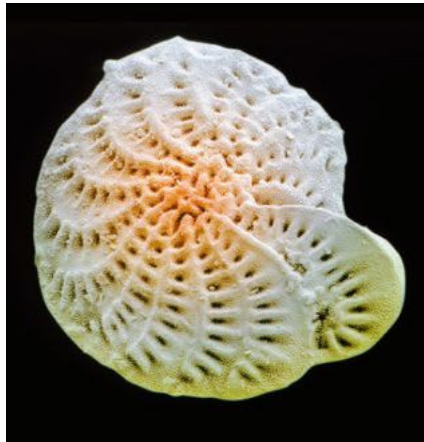
The two researchers therefore looked at samples of sea-floor sediment taken from a site on Blake Ridge in the north-western Atlantic Ocean. They knew from the work of others that some foram shells in this sediment have remained translucent while others have become opaque, permitting the two sorts from the same sedimentary layer to be compared and contrasted.

The contrasts, they found, are huge. Radiocarbon dating suggests the opaque shells are a lot older than the translucent ones. In one sample, collected from a depth of 71-73cm below the sea floor, the translucent shells clocked in as being between 14,030 and 17,140 years old, while the opaque shells seemed to be aged between 26,120 and 32,580 years. Another sample, taken from almost twice that depth beneath the sea floor, had translucent shells that were apparently between 21,730 and 21,800 years old. Opaque shells at that depth were dated to between 27,860 and 33,980 years ago.

Clearly, there is something wrong here. Ms Wycech and Dr Kelly suspect that the compaction which transforms ooze into sedimentary rock forces carbon-containing compounds like bicarbonates into the shells, both making them more opaque and diluting their  $^{14}\text{C}$ —and thus causing them to appear older than they really are. The randomness of such a process would also explain why the range of possible ages is wider for the opaque shells than for the translucent ones.

Whatever the cause, though, this finding will worry climate scientists. If studies in other locations support Ms Wycech’s and Dr Kelly’s conclusions, then foram-based estimates of when the climate has changed over recent millennia will have to be reconsidered. Forams are not the only clocks used to date such transitions—tree rings, ice cores and so on also play a part—but they are important. Moreover, as the results cited above suggest, it is not simply a matter of applying a proportional correction to the existing estimates. In those cases, the translucent shells had similar apparent ages while the opaque ones did not. On the other hand, this work does suggest a way to get around the problem in future, namely by concentrating analysis on translucent shells alone.

Ms Wycech’s and Dr Kelly’s work also raises the question of how reliable the oxygen-isotope-ratio data are. With luck, in their case, there will be no problem, for the ratio in foram shells reflects that of the oxygen atoms in the water of the ocean at the time those shells were formed. Any leakage from the surrounding ooze would thus be likely to have had the same ratio. It would, though, be worth checking. ■



Opaque results or translucent answers?

## Oncology

## Fast thinking

## How to starve a cancer without starving the patient

A GENERAL besieging a city will often cut off its food supply and wait, rather than risking a direct assault. Many doctors dream of taking a similar approach to cancer. Tumours, being rapidly growing tissues, need more food than healthy cells do. Cutting this off thus sounds like a good way to kill the out-of-control cells. But, while logical in theory, this approach has proved challenging in practice—not least because starvation harms patients, too.

In particular, it damages cells called tumour-infiltrating lymphocytes (TILs) that, as their name suggests, are one of the immune system's main anti-cancer weapons. Valter Longo of the University of Southern California, in Los Angeles, however, thinks he may have a way around this problem. As he and his colleagues write in a paper in this week's *Cancer Cell*, they are trying to craft a diet that weakens tumours while simultaneously sneaking vital nutrients to healthy tissues, TILs included.

Dr Longo first used starvation as a weapon against cancer in 2012. In experiments on mice, he employed it in parallel with doxorubicin, a common anticancer drug. The combination resulted in the animals' tumours shrinking by an average of four-fifths, as opposed to a half if they were dosed with the drug alone. No one, though, was willing to follow this experiment up by starving people in the same way. The consensus was that this would be too risky. That led Dr Longo to think about how he might mimic the benefits of starvation while minimising its problems. The result is a diet rich in vitamin D, zinc and fatty acids essential to TILs' performance, while being low in the proteins and simple sugars that tumours make ready use of.

To test this diet's efficacy, Dr Longo and his colleagues injected 30 mice with breast-cancer cells. For the first two days after the injections they fed these mice standard rodent chow, composed of 25% protein, 17% fat and 58% simple sugars and complex vegetable carbohydrates. This contained 3.75 kilocalories of energy per gram. They then put ten of the animals onto a transition diet of 1.88 kilocalories per gram for a day before switching them to the near-starvation diet. Besides its special ingredients this consisted of 0.5% protein, 0.5% fat and 99% complex carbohydrates that would be of little value to cancer cells.

The mice remained on their meagre commons for three days before being returned to standard rodent chow for ten

days and then put through the cycle again. Another nine mice, chosen from the original 30 as controls, were starved for 60 hours (the maximum feasible without endangering lives) every ten days but otherwise kept on normal chow. And the remaining ten (one of the originals had died) were fed the chow continuously.

When the team terminated the experiment, they found that both the rodents which had been starved and those which had been fed the special diet developed tumours which were only two-fifths of the size of those found in the mice on the ordinary diet. Encouraged by these results, Dr Longo ran the experiment again, but with the addition of doxorubicin. The results were impressive. In combination with the special diet, doxorubicin drove tumours down to a quarter of the size of those found in control mice—close to the reduction he had reported in 2012.

To work out what was happening at the cellular level, the team collected samples

of breast-cancer tissue from the mice in the re-run experiment and scanned these for TILs. They found that, while such cells were indeed present in the tumours of mice fed ordinary chow, there were 70% more of them in the tumours of mice given doxorubicin alone, 80% more in those of mice that were on the special diet alone and 240% more in mice that had been given both therapies.

A follow-up experiment revealed at least part of what was going on. An enzyme called haeme oxygenase-1, which helps regulate immune responses, turned out to be protecting tumours from the attention of TILs in mice on the normal diet. Dr Longo's diet seems to suppress this enzyme's production in a tumour—and that encourages TILs to accumulate. Add in the drug, and the tumour faces a two-pronged assault. Further work by the team suggests this approach also works on melanoma, a particularly aggressive form of skin cancer. A siege mentality can pay off. ■

## Electric aircraft

## Extra thrust

## Another stage on the journey to battery-powered planes

THIS aeroplane may not look special, but it is. Its airframe is that of a 330L, an aerobatic craft built by Extra Flugzeugbau of Dinslaken, Germany. It is propelled, though, by an electric motor built by another German company, Siemens.

Electric aircraft are, as it were, in the air—with projects like the Solar Impulse, a sun-powered plane about to complete a round-the-world flight, and Antares, a motorised glider. But the 330LE, as it is dubbed, is the first to have an airframe already certified for sale and also the first (other than motorised gliders) to use an electric engine its makers plan to have certified as well. The 330LE's initial public outing, on July 4th, was thus a step forward for the field.

The motor itself weighs a mere 50kg. That compares with 201kg for the 9,550cc, six-cylinder device a 330L normally sports. Batteries are not included, however, and that makes a bit of a difference—for the batteries required weigh 150kg each, and two are needed. One sits conveniently in the liberated space in the engine compartment, but the second has

to be strapped to the co-pilot's seat. For this and other reasons, the plane's pilot (and Extra Flugzeugbau's founder), Walter Extra, did not attempt any of the fancy aerobatics for which the 330L is renowned on his ten-minute proving flight.

The limited duration of Mr Extra's flight was determined by a need not to drain the batteries—which, combined, have only about 20 minutes' worth of juice in them. But that does not bother Siemens. Battery technology is improving rapidly and Frank Anton, head of the firm's eAircraft programme, believes it will quickly become powerful enough to sustain Siemens's ambition to build, by 2030 and in collaboration with Airbus, a pan-European company, a hybrid-electric regional aircraft with 60-100 seats.

Depending on how the power used to charge the batteries is generated, such a craft could help reduce carbon-dioxide emissions. A more certain environmental benefit, though, would accrue to those living near airports—for one particularly desirable feature of electric motors is that they are almost silent.





## Fishing

## Unbalancing the scales

Poor management of fisheries is not a local problem. It extends to the entire ocean

THE high seas are a lawless place. That is no metaphor. Beyond the jurisdiction of governments, beyond even the United Nations Convention on the Law of the Sea (UNCLOS), which was agreed in 1982 and came into force in 1994, they have been subjected to few laws over the centuries besides the prohibition of piracy and slave-trading, and the regulation of submarine cables and pipelines.

In 2001, though, they became a little less lawless. That was the year the United Nations' Fish Stocks Agreement (UNFSA) came into effect. The UNFSA tried to impose some order on high-seas fishing, an activity not previously considered to matter enough for people to care about it.

Fishing beyond those parts of the ocean within 200 nautical miles of land, codified by UNCLOS as exclusive economic zones (EEZs), began about six decades ago. It ramped up in the late 1970s when Australian and New Zealand vessels started casting their nets specially for deepwater species. Other countries have now joined and overtaken them (see chart).

Though the fuel needed to get to the high seas is pricey, taxpayers often pick up part of the tab in the form of government subsidies. Such subsidies, combined with overexploitation of fisheries closer to land, have made the high seas attractive to fishermen. The consequence, according to the UN's Food and Agriculture Organisation, is that they, too, are being pillaged. Already, two-thirds of their stocks are being fished beyond sustainable limits and, as they once provided a haven for fish everywhere, yields in EEZs are suffering, too.

The UNFSA attempts to regulate high-seas fishing through clubs called Regional Fisheries Management Organisations (RFMOs). The 17 RFMOs set rules supposed to be binding on member countries (unlike about 50 other fisheries bodies which mainly provide advice). Some are confined to EEZs. But those that do extend their remit to the high seas attempt to protect two groups of fish. The first are straddling stocks, species such as cod, halibut and pollock whose habitats, and therefore populations, stretch beyond EEZs into the high seas. The second are migratory animals such as tuna and swordfish, which travel long distances between feeding and breeding grounds.

RFMOs' decisions about how much fishing to allow are supposed to be guided by ecological reality. The overall health of



an area's stocks, for example, is often assessed by working out how many of a species there would be in that area if there were no fishing at all (a quantity known as its unfished biomass), and then estimating how far short of this level stocks currently fall. In an active fishery, they obviously will fall short of it, but the optimal shortfall is shown by a second number, the maximum sustainable yield. This is the peak crop that can be taken from a fishery, year after year after year.

### The old plans and the sea

Translating these numbers into fishing practice can be hard. For example, two species with the same unfished biomass may, because of their ways of life, be under different levels of strain from net-casters. Fishing optimally for one might threaten the other. But data on by-catch—species netted that are not a boat's main quarry—which would illuminate such differences, are difficult to come by, for countries are often loth to share them.

Moreover, even if data are true, actions based on them may be questionable. In 2014, for example, an RFMO called the Inter-American Tropical Tuna Commission reduced the bluefin-tuna catch in its jurisdiction from 5,500 tonnes a year to 3,300 tonnes. That sounds like common sense, but the cut recommended by the commission's scientific advisers was to 2,750 tonnes, so the species is still at risk.

Tuna seem particularly vulnerable to

this sort of thing. Since 2010, the fraction of tuna stocks regarded as over-exploited has risen from 28% to 36%. Sometimes, indeed, matters descend into farce. In 2015 the International Commission for the Conservation of Atlantic Tunas, another RFMO, agreed to a 23% reduction in the quota for the Atlantic bigeye tuna after warnings from its scientists. But this will help little, for the species is now so rare that catches had fallen below the newly approved level when the change was promulgated.

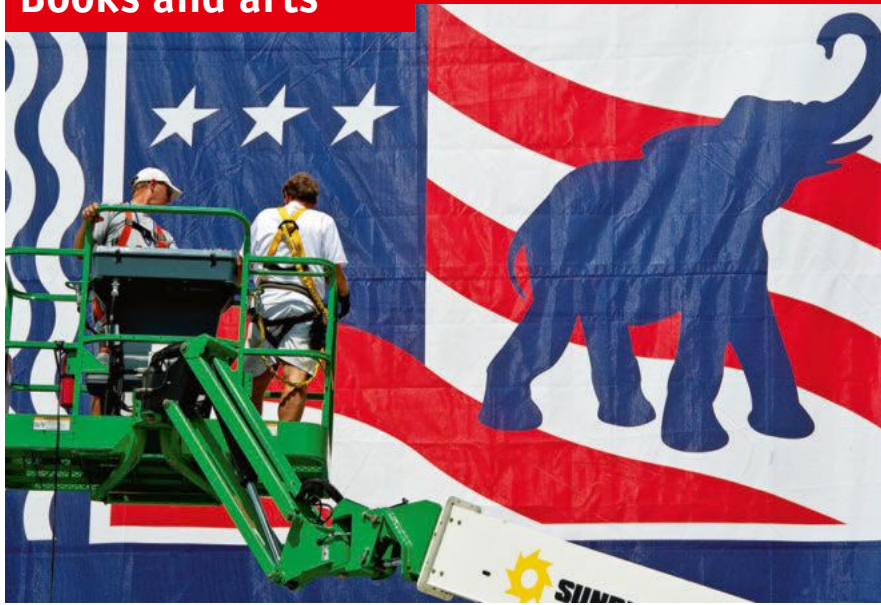
There are some signs of progress. In May another RFMO, the Indian Ocean Tuna Commission, adopted tighter rules to help ailing skipjack-tuna stocks. This, according to Mireille Thom, a marine-policy specialist at the World Wide Fund for Nature, a global conservation charity, was the first time a body responsible for tuna has acted to prevent a stock from collapsing, rather than reacting to its collapse.

Skipjacks and their kin are migratory species. The state of straddling stocks can be even harder to determine. No one has reliable information on how they fare in the western central Pacific, the eastern and western central Atlantic and the Indian oceans. Some RFMOs attempt to act responsibly amid the murk anyway. The Southeast Atlantic Fisheries Organisation has imposed catch limits on certain species, such as orange roughy, armourhead and cardinal fish, although how much these are exploited is unknown. And many RFMOs say they want to care for marine ecosystems, even if their translation of that intention into action is patchy.

Possibly, they could learn lessons from one other organisation that has high-seas jurisdiction, the Commission for the Conservation of Antarctic Marine Living Resources. This was established by international convention in 1982 and has 25 members. It was set up to prevent a repeat, in the late 20th century, of the unfettered ravaging of Antarctic wildlife (especially whales and seals) that characterised the 19th and early-20th centuries.

Under the commission's aegis, reported catches of krill, Antarctic toothfish and other species of the Southern Ocean have fallen to a third of their levels in the 1980s and 1990s. That has been achieved by the long-term closure of certain areas to fishing efforts directed at particular prey, such as toothfish. This ensures that wildlife have enough food. The Ross Sea alone is home to almost 30,000 pairs of emperor penguins and 21,000 minke whales.

Even the Antarctic commission, however, struggles at times. For example, China and Russia oppose efforts to create the world's largest marine reserve in the Ross Sea. Like an RFMO, the commission is only as strong as its most reticent members. Better data-gathering and greater sharing of the information discovered should at least make such reticence harder to justify. ■



### America's conservatives

## Seeking a way forward

Republicans used to produce big ideas. They have not yet regained that habit

PARTY conventions are built around set-piece speeches given from the main stage at a time when middle America, that mythical place, is settling down after dinner to watch the news. Delegates usually hear from the party's previous nominee, from a rising star, from the candidate's spouse and then, on Thursday night, from the candidate. In theory, what that candidate says will bear some relation to the ideas discussed, papers published and data marshalled by the wonks who populate the fringe meetings that take place at the convention, unseen by TV cameras, where health-care costs and optimal tax rates may be debated. This year's Republican convention will be different. The party is running an experiment to see what happens when the nominee's ideas on almost everything contradict those of the party's professional intellectuals, those people who write newspaper columns or work in think-tanks clustered between Dupont Circle and K Street in Washington, D.C.

Yuval Levin, a White House staffer under George W. Bush, editor of *National Affairs* and fellow of the Ethics and Public Policy Centre, is a prominent member of a tribe within this tribe—the self-styled “reformicons” who delight in borrowing ideas from different political traditions and giving them a conservative spin. Mr Levin's first steal is in the subtitle of his new book, “The Fractured Republic: Renewing America's Social Contract in the Age of Individualism”. The notion of the social

**The Fractured Republic: Renewing America's Social Contract in the Age of Individualism.** By Yuval Levin. *Basic*; 272 pages; \$27.50 and £18.99

contract was popularised by Rousseau, whose prose inspired generations of left-wing European revolutionaries just as conservatives were about to be guillotined.

“Life in America”, Mr Levin begins, “is always getting better and worse at the same time.” Both political parties are in the grip of overpowering nostalgia for the mid-20th-century moment. For Republicans, this was a time of stable marriages, respect for authority and economic dynamism. For Democrats, it was a time when a man could leave high school at 16 and walk into a well-paid job, with pension and health-care benefits, which would allow him to support a family and retire comfortably. With it came a high degree of consensus on what was right for the country, partly because everyone was watching the same nightly news broadcasts.

Yet, as Mr Levin writes, though there was much to like about this land of ice-cream sundaes, sports coats and cars with tail fins, the nostalgic picture of post-war America is conveniently partial. It forgets that much of the rest of the world was in ruins after the end of the second world war, clearing the field of competition in the economic sphere, or that the spectre of nuclear annihilation was ever-present.

### Also in this section

67 J.M.W. Turner, a life

67 The early years of South Sudan

68 Death penalty in Pakistan

68 A peeping Tom in America

69 Johnson: Women in politics

For daily analysis and debate on books, arts and culture, visit

[Economist.com/culture](http://Economist.com/culture)

It looked rather different to women with little chance of a career beyond the typists' pool, or to African-Americans forced to the back of the bus. Even those who benefited from this arrangement between the races and the sexes frequently found the conformity of mid-century America stifling.

Feminism, the civil-rights movement and economic progress in other countries swung a wrecking-ball at the edifice. To regret its collapse, as both parties sometimes do, is also to wish those improvements had never happened, which is absurd. Mr Levin argues that the nostalgia he sees everywhere in politics reflects a longing for childhood on the part of the baby-boomer generation, a cohort whose size handed it a cultural clout not enjoyed by any other. “Our political, cultural and economic conversations today overflow with the language of decay and corrosion, as if our body politic is itself an ageing boomer looking back upon his glory days.”

If ditching nostalgia is the first step in building a new kind of conservatism, what comes next? Mr Levin, borrowing from Edmund Burke, puts his faith in what he calls the “mediating institutions” that sit between families and the state: churches, unions, charities. Only these, he thinks, can reconcile a fragmented culture with self-government. The tendency to centralise decision making in a country as divided as America makes little sense to Mr Levin, and he sees it as one of the causes of the long decline in public trust in institutions, Congress chief among them.

Mr Levin has done conservatism a service by reigning in nostalgia. His writing is precise, well-observed and witty in a sober sort of way. But he offers little on what the consequences of more decentralisation would be, or where its limits are. The form of government that Mr Levin advocates sounds very different if you are ▶▶

▶ a black American in, say, Ferguson, Missouri, who is accustomed to seeing the federal government as a protector against rapacious local officials. What kind of conservatism could bring those voters on board? That is a question that will probably not be raised at the convention in Cleveland on July 18th.

Another quibble is that the author sees gay marriage as something foisted on religious America by secular America, downplaying the changes in attitudes that he observes so keenly elsewhere in the book. There is no mention of climate-change, guns, or race and policing. These may be preoccupations of the left, but a broad kind of conservatism ought to have something to say about them. Nor is there mention of Donald Trump. In Mr Levin's telling, all the threats to conservative values come from the left. Yet if the Republican nominee gets his way, Mr Levin and his fellow reformists may eventually be forced to conclude that their ideas stand a better chance in the hands of centre-left politicians. ■

J.M.W. Turner

## Industrious genius

**The Extraordinary Life and Momentous Times of J.M.W. Turner.** By Franny Moyle. Viking; 508 pages; £25. To be published in America by Penguin in October

NEITHER old admirers nor recent converts can seem to get enough of J.M.W. Turner. Franny Moyle's biography, the latest of many in recent decades, is a fat, satisfying popular history of the man who was arguably Britain's greatest painter. The book-jacket goes further, declaring Turner to be the world's most famous landscape painter. Turner himself would have disagreed. His hero was Claude Lorrain, a 17th-century French landscape painter. Ms Moyle says he wept on seeing a painting by Claude on a subject that he had also tackled: "I shall never be able to paint anything like that picture," he said.

Turner eventually outshone his hero by taking advantage of his momentous times. He quickly absorbed the importance of the Industrial Revolution, and was inspired by it. In his last 20 years, says Ms Moyle, he allowed himself to be himself, experimenting with colour and drawing inspiration from landscape. Magnificent works such as "Rain, Steam and Speed" and "The Fighting Temeraire" being towed to the breaker's yard by a steam tug (both hanging in the National Gallery) were the work of an adventurous and energetic painter. William Makepeace Thackeray thought the "Temeraire" was "as grand a painting as

ever figured on the walls of any academy".

Ms Moyle has not written academic art history; she is entertaining on Turner's life and good on his times. Of humble beginnings, he was a prodigy who first showed his work, aged 15, at the annual exhibition of the Royal Academy (RA). He was canny, too, making sure of his place as an academician at the RA, both to enhance his social position (he needed aristocratic endorsement to succeed), and to provide an acceptable floor price for his work.

That price rose steadily. He was able to open an account at the Bank of England at the age of 19, and his fortune only grew. His clients were aristocrats and wealthy industrialists. In his middle years, he was in such demand that he could open a gallery in Queen Anne Street to sell his work. Before his death in 1851, an American collector offered the unheard of sum of £5,000 for the "Temeraire", but the old man did not need the money, and kept the painting for himself. In search of new subjects, he became a tough and dedicated traveller, going by foot and donkey down German rivers, and across the French Alps, and to Venice, which he painted in gold, white and blue to reflect "a melancholic delicacy".

When not playing politics at the RA, Turner was deeply private, especially about his romantic life. Victorian critics thought him "squalid, seedy and eccentric", in Ms Moyle's words. He relished the company of women, and his notebooks contained erotic sketches as well as landscapes. Initially, he lived with Sarah Danby, the widow of a composer. They had one child. A second child may well have been born to Hannah, a relation of Sarah's who was his housekeeper. He later found himself with Sophia Booth, his landlady in Margate, which he had regularly visited during his adolescence. When his health began to fail, he and Sophia



Mysterious visionary

moved into an insalubrious street in Chelsea, where neighbours thought he was a sea captain.

Turner died there. His friends tried to keep his second home with Sophia secret in the belief that the publicity would destroy his reputation. It survived long enough, however, for the grand funeral that the barber's son from Maiden Lane in Covent Garden had always hoped for to take place in St Paul's Cathedral. He had richly deserved it. ■

South Sudan

## From hope to horror

**South Sudan: The Untold Story from Independence to Civil War.** By Hilde Johnson. I.B. Tauris; 304 pages; \$35 and £20

HILDE JOHNSON is a Norwegian former minister for international development who became head of the UN mission in South Sudan when it gained independence in 2011. Two years after leaving the capital, Juba, she has written an account of the challenges she faced and tries to explain how the world's newest country spiralled from hope to civil war. "South Sudan" is packed with riveting detail, but mostly shows how badly international actors, including Ms Johnson herself, have misjudged their roles in South Sudan.

The first time this reviewer met the author, she was living in a hotel in the centre of Juba. The special representative of the UN secretary-general had resisted living within the confines of a UN base. Ms Johnson said that she wanted to live among the South Sudanese. Her ambition was admirable, but misjudged; most South Sudanese live in mud-walled huts, as opposed to a several-storey hotel with room service and a working lift.

A large part of Ms Johnson's mission was to work with the country's many different actors. As she documents in detail, she routinely met senior government and military figures, advising, entreating, cajoling. Ms Johnson saw her role as head of the UN mission as personal. "They never lie to me. They know that I know them too well," she said of the generals leading the Sudan People's Liberation Army (SPLA), the rebel movement that became the fledgling nation's regular army. But lie they did. Over and over again. In retelling the history, the author seems as blind to this as she is dogged in her biases, making frequent mentions of "freedom fighters", "comrades" and "cadres".

Her book also reaffirms a narrative that has long been favoured by the country's gatekeepers—a tight network of Western ▶



academics and their humanitarian and defence advisers, as well as their affiliated figures within South Sudan. It is a narrative that resists naming names in connection with atrocities and corruption, and downplays or even suppresses the role of ethnicity in the mayhem of the past three years.

It also fails to grasp the way that South Sudanese leaders perceive the UN and its biggest supporters—America, Norway and Britain. Earlier this month, as violence escalated, a state-affiliated group, the Red Army Foundation, posted on Facebook a call for the public to “resist” plans by the UN to “invade South Sudan” and “overthrow the government”, suggesting that the Western presence is seen as far less idealistic than its leaders might believe.

Ms Johnson closes her book with a plea for still more international engagement to “save South Sudan” so that “the next generation of South Sudanese leaders” can “finally build the country their people dreamt of. Only then can South Sudan rise as a nation.” Her plea is admirable, but again misplaced. The real question is how the “nation”, as perceived by the SPLA and its Dinka leadership, deals with other ethnicities. Heavy fighting broke out in Juba on July 7th. Tens of thousands have been displaced. Two Chinese peacekeepers are among the more than 300 said to have been killed in five days of fighting. Civilians who sought protection inside UN bases have also died. The corpses are decomposing, and there is no way to transport them to a morgue. So they will be buried there, inside the perimeter fencing where the UN had sought to protect them. And so the bloodshed continues. ■

### The death penalty in Pakistan

## Flowers from the muck

**Trials: On Death Row in Pakistan.** By Isabel Buchanan. *Jonathan Cape; 264 pages; £16.99*

PAKISTAN'S death row is one of the grimmest places on earth. The sordid conditions of its condemned—stowed away for decades, eight men to a 120-square-foot cell, sustained on filthy gruel and constantly recontaminating one another with disease—are the least of its horrors. When this book begins in 2013, an estimated 8,000 people were awaiting execution. A former minister estimates that two-thirds were innocent. “Trials” is about a foreign lawyer’s plunge into this swirling injustice. The surprise is the flowering of virtue that she finds at its centre.

Isabel Buchanan was somehow drawn to this mess. Just months after finishing her law degree in Scotland, she decided to



Shackled to the system

learn Urdu, move to Lahore and bury herself beneath a mountain of files in a stifling room. She says modestly little about her reasons, save for a self-effacing remark about her love for Pakistani sweets.

The first pattern to emerge is the way Pakistan’s penal system is wielded against British-raised expatriates who return to their homeland. Jealous neighbours easily suborn the police into arresting them. Ms Buchanan took up the victims’ cases to provide them with legal aid. Her guide is another crusading misfit, Sarah Belal, whom she introduces with great charm (“one of Pakistan’s least successful lawyers... unemployed, depressed” and yet glamorous). Along the way, she cobbles together a handbook to a mad system.

Together, the two lawyers plough into a field of perversity. The police routinely begin their investigations by torturing suspects into unreliable confessions. This is so well known that Pakistan’s courts have ruled statements made in police custody to be inadmissible as evidence, unless corroborated. So the torture goes on, in co-ordination with police who plant evidence to validate the forced confessions. In one case the same man is sentenced to death twice: once by hanging, once by firing squad. But the most perverse judgments arise from an unholy hybrid of antiquated British rules and Islamic law: the law against blasphemy. An Islamist reinterpretation of *sharia* demands the ultimate punishment, while colonial-era criminal procedures short-circuit traditional Islamic opportunities for apologies and mercy.

More than 1,200 people have been sentenced to death for blasphemy, but none has been executed. Ms Buchanan attri-

**Correction:** We wrote (“A Worcestershire lad”, July 9th) that A.E. Housman had gone to “the local grammar school”, but it had long been private. Sorry.

butes that oddity to “a quiet, subtle act of objection” on the part of Pakistan’s higher courts, which do what they can to lessen the law’s damage. Instead, convicted blasphemers are murdered routinely outside the court system, as are those who might protect them. Yet many continue to brave the murderers’ threats.

Other bravery shows itself through tenderness, as when an innocent prisoner devotes himself to comforting panicked men on their way to the gallows. Ms Buchanan dedicates her book to him. She manages to keep aloft several such stories at once, with a fine eye for machinery behind the scenes: like the black typewriters that judder under candlelight during a summertime blackout.

In an elegant final chapter, Ms Buchanan makes the point that Pakistan is hardly alone in subjecting Pakistanis to inhumane treatment. Ms Belal’s ragtag team turns to arguing for the repatriation of Pakistani civilians dragged by American special forces across the border into Afghanistan and stored like meat in a locker at an American prison near Bagram. Its inmates have been denoted by serial numbers, and years of their lives have been stolen, on a mere guess that they may be terrorists.

Eventually the courts in Pakistan agree to recognise the prisoners near Bagram as people, and Ms Buchanan gives them their due. “It was Pakistan’s legal system that championed fundamental rights where two great Western democracies [Britain and America] had denied them.” In a triumph against appearances, some Pakistanis refuse to submit to pressure to dispense with the niceties of justice. ■

### Peeping Toms

## Too much information

**The Voyeur’s Motel.** By Gay Talese. *Grove Press; 233 pages; \$25 and £14.99*

IS VOYEURISM madness, or just exaggerated curiosity? Gay Talese, a veteran American journalist renowned for investigations into the private lives of his subjects, is more qualified than most to answer. His latest book is a study of voyeurism stripped to its bare fundamentals.

Based on a long-standing correspondence with Gerald Foos, the self-declared “World’s Greatest Voyeur”, Mr Talese tells the story of his subject’s life as owner of Manor House Motel in Colorado for nearly 30 years. Mr Foos fitted his property with an “observation platform” in the attic, complete with fake ventilator grates, enabling him to spy on his guests (often accompanied by his wife) undetected for ▶▶

▶ around three decades. His interest was both sexual and “scientific”: Mr Foos would take meticulous notes as he observed the sex lives of couples in the rooms beneath him, from the suburban mother stealing lusty trysts with a doctor in his lunch hour, to the married couple and the young stud employed in their vacuum-cleaner company, to the Miss America candidate from Oakland who spent two weeks in the motel and never had sex with her husband. Mr Foos would often then masturbate, or have sex with his wife.

“The Voyeur’s Motel” is a strange composite. It has, in effect, two authors with

distinct agendas. Mr Talese is interested in voyeurism and its moral implications. Mr Foos, who first confided in Mr Talese in 1980 and over three decades later gave the writer permission to go public with his story, believes himself to be a “pioneering sex researcher”. He explicitly places his journal and statistical records in the tradition of William Masters and Virginia Johnson, themselves pioneering sexologists. Mr Foos considers himself to have performed three decades of public service, and now seeks recognition.

Shortly before publication, the *Washington Post* found that Mr Foos had not

owned the motel for the whole period he claimed to have had access to it. Mr Talese seemed to disavow the book, then to disavow his disavowal (probably under pressure from his publishers). If the primary value of “The Voyeur’s Motel” lies in its veracity, or, as Mr Foos might like, as a sexual history of post-war America, this flip-flopping might render it worthless. In fact, it adds a layer of intrigue. The problem for the reader, though, is that this is an exercise in exhibitionism as much as a study of voyeurism. Even if Mr Foos’s tale is broadly reliable, it is unsettling that he has been given a platform. ■

## Johnson | War of words

### Women are judged by the way they speak

**F**EMALE politicians are easily labelled: from the battle-axe to the national mum. Everything they do contributes to the media’s desire to pop them into ready-made boxes, whether it’s their hairstyle, clothes or shoes. But the way they speak, the main task of politicians everywhere, is the most important source of their influence and the biggest potential pitfall. How women leaders talk to voters and each other is soon to get more scrutiny than ever, with Britain’s new prime minister, Theresa May, joining Angela Merkel as two of the most powerful leaders in Europe, and perhaps soon to be ranked with President Hillary Clinton at international summits. The pitfalls for women’s political language come at every level, from tone of voice to word-choice to the topics of conversation to conversational styles.

Authority, for example, is linked to male voices. A study in 2012 showed that a bland political slogan, digitally altered to make it deeper, was more appealing to voters, no matter whether the voices—or the voters—were male or female. This hardly needed experimental proof, however. Margaret Thatcher took elocution lessons in the 1970s as she prepared to become the Conservative Party’s leader and ultimately prime minister. A surprisingly girlish voice from the 1960s became a commanding and much-admired tone during her premiership.

It is not only tone, but variation in tone, that matters. Pitch with a wide band of variation signals emotion. Men who vary their tone are rarely punished for doing so. Mark Liberman, a linguist at the University of Pennsylvania, compared seven Republican presidential candidates’ speeches and found one contender, Rand Paul, to have the most varied pitch. Yet he is not called “emotional”. But for women, variation in tone matters. Mrs



Merkel, whose country has come to distrust charismatic leadership and highly personalised debate, rarely varies the pitch of her deep voice, and is known, for her calm, as *Mutti*, or mum—in this case at least, a mostly admiring label.

Mrs Clinton, an experienced and articulate politician, has a calm and capable delivery in small settings. But she is less comfortable on the stump, especially in the current hot-and-bothered American political climate, where a politician is expected to signal that they are mad as hell and not going to take it any more. When Mrs Clinton attempts this, with her voice high and loud at its peaks, she is called “shrill” and “hectoring”, while her laugh is a “cackle”—words rarely aimed at men.

Another tightrope women must walk is topic. Interviewers rarely ask men about being a man in politics, or their role as husbands and fathers. Women leaders face this regularly, and it can be a trap. Andrea

Leadsom, who hoped to defeat Mrs May and become prime minister, was undone partly by a newspaper interview in which she spoke at length about the importance of having children to her candidacy. This was taken as a swipe at the childless Mrs May, and the hapless Mrs Leadsom was soon out of the race.

Women must also beware of pushing back too hard on the sexist culture they face, or risk being labelled as humourless feminists. Type the name of Julia Gillard, Australia’s prime minister from 2010 to 2013, into Google and the search engine will quickly suggest “Julia Gillard misogyny speech”, a fiery denunciation of old-boy sexism she gave in 2012. The speech thrilled admirers, irritated opponents and made her name around the world. But the true feminist triumph will be when women leaders are remembered more for being leaders than for being women.

Finally, there is the issue of how women interact with others. The more “male” a woman behaves in a leadership setting, the more authority she gains—but stacks of research have shown that this comes with a loss of likeability among both women and men. It is hard to be both tough and likeable, but it can be done: Deborah Cameron and Sylvia Shaw, two British academics, analysed the 2015 general-election debates, and found that Nicola Sturgeon, the Scottish Nationalists’ leader, interrupted most among the seven participants. Interrupting is a quintessentially male tactic—the kind of thing women are punished for—but her performance won rave reviews. Ms Cameron notes that Ms Sturgeon moves comfortably between cut-and-thrust debate, statesmanlike speech and warmth. Most politicians are lucky to be good at just one of these, but women must be especially agile to avoid falling into a stereotyped box.





# BEYOND BUSINESS AS USUAL

Leicester Castle Business School goes beyond business as usual to meet the needs of the 21st century. Students will be taught by world-class academics and provided with the tools and opportunities to think, create and inspire.

**£4,000 Scholarships available**

## POSTGRADUATE COURSES

- Business Management and Sport MSc
- Business Management and the Creative Industries MSc
- Global Banking and Finance MSc
- Global Investment and Risk MSc

## UNDERGRADUATE COURSES

- Global Finance BSc (Hons)
- Global Leadership and Management BSc (Hons)

APPLY NOW [WWW.LCBS.AC.UK](http://WWW.LCBS.AC.UK)

E: [enquiry@lcbs.ac.uk](mailto:enquiry@lcbs.ac.uk) T: +44(0)116 250 6070

[f](#) [v](#) [i](#) [t](#) [twitter.com/leicscastlebs](https://twitter.com/leicscastlebs)

**ISM**  
International School of Management

## Global Perspective. Global Network.

The International School of Management offers three fully accredited degrees in international business management:  
**International MBA, DBA, and PhD**

With a combination of e-learning and intensive seminars held in Paris, New York, Shanghai, New Delhi, São Paulo, and Cape Town, the school's business experience and reputation for academic excellence empower individual ambition and ability to succeed in today's multinational environment.

Now accepting applications for the upcoming intakes: April and October, 2016  
Contact our team at [info@ism.edu](mailto:info@ism.edu) or +33 145 510 909

Redefining Executive Education [www.ism.edu](http://www.ism.edu)

**ie** school of international relations

# THE WORLD NEEDS IMPACT

Become the impulse

## Master in International Relations

IE's Master in International Relations prepares students to face any global challenge with a new, more sustainable vision of business and project management. We train influential leaders to transform and truly make a difference in the public, private, and non-profit sector. It's time to impact the world.

10 MONTHS | MADRID | FULL TIME | ENGLISH

[www.mir.ie.edu](http://www.mir.ie.edu)

[f](#) [v](#) [i](#) [t](#)





### Soliciting Consultancy Firms

IRAN, the 2nd largest economy in the MENA Region, and 18th worldwide, has a high saturation capacity for disparate and diversified economic activities in multifarious fields and sectors. The largest proven gas, and 4th largest proven oil reserves, are but part of the story: Approximating 1% of the global landmass, holding 7% of the world's mineral riches. Nearly 50 million of her 80-million populace is under-30, 98% literate, with a 58% university enrollment rate, in line with more industrialized nations. Along with this high economic potential, Iran straddles a contrasting topography of tree-laden mountains, divergent deserts, open seas, and agriculturally rich terrain, on a keystone landmass connecting Asia to Europe and Africa.

IRAN-EU3+3 historic 2015 agreement has reopened the door for Iran to reclaim her indispensable role in the economic prosperity of the region, demonstrated by the hundreds of commercial and political delegations from Europe, and elsewhere, with potential partners discerning enough to grasp this new horizon.

IRAN Chamber of Commerce, Industries, Mines and Agriculture (ICIMA), which represents Iranian private business interests, intends to facilitate the entry of financial institutions and enterprises, as well as leading influential investors, into Iran. Accordingly, a project with the following deliverables is to be organized:

- *Comprehensive Report* on core strengths of Iran's economy, and key sectors which have the capacity to be attractive to foreign investors. Also, potential actions essential for her private sector enterprises, to complement their identified strengths and ameliorate their classified shortcomings, in order to grant them a competitive advantage on global markets.
- *Presentation* of the key findings of the above mentioned report shall be presented in four international conferences, to be tentatively convened, respectively, in selected financial hubs in Europe, the Far East, and North America, and additionally in Iran. Invitees shall be a number of preferred financial institutions, prominent consultancy firms, Fortune Global 500 & Forbes Global 2000 enterprises, as well as Iranian expatriates.
- *Detailed Report* on key concerns and issues of foreign financial institutions and enterprises present in Iran, and barriers hindering entry of prospective interested parties. A proposal contemplating appropriate policies and strategies for making investment in Iran attractive and effective, as well as the regulatory requirements and practical business & legal frameworks necessary for cooperation between investors and domestic partners.

Therefore, reputable consultancy firms interested in the above mentioned proposal are cordially invited to submit an LOI, accompanied by an introductory package, as instructed below. The package must provide a portfolio of similar conducted projects, list of current clients (including NGOs), Résumés of prospective staff, along with the contemplated proposal and framework for effectuating the above mentioned deliverables.

All applications should be submitted electronically to [consult.notice@iccima.ir](mailto:consult.notice@iccima.ir), no later than 12 P.M. (GMT) on July 31st, 2016. Upon receipt of each proposal, a confirmation email will be remitted to the submitting party. After initial evaluations, and no later than August 14th, eligible firms will be invited to take part in a presentation and clarification session to be convened in September, on a date to be concurred upon by the parties, in Tehran.

## Business & Personal

**New Citizenship by  
Investment in  
3 months  
Ask for a free quote!**

[www.gmccitizenships.com](http://www.gmccitizenships.com)

### Readers are recommended

to make appropriate enquiries and take appropriate advice before sending money, incurring any expense or entering into a binding commitment in relation to an advertisement.

The Economist Newspaper Limited shall not be liable to any person for loss or damage incurred or suffered as a result of his/her accepting or offering to accept an invitation contained in any advertisement published in *The Economist*.

The  
Economist

To advertise within the classified section, contact:

#### UK/Europe

Martin Cheng - Tel: (44-20) 7576 8408  
[martincheng@economist.com](mailto:martincheng@economist.com)

#### Asia

ShanShan Teo - Tel: (+65) 6428 2673  
[shanshanteo@economist.com](mailto:shanshanteo@economist.com)

#### United States

Richard Dexter - Tel: (212) 554-0662  
[richarddexter@economist.com](mailto:richarddexter@economist.com)

#### Middle East & Africa

Philip Wrigley - Tel: (44-20) 7576 8091  
[philipwrigley@economist.com](mailto:philipwrigley@economist.com)



**UCAP**

UNIVERSITY OF  
CENTRAL ASIA & PAKISTAN

## POSITIONS ANNOUNCEMENT

### Founding Vice-President & Project Director

Government of Pakistan is establishing a world-class university in Islamabad to promote regional cooperation. It will start operation from September 2017 initially with the School of Business and Leadership. We are searching for a highly motivated visionary academic leader with extensive professional experience of strategic planning, building partnerships in an international setting and leading academic operations. The University is dedicated to provide high-quality programmes for human resource development and advance discovery of innovative knowledge of public value to the regional countries. The University also plans to start programmes in Engineering & Sciences, Social Sciences & Liberal Arts in phases.

We are looking for an academic leader with an earned doctorate from a leading university who possesses entrepreneurial spirit and managerial excellence regarding all aspects of university/graduate school operations including strategic planning, business operations, development of infrastructure for academic programmes, selection and retention of faculty and staff for institutional development and student services. The selected individual will provide administrative direction in the development and initiation of policies and procedures, develop institutional organizational structure under the direction of an International Board of Trustees.

### Dean, School of Business & Leadership

UCAP also invites applications and nominations for the position of Dean of the Graduate School of Business & Leadership. The mission of UCAP's School of Business & Leadership is to create influential ideas that deepen and advance scholarly understanding of management & leadership and with those ideas to develop innovative, principled, and insightful business leaders and entrepreneurs who will transform the region and the world.

The Dean of the School must possess the capacity to lead the School of Business & Leadership community and support the highest standards of faculty scholarship and teaching. The Dean should demonstrate the ability to develop new institutions with highest academic standards and manage a complex organization, understand the academic process, connect with students, and provide leadership in building a culturally diverse, globally connected institution. The Dean must also forge links with other upcoming schools and the business community, and express important viewpoints in public speeches and writings.

As Chief Executive of the School, the Dean is responsible for both the School's academic strategy and its fiscal management. The Dean will provide leadership for quality faculty recruitment in planning and implementing academic programmes, administer the School's resources, communicate the School's mission and goals to internal and external constituencies, and raise funds.

The Dean must possess doctorate in business/management from a leading university and possess academic experience of working in a quality institution. He/she will report to the Vice President of the University.

Salary and terms of employment are negotiable depending on qualifications and experience.

**Applications should be received within 30 days of the publication of this advertisement.**

UCAP is an equal opportunity employer. There is no nationality restriction for these positions.

To apply please send a complete dossier including a letter of interest, current resume, names and contact details of three references to:



#### Director HRM

Higher Education Commission,  
Sector H-9, Islamabad, Pakistan.  
Email: [hbilal@hec.gov.pk](mailto:hbilal@hec.gov.pk)  
[www.hec.gov.pk](http://www.hec.gov.pk)

## Economic data

% change on year ago

	Gross domestic product			Industrial production	Consumer prices		Unemployment rate, %	Current-account balance		Budget balance	Interest rates, %	Currency units, per \$	
	latest	qtr* 2016 <sup>i</sup>	2016 <sup>i</sup>		latest	latest		2016 <sup>i</sup>	latest 12 months, \$bn			% of GDP 2016 <sup>i</sup>	% of GDP 2016 <sup>i</sup>
United States	+2.1 Q1	+1.1	+1.8	-1.4 May	+1.0 May	+1.4	4.9 Jun	-473.1 Q1	-2.6	-2.5	1.50	-	-
China	+6.7 Q1	+4.5	+6.6	+6.0 May	+1.9 Jun	+2.0	4.1 Q2 <sup>s</sup>	+284.7 Q1	+2.8	-3.1	2.69 <sup>8s</sup>	6.69	6.21
Japan	+0.1 Q1	+1.9	+0.5	-0.4 May	-0.4 May	-0.1	3.2 May	+158.7 May	+3.4	-6.1	-0.27	104	123
Britain	+2.0 Q1	+1.8	+1.5	+1.4 May	+0.3 May	+0.7	5.0 Mar <sup>††</sup>	-161.9 Q1	-5.0	-3.6	0.93	0.76	0.64
Canada	+1.1 Q1	+2.4	+1.4	+0.9 Apr	+1.5 May	+1.6	6.8 Jun	-47.6 Q1	-3.1	-1.7	1.00	1.30	1.28
Euro area	+1.7 Q1	+2.2	+1.5	+0.5 May	+0.1 Jun	+0.3	10.1 May	+381.6 Apr	+3.0	-1.9	-0.14	0.90	0.91
Austria	+1.6 Q1	-0.7	+1.3	+2.4 Apr	+0.6 May	+1.1	6.1 May	+10.5 Q1	+2.3	-1.9	0.17	0.90	0.91
Belgium	+1.5 Q1	+0.9	+1.3	+2.3 Apr	+2.2 Jun	+1.6	8.4 May	+6.5 Mar	+1.2	-2.4	0.19	0.90	0.91
France	+1.3 Q1	+2.6	+1.4	+0.5 May	+0.2 Jun	+0.3	9.9 May	-20.9 May <sup>†</sup>	-0.5	-3.5	0.19	0.90	0.91
Germany	+1.6 Q1	+2.7	+1.5	-0.4 May	+0.3 Jun	+0.4	6.1 Jun	+305.9 May	+8.1	+0.5	-0.14	0.90	0.91
Greece	-1.3 Q1	-1.9	+1.2	+2.9 May	-0.7 Jun	+0.4	23.3 Apr	+1.3 Apr	+2.1	-3.9	7.86	0.90	0.91
Italy	+1.0 Q1	+1.0	+0.9	-0.6 May	-0.4 Jun	+0.1	11.5 May	+45.9 Apr	+2.1	-2.5	1.21	0.90	0.91
Netherlands	+1.5 Q1	+1.8	+1.5	+1.1 May	nil Jun	+0.4	7.6 May	+62.0 Q1	+9.9	-1.6	0.08	0.90	0.91
Spain	+3.4 Q1	+3.1	+2.8	+4.0 May	-0.8 Jun	-0.4	19.8 May	+20.4 Apr	+1.3	-3.5	1.17	0.90	0.91
Czech Republic	+2.7 Q1	+1.6	+2.6	+8.6 May	+0.1 Jun	+1.2	5.2 Jun <sup>§</sup>	+2.7 Q1	nil	-1.5	0.39	24.3	24.6
Denmark	-0.1 Q1	+2.7	+1.1	+6.2 May	+0.3 Jun	+0.8	4.3 May	+17.5 May	+6.5	-2.8	0.10	6.70	6.78
Norway	+0.7 Q1	+4.0	+1.4	-0.1 May	+3.7 Jun	+2.6	4.6 Apr <sup>††</sup>	+29.3 Q1	+10.8	+6.8	0.89	8.42	8.08
Poland	+2.5 Q1	-0.4	+3.5	+3.5 May	-0.8 Jun	+1.2	8.8 Jun <sup>§</sup>	-2.2 Apr	-1.8	-2.1	2.87	3.97	3.76
Russia	-1.2 Q1	na	-0.8	+0.7 May	+7.5 Jun	+7.2	5.6 May <sup>§</sup>	+38.4 Q2	+3.4	-2.5	8.39	63.9	56.8
Sweden	+4.2 Q1	+2.0	+3.5	+1.7 May	+1.0 Jun	+1.0	7.6 May <sup>§</sup>	+28.2 Q1	+5.6	-0.5	0.19	8.49	8.48
Switzerland	+0.7 Q1	+0.4	+1.0	+1.0 Q1	-0.4 Jun	-0.5	3.3 Jun	+71.9 Q1	+9.0	+0.3	-0.60	0.98	0.95
Turkey	+4.8 Q1	na	+3.4	+0.6 Apr	+7.6 Jun	+7.5	10.1 Mar <sup>§</sup>	-28.6 Apr	-4.7	-1.8	9.17	2.90	2.65
Australia	+3.1 Q1	+4.3	+2.7	+4.8 Q1	+1.3 Q1	+1.4	5.8 Jun	-62.3 Q1	-4.3	-2.0	1.95	1.31	1.35
Hong Kong	+0.8 Q1	-1.8	+2.0	-0.3 Q1	+2.6 May	+2.6	3.4 May <sup>††</sup>	+11.9 Q1	+2.7	-0.4	0.99	7.76	7.75
India	+7.9 Q1	+9.6	+7.5	+1.2 May	+5.8 Jun	+5.3	4.9 2013	-22.1 Q1	-1.2	-3.7	7.28	67.0	63.5
Indonesia	+4.9 Q1	na	+5.0	+7.5 May	+3.5 Jun	+4.0	5.5 Q1 <sup>§</sup>	-18.2 Q1	-2.4	-1.9	7.16	13,105	13,300
Malaysia	+4.2 Q1	na	+5.5	+2.7 May	+2.0 May	+2.8	3.5 Apr <sup>§</sup>	+7.0 Q1	+2.7	-3.7	3.59	3.97	3.80
Pakistan	+5.7 2016**	na	+4.8	-3.1 Apr	+3.2 Jun	+5.1	5.9 2015	-2.5 Q1	-0.9	-4.6	8.03 <sup>†††</sup>	105	102
Philippines	+6.9 Q1	+4.5	+6.2	-1.2 May	+1.9 Jun	+2.6	6.1 Q2 <sup>§</sup>	+6.7 Mar	+3.5	-1.9	4.42	47.2	45.2
Singapore	+2.2 Q2	+0.8	+2.3	+0.9 May	-1.6 May	+0.8	1.9 Q1	+54.8 Q1	+20.5	+0.9	1.75	1.35	1.36
South Korea	+2.8 Q1	+2.1	+2.5	+4.3 May	+0.8 Jun	+1.2	3.6 Jun <sup>§</sup>	+105.2 May	+7.3	+0.2	1.39	1,147	1,130
Taiwan	-0.7 Q1	+3.1	+1.8	+1.9 May	+0.9 Jun	+1.0	4.0 May	+74.8 Q1	+12.6	-0.9	0.68	32.2	31.0
Thailand	+3.2 Q1	+3.8	+3.4	+2.6 May	+0.4 Jun	+2.4	1.2 May <sup>§</sup>	+40.1 Q1	+3.3	-2.2	1.92	35.2	34.0
Argentina	+0.5 Q1	-2.7	-0.9	-2.5 Oct	— ***	—	5.9 Q3 <sup>§</sup>	-15.0 Q1	-2.3	-2.8	na	14.6	9.13
Brazil	-5.4 Q1	-1.1	-3.5	-7.7 May	+8.8 Jun	+8.5	11.2 May <sup>§</sup>	-29.5 May	-1.0	-5.7	12.00	3.29	3.17
Chile	+2.0 Q1	+5.3	+3.0	-2.0 May	+4.2 Jun	+3.6	6.8 May <sup>§††</sup>	-4.7 Q1	-1.5	-1.8	4.37	659	648
Colombia	+2.5 Q1	+0.6	+3.3	+8.4 Apr	+8.6 Jun	+4.7	8.8 May <sup>§</sup>	-16.9 Q1	-5.3	-1.9	7.59	2,945	2,696
Mexico	+2.6 Q1	+3.3	+2.3	+0.4 May	+2.5 Jun	+2.9	4.0 May	-30.5 Q1	-2.9	-3.0	5.88	18.4	15.7
Venezuela	-8.8 Q4~	-8.4	-7.7	na	na	+220	7.3 Apr <sup>§</sup>	-17.8 Q3~	-1.7	-15.5	11.73	9.99	6.31
Egypt	+6.7 Q1	na	+3.7	-17.8 May	+14.0 Jun	+9.8	12.7 Q1 <sup>§</sup>	-18.3 Q1	-2.9	-9.8	na	8.88	7.83
Israel	+1.9 Q1	+1.3	+3.4	+1.2 Apr	-0.8 May	+1.0	4.8 May	+14.7 Q1	+4.2	-2.5	1.62	3.86	3.77
Saudi Arabia	+3.5 2015	na	+2.5	na	+4.1 May	+3.8	5.6 2015	-59.5 Q1	-2.4	-9.6	na	3.75	3.75
South Africa	-0.2 Q1	-1.2	+0.4	+3.8 May	+6.1 May	+6.4	26.7 Q1 <sup>§</sup>	-13.4 Q1	-4.2	-3.3	8.71	14.5	12.5

Source: Haver Analytics. \*\*% change on previous quarter, annual rate. <sup>†</sup>The Economist poll or Economist Intelligence Unit estimate/forecast. <sup>§</sup>Not seasonally adjusted. <sup>††</sup>New series. ~2014 \*\*Year ending June. <sup>†††</sup>Latest 3 months. <sup>††††</sup>3-month moving average. <sup>§§§</sup>5-year yield. \*\*\*Official number not yet proved to be reliable; The State Street PriceStats Inflation Index, May 37.09%; year ago 26.74% <sup>†††††</sup>Dollar-denominated bonds.

**The Economist** FILMS

**THE DISRUPTERS**

A SERIES ABOUT INDUSTRIES UNDERGOING TRANSFORMATION

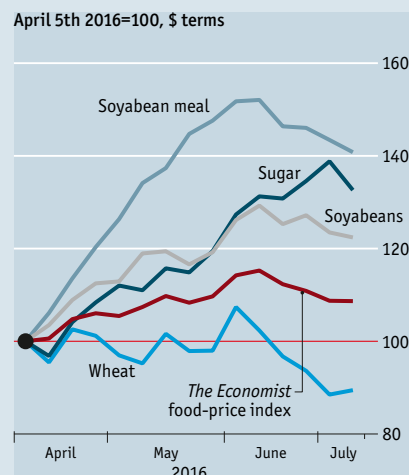


Markets

	Index Jul 13th	% change on		
		one week	Dec 31st 2015	
			in local currency	in \$ terms
United States (DJIA)	18,372.1	+2.5	+5.4	+5.4
China (SSEA)	3,204.0	+1.4	-13.5	-16.1
Japan (Nikkei 225)	16,231.4	+5.5	-14.7	-1.6
Britain (FTSE 100)	6,670.4	+3.2	+6.9	-4.2
Canada (S&P TSX)	14,493.8	+1.8	+11.4	+19.2
Euro area (FTSE Euro 100)	992.9	+5.6	-9.3	-7.3
Euro area (EURO STOXX 50)	2,926.1	+6.0	-10.4	-8.5
Austria (ATX)	2,136.2	+5.6	-10.9	-8.9
Belgium (Bel 20)	3,390.3	+4.8	-8.4	-6.3
France (CAC 40)	4,335.3	+6.1	-6.5	-4.4
Germany (DAX)*	9,930.7	+5.9	-7.6	-5.5
Greece (Athex Comp)	559.7	+5.7	-11.3	-9.4
Italy (FTSE/MIB)	16,527.9	+7.2	-22.8	-21.1
Netherlands (AEX)	444.5	+5.3	+0.6	+2.8
Spain (Madrid SE)	851.2	+7.0	-11.8	-9.9
Czech Republic (PX)	826.2	nil	-13.6	-11.7
Denmark (OMXCXB)	870.3	+4.4	-4.0	-1.6
Hungary (BUX)	27,192.3	+2.6	+13.7	+17.0
Norway (OSEAX)	685.0	+4.3	+5.6	+11.0
Poland (WIG)	45,017.8	+3.4	-3.1	-3.6
Russia (RTS, \$ terms)	952.4	+3.8	+10.1	+25.8
Sweden (OMXS30)	1,356.4	+5.6	-6.3	-6.9
Switzerland (SMI)	8,142.3	+3.1	-7.7	-6.1
Turkey (BIST)	81,321.7	+3.7	+13.4	+14.0
Australia (All Ord.)	5,470.3	+3.5	+2.4	+7.0
Hong Kong (Hang Seng)	21,322.4	+4.0	-2.7	-2.8
India (BSE)	27,815.2	+2.4	+6.5	+5.1
Indonesia (JSX)	5,133.9	+3.3	+11.8	+17.6
Malaysia (KLSE)	1,660.4	+0.6	-1.9	+6.1
Pakistan (KSE)	39,049.5	+2.9	+19.0	+18.9
Singapore (STI)	2,910.7	+1.6	+1.0	+6.3
South Korea (KOSPI)	2,005.6	+2.7	+2.3	+4.6
Taiwan (TWI)	8,857.8	+3.3	+6.2	+8.5
Thailand (SET)	1,477.6	+1.7	+14.7	+17.4
Argentina (MERV)	15,145.2	+3.1	+29.7	+15.4
Brazil (BVSP)	54,598.3	+5.2	+25.9	+51.4
Chile (IGPA)	20,004.4	+1.4	+10.2	+18.4
Colombia (IGBC)	9,834.5	+1.1	+15.1	+24.0
Mexico (IPC)	46,272.0	+2.1	+7.7	+1.1
Venezuela (IBC)	12,090.1	+2.6	-17.1	na
Egypt (Case 30)	7,559.9	+5.2	+7.9	-4.9
Israel (TA-100)	1,262.7	+3.9	-4.0	-3.2
Saudi Arabia (Tadawul)	6,691.2	+2.9	-3.2	-3.1
South Africa (JSE AS)	52,814.9	+3.9	+4.2	+11.7

Food prices

The Economist's food-price index has jumped by 8% over the past three months, propelled in large part by the rising price of soybeans (soya-related products make up 27% of the index). Heavy flooding in Argentina, the world's largest soybean-meal exporter, has reduced supplies. Growing demand in China, where the meal is used as animal feed, has also driven up prices. Promising growing conditions in America have helped temper the rally recently. The price of sugar has also been on an upward trajectory, rising by 33% since April. Wet weather in Brazil has reduced the amount of recoverable sugar per tonne of cane. Reports of record yields of wheat in America have pushed its price down.



Source: The Economist

Other markets

	Index Jul 13th	% change on		
		one week	Dec 31st 2015	
			in local currency	in \$ terms
United States (S&P 500)	2,152.4	+2.5	+5.3	+5.3
United States (NAScomp)	5,005.7	+3.0	nil	nil
China (SSEB, \$ terms)	353.6	+0.1	-14.5	-17.1
Japan (Topix)	1,300.3	+5.4	-16.0	-3.0
Europe (FTSEurofirst 300)	1,326.3	+4.9	-7.7	-5.7
World, dev'd (MSCI)	1,694.4	+3.3	+1.9	+1.9
Emerging markets (MSCI)	856.4	+4.5	+7.8	+7.8
World, all (MSCI)	409.3	+3.4	+2.5	+2.5
World bonds (Citigroup)	962.9	-0.7	+10.7	+10.7
EMBI+ (JPMorgan)	804.5	+0.8	+14.2	+14.2
Hedge funds (HFRX)	1,176.3 <sup>1</sup>	+0.7	+0.2	+0.2
Volatility, US (VIX)	13.0	+15.0	+18.2 (levels)	
CDSs, Eur (iTRAXX) <sup>1</sup>	72.2	-13.1	-6.4	-4.3
CDSs, N Am (CDX) <sup>1</sup>	71.2	-7.4	-19.4	-19.4
Carbon trading (EU ETS) €	4.8	+4.1	-42.3	-41.1

Sources: Markit; Thomson Reuters. <sup>1</sup>Total return index. <sup>2</sup>Credit-default-swap spreads, basis points. <sup>3</sup>July 12th.

Indicators for more countries and additional series, go to: [Economist.com/indicators](http://Economist.com/indicators)

The Economist commodity-price index

2005=100

	Jul 5th	Jul 12th*	% change on	
			one month	one year
<b>Dollar Index</b>				
All Items	139.2	139.6	-1.5	-3.5
Food	163.0	162.8	-5.7	-4.3
Industrials				
All	114.5	115.5	+5.4	-2.3
Nfa <sup>1</sup>	121.2	122.9	+4.1	+2.3
Metals	111.7	112.3	+6.0	-4.4
<b>Sterling Index</b>				
All items	194.0	192.6	+4.6	+14.0
<b>Euro Index</b>				
All items	155.8	148.8	-5.4	-9.0
<b>Gold</b>				
\$ per oz	1,345.3	1,342.4	+4.4	+16.2
<b>West Texas Intermediate</b>				
\$ per barrel	46.6	46.8	-3.6	-11.4

Sources: Bloomberg; CME Group; Cotlook; Darmann & Curl; FT; ICCO; ICO; ISO; Live Rice Index; LME; NZ Wool Services; Thompson Lloyd & Ewart; Thomson Reuters; Urner Barry; WSJ. <sup>\*</sup>Provisional <sup>1</sup>Non-food agriculturals.

This series is supported by EY building a better working world

EPISODE ONE

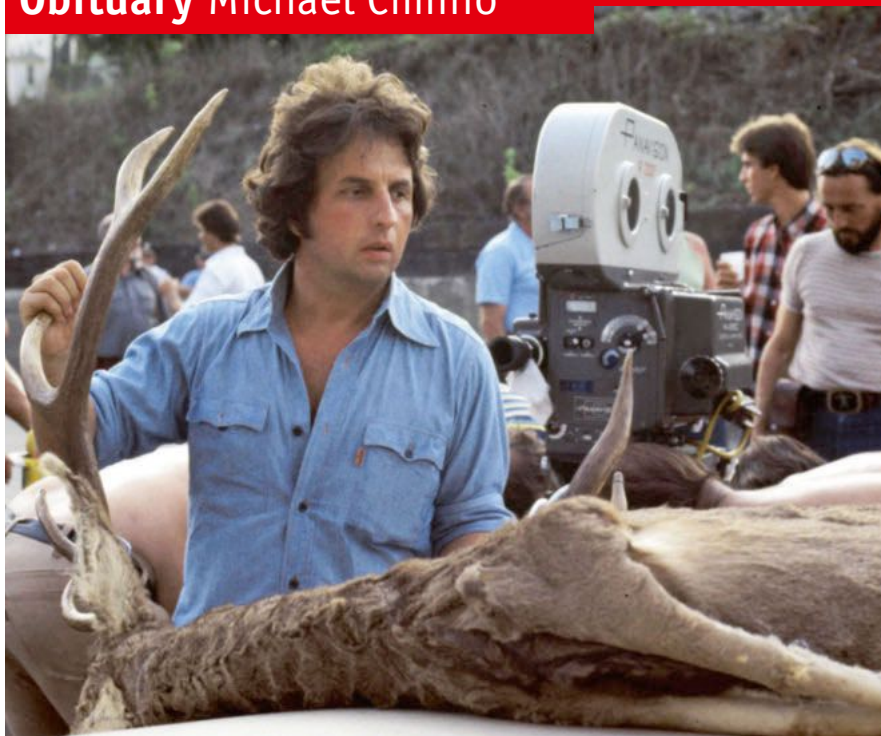
# GEAR SHIFT

Why drive when you can ride?

Watch now:  
[EYdisrupters.filmseconomist.com](http://EYdisrupters.filmseconomist.com)







## The price of perfection

**Michael Cimino, a film-maker who tasted both triumph and disaster, died on July 2nd, aged 77**

WHAT people did not understand about him, Michael Cimino said—briefly emerging in 2005 from his seclusion in Los Angeles—was that he was not a film-maker. He had read one book on film-editing, but never got to the end of it. His training consisted of going to the movies every week with his grandmother, and getting the feel of a Movieola camera when he went to New York to make commercials. The fact that he ended up directing seven films was a mystery and a wonder to him.

And to others. With only his second film, “The Deer Hunter”, a story of three steelworkers before, during and after their service in Vietnam, he became a star; in 1979, it won five Oscars. America’s most humiliating war had not been touched before; the film proved emotionally devastating. But his third, “Heaven’s Gate” (1980), a vast narrative of struggle between cattle barons and immigrants in late-19th-century Wyoming, was the biggest flop in Hollywood history. Its 1.3m feet of film were edited to five and a half ravishing, snail-paced hours. It cost \$44m, 300% over budget, and almost sank United Artists. He withdrew the film after a week, with no regrets, though it had cost his reputation; he had wanted to make the best Western ever and, in his view, he had.

He spoke as an artist. A precocious one,

who at the age of five could draw perfect portraits. A student of art, who had studied painting and architecture at Yale. His chief influences, he proudly said, were Degas, Kandinsky and Frank Lloyd Wright. His predilections showed in the way he placed extras in his shots, as though painting them in; the way he favoured interiors with shafts of light playing through smoke, as Caravaggio might have done; his love of big choreographed dance scenes, in which swirling human beings built a structure of beauty; his habit of driving thousands of miles to find just the right range of mountains, or line of trees, to frame his shots; his readiness to wait, for hours if necessary, for the right cloud to appear.

In pursuit of perfection he did everything himself, including the screenplays and, he claimed, the photography. He wanted to inspire such total belief that the screen would be demolished and the audience transported. He insisted on location shooting because he believed, as firmly as native Americans did, in a spirit of place that could change the texture of a film (a theme he developed in “Sunchaser” (1996), his last work). And he would go on, obsessively on, until he was satisfied.

UA should have known this when in 1978 they allowed him to make “Heaven’s Gate”. He was already a slow worker in his

commercial days, taking an infinity to provide a minute of stunning visuals for Kodak or Pepsi-Cola. When Clint Eastwood gave him his first big break to direct “Thunderbolt and Lightfoot”, a buddy movie, in 1973, his finickiness was forever bumping against Clint’s impatience. He even spoke slowly, as if with effort, from behind near-perpetual sunglasses and a glossy-smooth tan, and walked slowly, in stacked Western boots that gave his small body an air of Napoleonic command. On set once, needing some wind, he raised his hand; and the wind, from nowhere, blew.

### The burning fiery furnace

“The Deer Hunter” also went over-schedule and over-budget. The search for authenticity led Mr Cimino to use eight locations for Clairton, the fictional town at the film’s heart; to put his actors on the furnace floor of a real steelworks, and make a wedding last for a real hour; to strip leaves from trees, paint them orange and reattach them, in order to make summer autumn; to shoot the Vietnam scenes in Thailand, deliberately on the River Kwai; to make his actors really slap each other, jump out of helicopters and fall into waters full of live rats, for as many as 50 takes. He drew the best out of his devoted cast, and it cost \$15m.

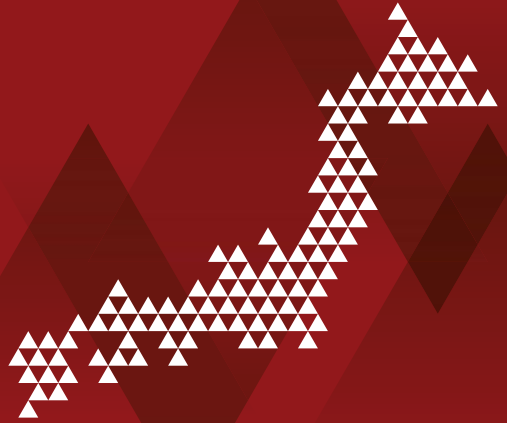
This came to seem a pittance. “Heaven’s Gate”, “the real West, not the fake West”, required an even higher pitch of perfection, including the restoration of a buggy at workshops in three states; the building of an irrigation system under a wide area of prairie to make it lushly green for the climactic battle scene; the training of the cast in rifle-shooting, horse-riding, roller-skating and Slavic accents, and the demolition of a street in order to rebuild it a mere six feet wider. UA tried to rein him in. He refused to speak to them or let their people on set and, once the film was in the can, edited it behind barred windows and locked doors.

After the debacle, with critics cold and studios no longer wanting him, his quest for perfection turned inward. His mouth was too small, his cheeks too plump; LA cosmetic surgeons turned him into an unrecognisable waif. His career seemed over, but he was writing novels, which the French liked, and noting that his new cut of “Heaven’s Gate”, released on DVD in 2013, was murmured by some to be a masterpiece. He said he was never happier. After all, he had never aimed to be a film-maker.

A mountain of unproduced scripts remained in his house. They included adaptations of “Crime and Punishment” and Malraux’s “La Condition Humaine”. His favourite, worked on for decades, was Ayn Rand’s “The Fountainhead”: the story of an architect ready to destroy all he had built rather than betray his perfect vision. Truly he had been there, and done that. ■

# JAPAN SUMMIT FUTURE WORKS

OCTOBER 21ST 2016 • TOKYO



**TOMOKO NISHIMOTO**  
Assistant director-general  
and regional director for  
Asia and the Pacific  
**International Labour  
Organisation (ILO)**



**SEIJIRO TAKESHITA**  
Professor  
School of Management  
and Information  
**Shizuoka University**



**KAZUTAKA HASUMI**  
Board director  
product division  
**Softbank Robotics**



**TOMOHIKO TANIGUCHI**  
Special adviser to the cabinet  
of Shinzo Abe



**ROBERT DUJARRIC**  
Director  
Institute of Asian Studies  
**Temple University**



**AKIKO NAKA**  
Chief executive officer  
**Wantedly**

## Japanese women are ready to lead. Will companies let them?

Japanese women hold only 9% of senior roles compared with 22% in the United States, according to Goldman Sachs. Yet the mood is shifting. Retaining women in the workforce is now a priority not just for new businesses hungry for talent, but for Japan's more established corporations too.

How are jobs being redesigned to take the needs of women into account?

Listen to leading speakers from business, academia and government at Japan Summit: Future Works as they discuss the crucial role women must play in Japan's workforce.

## REGISTER TODAY



Subscribers to *The Economist* can enjoy a 20% discount on the standard rate (Code: TER3325 at check-out)

Apply to attend:  
[asiaevents@economist.com](mailto:asiaevents@economist.com)  
**+852 2585 3312**

Join the conversation  
@EconomistEvents #EconJapan

[japan.economist.com](http://japan.economist.com)

Platinum sponsor



Academic sponsor



# Oracle #1 Cloud ERP



**Oracle Cloud  
ERP Customers**



**Workday Cloud  
ERP Customers**

**“Oracle has their act together better than SAP”**

*Aneel Bhusri, Workday CEO*

**ORACLE®**

**Midsized and large scale Enterprise Fusion ERP Cloud customers.**

**[cloud.oracle.com/erp](http://cloud.oracle.com/erp) or call 1.800.ORACLE.1**