

The Economist

AUGUST 29TH-SEPTEMBER 4TH 2015

Economist.com

Migrants: Europe's moral panic

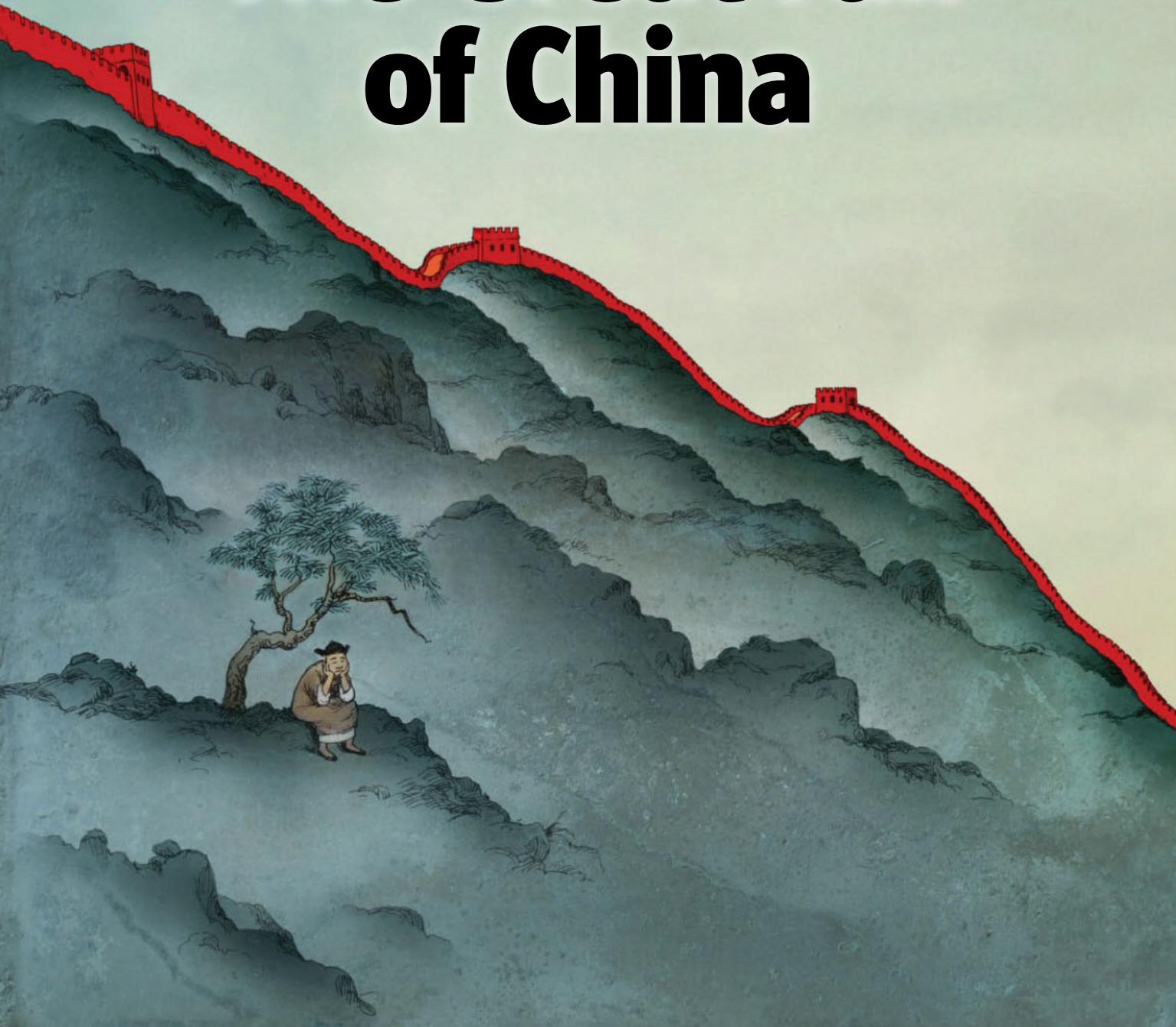
The scam of pay-as-you-go government

Spycraft and corporate security

Visions of Virtual Reality

The elegant physics of the tennis court

The Great Fall of China





TO BREAK THE RULES,
YOU MUST FIRST MASTER
THEM.

THE VALLÉE DE JOUX. FOR MILLENNIA A HARSH, UNYIELDING ENVIRONMENT; AND SINCE 1875 THE HOME OF AUDEMARS PIGUET, IN THE VILLAGE OF LE BRASSUS. THE EARLY WATCHMAKERS WERE SHAPED HERE, IN AWE OF THE FORCE OF NATURE YET DRIVEN TO MASTER ITS MYSTERIES THROUGH THE COMPLEX MECHANICS OF THEIR CRAFT. STILL TODAY THIS PIONEERING SPIRIT INSPIRES US TO CONSTANTLY CHALLENGE THE CONVENTIONS OF FINE WATCHMAKING.



ROYAL OAK
CONCEPT GMT
TOURBILLON
IN TITANIUM, WHITE
CERAMIC BEZEL.

AUDEMARS PIGUET BOUTIQUES.
CALL US - 646.375.0807
NEW YORK. TEXT US- 646.760.6644
BAL HARBOUR SHOPS. TEXT US- 786.565.6776
BEVERLY HILLS • LAS VEGAS
AUDEMARSPIGUET.COM

AUDEMARS PIGUET
Le Brassus

A lot of people ask
what we do. Simple:

We help make your
customers love you.

When customers love your company, new ones join the flock, leads increase, sales and deals close faster, and your business grows. Our applications are designed to get new customers, keep the ones you've got, and help your team deliver great personal experiences. Whether it's sales, service, or marketing, Salesforce gives you all you need to know about what your customers really want, and how to keep them happy. Connect with your customers in a whole new way at salesforce.com



THE CUSTOMER SUCCESS PLATFORM
SALES SERVICE MARKETING COMMUNITY ANALYTICS APPS

**On the cover**

Fears about China's economy can be overdone. But investors are right to be nervous about what the world has in store: leader, page 11. A stockmarket tumble in China has raised questions far beyond its shores, pages 19-22

The Economist online

Daily analysis and opinion to supplement the print edition, plus audio and video, and a daily chart Economist.com

E-mail: newsletters and mobile edition Economist.com/email

Print edition: available online by 7pm London time each Thursday Economist.com/print

Audio edition: available online to download each Friday Economist.com/audioedition

The Economist

Volume 416 Number 8953

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

8 The world this week**Leaders**

- 11 Market turbulence** The Great Fall of China
- 12 Government fees** It'll cost you
- 12 The Iran agreement** Heat but not much light
- 13 Migration to Europe** Let them in; let them earn
- 14 Virtual reality** The vision thing

Letters

- 16 On patents, Germany and Poland, Donald Trump and Hillary Clinton**

Briefing

- 19 China and the economy** Taking a tumble

United States

- 23 Nuclear waste** Faff and fallout
- 24 Teamsters** Truckin' on
- 24 The Iran deal** Counting heads
- 26 Jimmy Carter** High Plains drifter
- 27 Counterfeit art** The Bean and the Bubble
- 28 Lexington** School buses in decline

The Americas

- 29 Crime in Venezuela** Justice decayed
- 30 Canada's economy** The new rustbelt
- 30 Caribbean resorts** Seaweed in paradise

Asia

- 31 Politics in Malaysia** No more Mr Nice Guy
- 32 An election in Singapore** May the best party win
- 32 Troubled Nepal** Clashing over a constitution
- 33 Modi's style** Lights, camera, inaction!
- 34 Banyan** Views of Japan

China

- 35 Living alone (1)** Young, single and what about it?
- 36 Living alone (2)** Old and isolated

Middle East and Africa

- 37 South Africa's state-owned companies** Commanding plights
- 38 Ebola in Sierra Leone** Hail to the chiefs
- 39 Reforming Iraq** Good on paper
- 39 Protests in Lebanon** Talking trash
- 40 Israeli politics** The left's Likudnik
- 40 Muslim dress in Egypt** Haughty about the hijab

Europe

- 41 Migration in Europe** Looking for a home
- 44 French security** Derailed
- 44 South-eastern Europe** Knocking on heaven's door
- 45 Turkish politics** The gambler
- 45 Greek elections** And another one

Britain

- 46 Public services** Pay-as-you-go government
- 47 Murder and politics in Belfast** Consequences of a killing
- 47 Weather and the BBC** Turned out not so nice
- 48 Baghot** Lessons from Angela Merkel



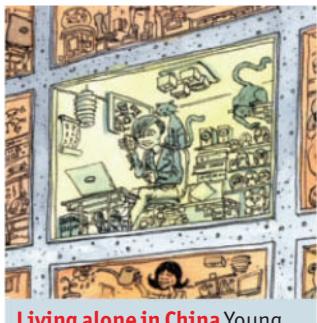
Migration A bigger welcome mat would be in Europe's own interest: leader, page 13. Asylum-seekers, economic migrants and residents of all stripes fret over their place in Europe, page 41



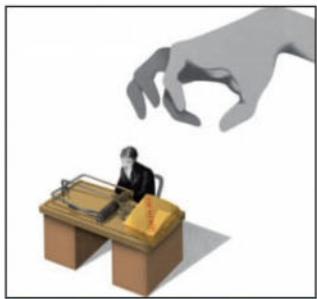
Pay-as-you-go government Charging for public services sometimes makes sense. Often, though, it is a racket: leader, page 12. From divorces to corpses, Britain's cash-strapped government departments are finding new sources of revenue, page 46



South Africa The national airline and other disastrously managed state companies are dragging down the economy, page 37



Living alone in China Young people seem increasingly content to live by themselves, page 35. The elderly are not so happy, page 36



Corporate espionage

The techniques of counter-intelligence can help firms protect themselves against cyber-attacks: Schumpeter, page 55



Virtual reality The technology is promising but, in its current form, it will not conquer the mass market: leader, page 14. Virtual reality flopped in the 1990s. It is learning from its mistakes, page 61

International

- 49 Luxury holidays**
A place to lay your bread
50 Responsible tourism
Travelling light

Business

- 51 Ads in the digital age**
A brand new game
52 Monetising Snapchat
Snap judgments
53 Agricultural supplies
Monsanto walks away
53 Taxing multinationals
Patently problematic
54 Bakeries
Croissantomics
55 Schumpeter
Manage like a spymaster

Finance and economics

- 56 Investing in infrastructure**
Building works
57 Ukraine's debt restructuring
Tinkering
57 Defending the naira
Wheelbarrows to the rescue
58 Monetary policy in Japan
Core concern
58 The economics of generosity
Good neighbours
59 Private islands
Non-profit paradise
60 Free exchange
The drawbacks of auctions

Science and technology

- 61 Virtual reality**
Grand illusions

Science brief

- 64 What caused the Cambrian explosion?**
The other Big Bang

Books and arts

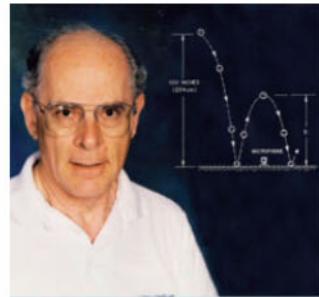
- 66 Italian fiction**
Ties that bind
67 Why companies fail
Blighting the horizon
67 The French Resistance
Freedom force
68 The Lewis chessmen
Bones of contention
69 Islamist violence
Hydra-headed
69 Contemporary art in Japan
Educating Aida

72 Economic and financial indicators

Statistics on 42 economies, plus a closer look at market volatility

Obituary

- 74 Howard Brody**
The science of swing



The physics of tennis Howard Brody, the Isaac Newton of the tennis ball: Obituary, page 74

Subscription service

For our latest subscription offers, visit [Economist.com/offers](#)

For subscription service, please contact by telephone, fax, web or mail at the details provided below:

Telephone: 1 800 456 6086 (from outside the US and Canada, 1 636 449 5702)

Faximile: 1 866 856 8075 (from outside the US and Canada, 1 636 449 5703)

Web: [Economistsubs.com](#)

E-mail: [customerhelp@economist.com](#)
Post: The Economist Subscription Services, P.O. Box 46978, St. Louis, MO 63146-6978, USA

Subscription for 1 year (51 issues)

United States	US\$160
---------------	---------

Canada	CN\$165
--------	---------

Latin America	US\$338
---------------	---------

Principal commercial offices:

25 St James's Street, London SW1A 1HG

Tel: 020 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

60/F Central Plaza

18 Harbour Road, Wanchai, 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 certified to PEFC
[www.pefc.org](#)



Mondelēz International is reinvesting savings to grow. And guess how much we're helping them save?



Snack food powerhouse Mondelēz International® faced roadblocks to growth, from shifting tastes to a slowdown in consumer spending. To master these challenges, we helped them design and implement a strategic operating model and cost control strategy. Today, Mondelēz International is on track to save \$1 billion in just 3 years. Now they can focus on what matters most – creating delicious moments of joy. That's high performance, delivered.

High performance. Delivered.

Politics



Barack Obama stepped up the rhetoric in his campaign to win support in Congress for the recently negotiated deal with **Iran** on limiting the country's nuclear programme, describing those who are opposed to the agreement as "the crazies". Harry Reid, who leads the Democrats in the Senate, gave his full backing to the accord. Meanwhile, Britain reopened its embassy in Tehran, a direct consequence of the deal.

King Abdullah of Jordan, President Abdel-Fattah al-Sisi of Egypt and Abu Dhabi's Crown Prince Sheikh Mohammed bin Zayed al-Nahyan were all in Moscow to see Vladimir Putin this week, fuelling speculation that moves may be afoot to try to end the war in **Syria**.

Protests over mountains of uncollected rubbish in the streets of **Beirut** turned violent, leaving at least one man dead. The protests were seen as a proxy for wider dissatisfaction with Lebanon's dysfunctional government.

The president of **South Sudan**, Salva Kiir, signed a peace deal with rebels that offers hope of an end to a civil war that has cost tens of thousands of lives. Mr Kiir had previously refused to make peace, drawing a threat of sanctions from the United Nations.

Border tensions

Venezuela's government closed the main border crossing with **Colombia** and declared a state of emergency in six frontier municipalities

after smugglers shot and injured three soldiers and a civilian. More than a thousand Colombians left Venezuela when the government declared that those living illegally in the country would be expelled.

In **Guatemala** the supreme court approved a request to impeach the country's president, Otto Pérez Molina. Congress must now decide whether the impeachment can go ahead. Mr Molina, who denies allegations of corruption, is not allowed to stand in presidential elections scheduled for September 6th.

More than a dozen members of **El Salvador's** Barrio 18 gang were killed in prison in a suspected internal feud. In July the Barrio 18 ordered a bus strike in the capital, San Salvador, to press its demand to be included in talks on reducing urban violence. Seven drivers who defied it were killed.

Over there

An attack by a heavily armed jihadist on board a train headed to **Paris** was thwarted by several passengers, including two holidaying American servicemen who tackled and subdued the gunman. They and their fellow travellers were praised by the French president, François Hollande, for their bravery.



Macedonia struggled to cope with an influx of migrants entering the country via neighbouring Greece. The UN refugee agency predicted that 3,000 people a day, most of whom are fleeing war in Syria, would cross into Macedonia in the coming months, heading initially for Serbia and then western Europe.

In a case that was compared to the show trials of the Stalinist era, a military court in **Russia** sentenced Oleg Sentsov, a Ukrainian film director and leading opponent of Russia's annexation of Crimea, to 20 years hard labour. Mr Sentsov was snatched from Crimea last year and charged with plotting terrorist acts.

Syriza, the left-wing ruling party in **Greece**, was beset by infighting after Alexis Tsipras resigned as prime minister and called an early election for September 20th. It will be the third time that weary Greeks trudge to the polls this year, following an election in January and a referendum in July.

Turkey set November 1st as a date for new parliamentary elections after talks broke down to form a coalition following an indecisive election in June.

The pro-British Ulster Unionist Party in **Northern Ireland** announced that it would leave the province's power-sharing executive after police said the IRA may have been involved in a murder earlier this month. If the region's largest party, the Democratic Unionist Party, follows suit, devolution will be suspended.

In **Britain** at least 11 people died when a 1950s-vintage jet crashed into a nearby major road during an aerobatic display at Shoreham—the country's worst air-show disaster since 1952.

Gun run

In a grim year for **shootings** in America, the gruesome murder of two journalists while they were broadcasting live on air in a town in Virginia still had the ability to shock. The alleged gunman, a disgruntled former reporter, posted video of his crime on social media before later shooting himself.

Having upended the **Republicans'** presidential race with calls to deport illegal immigrants and end birthright citizenship, Donald Trump did more harm to the party's

image with Hispanic voters by throwing Jorge Ramos, a respected Mexican-American journalist, out of a press conference. Mr Trump told Mr Ramos to "Go back to Univision", the Spanish-language network where he works, after he had pressed Mr Trump on immigration.

Dangerous games

Following artillery exchanges between **North Korea** and **South Korea**, officials from both sides met to defuse rising tensions along the Korean peninsula's demilitarised zone. South Korea agreed to turn off propaganda loudspeakers that North Korea said affronted the "supreme dignity" of its dictator, Kim Jong Un. The North relaxed its state of high military alert. The North may have ratcheted up hostilities in order to blackmail China into increasing aid.



In **India** protests by hundreds of thousands of members of the Patel caste shut down Ahmedabad, the commercial capital of Gujarat state. The caste, notable for its business prowess, demanded quotas for government jobs. At least eight died in caste-related violence. The prime minister, Narendra Modi, who used to run Gujarat, called for calm.

The government in **Singapore** called an election for September 11th. That is a year earlier than the ruling People's Action Party needs to. But it might hope to bask in the patriotic fervour of the recent 50th anniversary celebrations of the city-state's independence. The prime minister, Lee Hsien Loong, who is the son of the late Lee Kuan Yew, may also want time to groom a successor. He is 63.

Business



It was a dramatic week for **global stockmarkets**, as fears deepened about whether the Chinese economy was heading for a "hard landing". Many share indices swung wildly. The main Shanghai index plunged by more than 8% in a single day, its biggest loss since early 2007, wiping out the gains it had made since the start of the year. The S&P 500, FTSE 100 and other markets in Europe and Asia were also rattled, with some recording their steepest falls since the financial crisis in 2008. By mid-week the markets had rebounded, chalking up huge gains in some places, but trading remained tense.

It's make-or-break time

One source of worry for investors was data showing that Chinese **manufacturing** in August had shrunk the most for more than six years. The latest assessment of the **smart-phone** market from IDC, a research firm, predicted that shipments in China will increase by just 1.2% this year, down from 19.7% in 2014. Concern about the world's second-biggest economy weighed on the share prices of many technology companies, but Apple clawed back some of the market value it had lost after Tim Cook, its boss, gave assurances (in an e-mail to a TV show) that its business in China is robust. Alibaba's stock slid below the \$68 it was priced at when it floated on the New York stockmarket last September.

In an attempt to stop the market rout the People's Bank of China reduced **interest rates** and rolled out other measures to boost liquidity. This week's

turmoil reduced the chances that the Federal Reserve will raise rates in September. William Dudley, a member of the Fed's rate-setting committee, admitted that the conditions for tightening monetary policy in September were "less compelling" than a month ago, though he also warned that it was "important not to overreact to short-term market developments".

Investor anxiety spread to other emerging markets. The Russian **rouble** fell sharply again, to below 70 to the dollar. The Russian government was said to have ordered state-owned and private companies to convert some of their dollar revenues to roubles in order to avoid an even steeper sell-off in the currency.

The rouble's slide has been caused in part by cheaper **oil prices** amid a worldwide glut of the black stuff. Brent crude was hurtling down at one point this week to \$42 a barrel, a price last seen during the financial crisis. Other **commodity prices** followed suit; copper and aluminium also dropped to six-year lows.

Meanwhile, **BHP Billiton's** annual net profit (for the year ending June 30th) slumped to a

12-year low of \$1.9 billion. But the Anglo-Australian mining giant stuck with its positive assessment of the Chinese market; its chief financial officer described recent events as being part of a "transition" to a Chinese economy that is "more balanced between consumption and investment". BHP's share price surged after it presented its earnings.

At long last

After months of often acrimonious negotiations, **Ukraine** agreed to a restructuring deal with its creditors. The deal includes a 20% write-down on the principal of roughly \$18 billion-worth of international bonds. The agreement also pushes repayment dates back by four years. The IMF, which is providing financial support to the war-torn country, is likely to back the deal.

The volume of **world trade** contracted in the first half of the year at the fastest pace since 2009, according to the Dutch government's independent World Trade Monitor, continuing the reversal of a trend where for decades the growth in global trade outstripped that of the world economy.

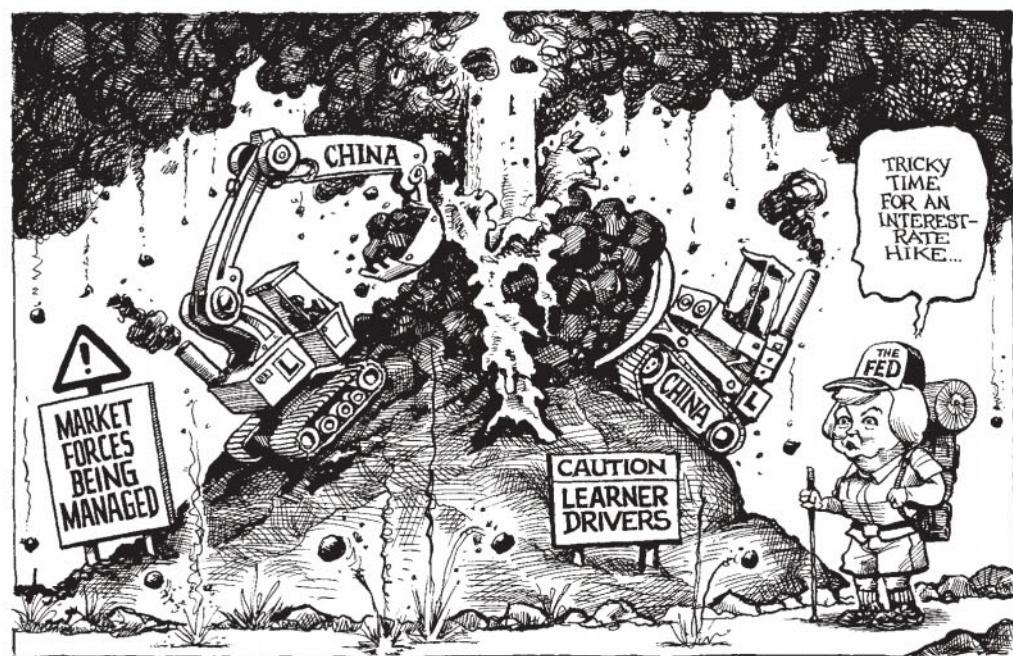
With lower oil prices prompting a round of consolidation in oilfield services, **Schlumberger** became the latest company in the industry to launch a bid for a smaller rival, offering \$14.8 billion for **Cameron**, which specialises in preventing blowouts on rigs.

Paddy Power, which is based in Dublin, and **Betfair**, a rival listed in London, agreed to merge in an \$8 billion deal that places a wager on worldwide growth in online gambling, despite regulatory obstacles in America and elsewhere. Placing online bets is illegal in America, for example.

The return of animal spirits

The demand for British "boutique" **gin** is soaring, leading to a tripling of applications for distillery licences over the past year, according to UHY Hacker Young, an accountancy firm. Many of the new distilleries cater to London's hipster neighbourhoods and have revived gin production around the city's East End. They might even follow the example of Scotch whisky when it comes to exports, the report reckons, adding an international twist to the latest gin craze.

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





Vegas means business.

With world-class meeting facilities, an extensive range of hotel rooms, and a city unrivaled in event and convention experience, here, business as usual is better than usual. In fact, **88 percent of executives agree that having events in Las Vegas makes their job easier.** Find out all the reasons why so many FORTUNE 500® companies choose Las Vegas.

FORTUNE 500® is a registered trademark of Time Inc. Used with permission.

LAS
Vegas

VegasMeansBusiness.com

The Great Fall of China

Fear about China's economy can be overdone. But investors are right to be nervous



Sell-off is gripped by the same rampant, visceral fear. The urge to sell overwhelms the advice to stand firm.

Stomachs are churning again after China's stockmarket endured its biggest one-day fall since 2007; even Chinese state media called August 24th "Black Monday". From the rand to the ringgit, emerging-market currencies slumped. Commodity prices fell into territory not seen since 1999. The contagion infected Western markets, too. Germany's DAX index fell to more than 20% below its peak. American stocks whipsawed: General Electric was at one point down by more than 20%.

Rich-world markets have regained some of their poise. But three fears remain: that China's economy is in deep trouble; that emerging markets are vulnerable to a full-blown crisis; and that the long rally in rich-world markets is over. Some aspects of these worries are overplayed and others are misplaced. Even so, this week's panic contains the unnerving message that the malaise in the world economy is real.

Scoot first, ask questions later

China, where share prices continued to plunge, is the source of the contagion (see pages 19-22). Around \$5 trillion has been wiped off global equity markets since the yuan devalued earlier this month. That shift, allied to a string of bad economic numbers and a botched official attempt to halt the slide in Chinese bourses, has fuelled fears that the world's second-largest economy is heading for a hard landing. Exports have been falling. The stockmarket has lost more than 40% since peaking in June, a bigger drop than the dotcom bust.

Yet the doomsters go too far. The property market is far more important to China's economy than the equity market is. Property fuels up to a quarter of GDP and its value underpins the banking system; in the past few months prices and transactions have both been healthier. China's future lies with its shoppers, not its exporters, and services, incomes and consumption are resilient. If the worst happens, the central bank has plenty of room to loosen policy. After a cut in interest rates this week, the one-year rate still stands at 4.6%. The economy is slowing, but even 5% growth this year, the low end of reasonable estimates, would add more to world output than the 14% expansion China posted in 2007.

China is not in crisis. However, its ability to evolve smoothly from a command to a market economy is in question as never before. China's policymakers used to bask in a reputation for competence that put clay-footed Western bureaucrats to shame. This has suffered in the wake of their botched—and sporadic—efforts to stop shares from sagging. Worse, plans for reform may fall victim to the government's fear of giving markets free rein. The party wants to make state-owned firms more

efficient, but not to expose them to the full blast of competition. It would like to give the yuan more freedom, but frets that a weakening currency will spur capital flight. It thinks local governments should be more disciplined but, motivated by the need for growth, funnels credit their way.

Fears over China are feeding the second worry—that emerging markets could be about to suffer a rerun of the Asian financial crisis of 1997-98. Similarities exist: notably an exodus of capital out of emerging markets because of the prospect of tighter monetary policy in America. But the lessons of the Asian crisis were well learned. Many currencies are no longer tethered but float freely. Most countries in Asia sit on large foreign-exchange reserves and current-account surpluses. Their banking systems rely less on foreign creditors than they did.

If that concern is exaggerated, others are not. A slowing China has dragged down emerging markets, like Brazil, Indonesia and Zambia, that came to depend on shovelling iron ore, coal and copper its way (agricultural exporters are in better shape). From now on, more of the demand that China creates will come from services—and be satisfied at home. The supply glut will weigh on commodity prices for other reasons, too. Oil's descent, for instance, also reflects the extra output of Saudi Arabia and the resilience of American shale producers. Sliding currencies are adding to the burden on emerging-market firms with local-currency revenues and dollar-denominated debt. More fundamentally, emerging-market growth has been slowing since 2010. Countries from Brazil and Russia have squandered the chance to enact productivity-enhancing reforms and are suffering. So has India, which could yet pay a high price.

The rich world has the least to fear from a Chinese slowdown. American exports to China accounted for less than 1% of GDP last year. But it is hardly immune. Germany, the European Union's economic engine, exports more to China than any other member state does. Share prices are vulnerable because the biggest firms are global: of the S&P 500's sales in 2014, 48% were abroad, and the dollar is rising against trading-partner currencies. In addition, the bull market has lasted since 2009 and price-earnings ratios exceed long-run averages. A savage fall in shares would spill into the real economy.

Ageing bull

Were that to happen, this week has underlined how little room Western policymakers have to stimulate their economies. The Federal Reserve would be wrong to raise rates in September, as it has unwisely led markets to expect. Other central banks have responsibilities, too. Money sloshing out of emerging markets may try to find its way to American consumers, leading to rising household borrowing and dangerous—and familiar—distortions in the economy. So Europe and Japan should loosen further to stimulate demand.

Monetary policy is just the start. The harder task, in the West and beyond, is to raise productivity. Plentiful credit and relentless Chinese expansion kept the world ticking over for years. Now growth depends on governments taking hard decisions on everything from financial reforms to infrastructure spending. That is the harsh lesson from China's panic. ■

Pay-as-you-go government

It'll cost you

Charging for public services sometimes makes sense. Often, though, it is a racket



GETTING divorced? Going to the doctor? Flushing a loo? If so, you are increasingly likely to receive a bill from the government. As cash-strapped Western countries try to balance their books without raising unpopular taxes, they are charging higher fees for everyday services. American cities tap their residents for around a quarter more in such charges than they did at the turn of the century. Half the countries in the EU have increased health-care charges since the financial crisis. In Britain, where a severe fiscal squeeze is under way, new fees are popping up in unexpected places, from the criminal courts to municipal pest-control agencies (see page 46).

Pay-as-you-go government has advantages. Charging for services helps allocate resources efficiently, deterring over-consumption, just as parking meters stop people hogging spaces. And far from being uniformly regressive, fees can be fairer than general taxation. Selling water by the litre, as Ireland controversially began to do in January, means frugal users pay less than those whose taps gush. Tuition fees reduce the subsidies paid to students by those who never enjoyed the benefit of university. Some of the biggest consumers of free or subsidised services are the middle classes, who ought to pay.

But the recent spread of fees has less to do with economics than with political expediency. Politicians have seized on charges as an easy way of raising money, and have inflated some fees until they bear little relation to the cost of the service supposedly being purchased. Too often the result is a regressive, economically distorting swindle.

It is no wonder charges are popular with governments. Rather than being flagged up in finance bills, as new taxes are, they can be slipped into legislation that attracts less scrutiny.

And they can be aimed at politically unorganised groups, rather than the public at large, meaning they are less loudly opposed than tax increases or welfare cuts. Britain's government will lose fewer votes over a jump in the cost of getting divorced than an equivalent cut in benefits to the elderly, say.

Yet when a charge exceeds the cost of a service it becomes a tax. Take, for example, a visa for a dependent relative settling in Britain. The fee is £2,141 (\$3,370), more than treble the true cost of processing the application. Immigrants pay a "surcharge" for the National Health Service whether they use it or not.

The easiest to soak are those who use the courts—literally a captive market. In Britain new charges mean petty offenders sometimes pay more in fees (over which judges have no discretion) than they do in fines. In America, whose courts are the most entrepreneurial in the developed world, charges are so high and widespread that many offenders end up in jail for non-payment. Criminals elicit little sympathy, but victims are being fleeced, too. After Britain introduced steep fees for employment tribunals in 2013, the number of sex-discrimination claims fell by 83%, with no surge in the success rate, so far—suggesting that people with strong cases have been priced out.

Giving with one hand

The root of the problem is an inability to raise money by more transparent means—that is to say, taxation. In Britain local councils are prevented from raising taxes by an overmighty central government. Elsewhere, notably in America, politicians have an ideological allergy to tax increases. This newspaper shares their desire for small government. But advocating low taxes while backing bogus, revenue-raising "charges" is a phoney sort of fiscal responsibility. A system in which the public finances are topped up by milking those unfortunate enough to need services over which the government has a monopoly is not responsible, it is a scam. ■

The Iran nuclear agreement

Lots of heat but not much light

The debate over the Iran deal is plagued by acrimony and hyperbole. Both sides are missing the point



THE intensity of the argument in Washington, DC, over the nuclear pact between Iran, America and five other powers is in some ways impressive. Such an important agreement merits close scrutiny. Sadly, much of the talk has been wildly misleading (see page 24). For example, Ted Cruz, a Republican presidential hopeful, says the deal would make the Obama administration "the leading global financier" of Islamic terrorism, "sending billions to jihadists who will use that money to murder Americans". Some critics seem motivated

more by loathing of Barack Obama than by the flaws of the accord itself. Yet the White House has hardly been blameless, either. Mr Obama's insistence that rejection of the pact would put America on a path towards war with Iran is cynically calculated to play on voters' fears.

The fate of the deal will be decided over the next five or six weeks. Given Republicans' hostility, Mr Obama knows that he will probably have to use his presidential veto following a first vote in Congress on September 17th. The veto will stand (and with it Mr Obama's ability to suspend nuclear-related sanctions) unless opponents muster a two-thirds "super-majority" to override it. Just 13 Senate Democrats would be enough to deliver such a devastating blow to their president. So far only two ►►

► have come out against it, but Mr Obama is not home and dry.

If only, instead of grandstanding, Congress and the administration could find a way to work constructively on the issues raised by the accord. But that would first require critics to abandon the fantasy that a much better deal could be reached by rejecting this one and ramping up sanctions. This agreement is not bilateral, between Iran and America, but multilateral, between Iran and the wider world, which has largely welcomed it. If Congress scuppers it, America will find itself fighting, at great diplomatic cost, a losing battle to keep sanctions from rapidly eroding. As long as Iran did nothing too provocative, that need not mean war. More likely is a resumption of diplomacy after some years, and a worse deal than the present one.

For their part, the deal's supporters should honestly recognise the numerous problems it raises. They should strive to mitigate them by ensuring that its implementation is as rigorous as possible and that Iran is still deterred from acquiring nuclear weapons even after the main provisions expire.

Among those legitimate concerns are: the almost immediate unfreezing of about \$50 billion (figures of \$150 billion are wide of the mark) of Iranian assets, some of which could be used to strengthen Iran's proxies in the region, such as Hezbollah; whether International Atomic Energy Agency inspectors will get timely access to suspicious sites; whether the provisions for sanctions "snapping back" in the event of Iranian cheating will work; the impact of lifting the embargo on ballistic-missile technology after eight years; and, most crucially,

what can prevent Iran from making a dash for nuclear weapons after 15 years, when most of the constraints lapse.

The right response to all these worries is not scrapping the deal but reinforcing it. The problem of what happens after 15 years can at least partially be dealt with by a firm and enduring American commitment, backed by Congress, to use all means, including military force, to prevent Iran from ever crossing the nuclear threshold. America must also commit both money and intelligence resources to help the inspectors in their work. And it must have agreements in place with the other signatories for expediting access to suspicious sites and for punishing even minor Iranian infractions with restored sanctions. Whatever the status of the arms and missile embargoes, America must be clear that it will use all other tools at its disposal to curb Iranian military power and Iranian support for terrorist proxies. The threat of a wealthier Iran stirring up more trouble can only be tackled by determined American re-engagement with the region.

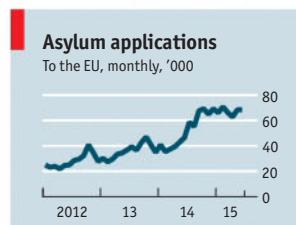
Because it's worth it

The weaknesses in the Iran accord spring from the compromises that were needed to secure an agreement. But, overall, it achieves its chief aim of preventing Iran from getting nuclear weapons while its main provisions remain in place. And it holds out hope for the future by strengthening those Iranians who want better relations with the West. Imperfect though it is, the deal deserves the senators' support. ■

Migration to Europe

Let them in and let them earn

A bigger welcome mat would be in Europe's own interest



ISLAMIC STATE (IS) does not hide its brutality. When it burns men alive or impales their heads on spikes, it posts the videos online. When its fighters enslave and rape infidel girls, they boast that they are doing God's will. So when fugitives from IS-occupied Syria or Iraq say they are frightened to return home, there is a good chance they are telling the truth.

The European Union is one of the richest, most peaceful regions on Earth, and its citizens like to think that they set the standard for compassion. All EU nations accept that they have a legal duty to grant safe harbour to those with a "well-founded" fear of persecution. Yet the recent surge of asylum-seekers has tested Europe's commitment to its ideals, to put it mildly (see page 41). Neo-Nazi thugs in Germany have torched asylum-seekers' hostels. An anti-immigrant group is now the most popular political party in Sweden. Hungary's prime minister, channelling his inner Donald Trump, warns that illegal migrants, especially from Africa, threaten his nation's survival.

Some perspective is in order. Roughly 270,000 asylum-seekers have reached Europe by sea so far this year. That is more than arrived in the whole of 2014, but it is still only one asylum-seeker for every 1,900 Europeans—and many will be turned away. Much poorer parts of the world have seen far bigger inflows. Tiny Lebanon has welcomed 1.1m Syrians, roughly

a quarter of the local population. Turkey has taken 1.7m. Tanzania, a country where the average income is one-fiftieth of the EU's, has hosted hundreds of thousands of Congolese and Burundian refugees for decades, with few complaints. By contrast, when the European countries where Arab and African refugees first arrive (such as Greece and Italy) asked for help with looking after them, other EU states grudgingly agreed to take a paltry total of 32,256 over two years.

Doing well by doing good

Europe can and should do better. And not just for moral reasons but for selfish ones, too. Europe's labour force is ageing and will soon begin to shrink. Its governments have racked up vast debts which they plan to dump on future generations. This will be harder if those future generations are smaller. Immigrants, including asylum-seekers, are typically young and eager to work. So they can help ease this problem: caring for the elderly and shouldering a share of debts they had no role in running up. Africans and Arabs are young. Europe can borrow some of their vitality, but only if European governments handle all types of migration more sensibly, which will be politically hard and require reform in labour markets, too.

The screening of asylum-applicants should be firm. Syria is a hellhole; Albania is not. But it should also be swift and generous. People who cross deserts and stormy seas to get to Europe are unlikely to be slackers when they arrive. On the contrary, studies find that immigrants around the world are more likely ►

► to start businesses than the native-born and less likely to commit serious crimes, and that they are net contributors to the public purse. The fear that they will poach jobs or drag down local wages is also misplaced. Because they bring complementary skills, ideas and connections, they tend to raise the wages of the native-born overall, though they may slightly reduce those of unskilled local men. And the migrants themselves benefit enormously. By moving to Europe, with its predictable laws and efficient companies, they can become several times more productive, and their wages rise accordingly.

Sceptics may retort that the cultural impact of migration is profoundly unsettling, and that Europe is neither willing nor able to absorb big inflows. Europeans recoil when they see crowds of unassimilated, jobless immigrants, as in parts of Paris or Malmö. And they fear Islamist terrorism, especially after the massacre at Charlie Hebdo and the disarming of a gun-

wielding Moroccan on a French train last week (see page 44).

Not all who express such fears are bigots. And it is clear that monitoring of jihadist groups needs to be stepped up. But the answer to the broader question—how can Europe assimilate migrants better?—can be summarised in three words: let them work. This formula does well in London, New York and Vancouver. Jobs keep young men out of trouble. In the workplace, migrants have to rub along with locals and learn their customs, and vice versa. Which is why policies that keep newcomers idle are so destructive, from Britain's restrictions on asylum-seekers working to Sweden's rigid labour laws that make it uneconomic to hire the unskilled. A more open Europe with more flexible labour markets could turn the refugee crisis into an opportunity, just as America did with successive waves of refugees in the 20th century, including plenty from Europe. Let them in, and let them earn. ■

VR and the future of computing

Awaiting its iPhone moment

Virtual reality is a promising technology, but will not go mainstream in its current form



IS IT vividly realistic—or is it still just vapid razzmatazz? Virtual reality (vr), a technology that flopped in the 1990s, is making a glitzy comeback. The dream of a headset that can immerse you in a detailed, realistic 3D world is now being pursued in earnest by a gaggle of startups and the giants of technology alike. Last year Facebook bought Oculus, the most prominent vr fledgling, for \$2 billion. Mark Zuckerberg, Facebook's boss, says "immersive 3D content is the obvious next thing after video." Google supports vr in several of its products and is backing a secretive new company called Magic Leap. Microsoft, having missed the boat on smartphones, has developed an impressive vr system named HoloLens. Tech leaders have decided that vr could be the next big thing after the smartphone (see page 61). Are they right?

The vr devices appearing in the next few months will focus on video-gaming, where vr is a natural fit. But the technology will eventually have many other uses: in data visualisation, education, communication and entertainment (including vr pornography, which is already starting to appear). Whether the 3D world is computer-generated or captured using special cameras, rendering it fast enough to seem realistic—and for it not to cause nausea—requires processing power, high-resolution screens and motion sensors. Happily, all those things can be found inside modern smartphones, which is making vr hardware cheaper to put together. Smartphones have also boosted vr thanks to adaptors that turn phones into basic headsets, the cheapest of which (devised by Google) are made of cardboard and cost \$10. These cannot compete with high-end vr headsets, but they offer much of the experience for less than 5% of the price. Over the past year this has led to a surge in the experimental production and consumption of vr content.

As well as hastening the rise of vr, smartphones provide an analogy for how the technology is likely to develop. vr today is where smartphones were in 2001. Back then it was clear

that mobile phones, connected to the internet and armed with cameras and colour screens, were going to be important. Sure enough, people now use phones for everything from maps and music to payments and picture-sharing. But the strongest advocates of the smartphone revolution, such as Nokia, failed to anticipate how it would play out, with the result that others now dominate the new industry. The turning-point was Apple's iPhone. With its touchscreen and elegant apps, it set the model for the entire industry. vr has yet to have its iPhone moment. The idea is sound and the gear works, but today's chunky headsets are unlikely to conquer the mass market.

The future is a mixed picture

How might vr triumph? One intriguing possibility would be to overlay graphics onto reality rather than replace it entirely—a technique called mixed or augmented reality (ar). Architectural models will seem to stand on your desk and video-game aliens will jump out from behind your sofa. Microsoft's HoloLens is taking this approach. Magic Leap, meanwhile, is thought to be working on the technology for smaller and lighter ar headsets: people would sooner wear sunglasses and headphones than spend their day inside a motorbike helmet. ar could be the missing ingredient, just as the touchscreen was for the smartphone.

For the time being, vr remains a promising technology, worth watching closely, but still in a primitive incarnation. The offspring of today's vr systems will be ubiquitous in 2030, by which time current devices will look as clunky as the folding camera-phones of 2001 do today. If the smartphone is anything to go by, the rise of vr will wrong-foot incumbent technology giants and turn obscure startups into household names. Sci-fi novelists have already sketched out a bewildering range of uses of ar, from head-up displays for soldiers to virtual jewellery that is drawn around the wearer by other people's headsets. Such fiction provides a helpful guide to the potential impact of this emerging technology which, like the internet and smartphone, promises to touch every field of human endeavour. Just not very rapidly. ■



Lillie Square

Earls Court
London

MORE SPACE IN CENTRAL LONDON LAUNCHING, WITH NEW SHOW APARTMENT, FROM 10 SEPTEMBER

Located in Earls Court where Kensington, Chelsea and Fulham meet, Lillie Square is one of London's most sought after residential addresses. Offering a range of 1, 2 and 3 bed apartments, penthouses, a state-of-the-art clubhouse, 24-hour concierge service, set within extensive landscaped gardens.

PRICES FROM £799,995

For more information contact us at
+44 (0)20 3417 5756

lilliesquare.com



Lillie Square Marketing Suite
17 Lillie Road
London SW6 1UE

An ideas revolution



You suggested a “use it or lose it” rule to reform the patent system (“Time to fix patents”, August 8th). Such a rule may have worked in the past, but not in the 21st century. Today’s technology products are so complicated that small firms cannot build the entire product anymore. Many important breakthroughs have their roots in theoretical research that is rarely built by their inventors. Take the wireless cellular network as an example. Each new generation of the wireless network utilises some fundamental academic idea invented more than ten years before as its main driving force. However, the network is built by big companies spending millions of dollars to develop those ideas as products years later.

Adopting a use-it-or-lose-it policy would mean that those who invented the fundamental ideas would never benefit from their inventions.

HAMID JAFARKHANI
Chancellor’s professor
University of California, Irvine

Although Big Pharma is as dependent on patents as ever, its lawyers have learned to be more economical about which patents matter. And unlike the IT industry, patenting by drug companies has declined in the past decade.

That said, the patent system poses existential hazards for drug innovation. In the past, the inventor of a new medicine might have counted on a market of millions of patients, allowing the drug to be sold at a reasonable price. But as universal treatments become increasingly replaced by “personalised medicine” for genetic conditions afflicting

only hundreds or thousands of people, simple arithmetic forces the inventor to charge each patient far more.

Unless inventing new drugs becomes dramatically cheaper we will have to accept a ceiling on pharmaceutical innovation dictated by limits of affordability, or extend patents past 20 years so that inventors can charge lower prices over a longer timespan. The former option is depressing, and the latter is unpopular. I see no satisfactory solution to the present patent system. But asking governments to “reduce the length of patents” as you propose would not help.

PROFESSOR AMIR ATTARAN
Faculty of Law and Faculty of Medicine
University of Ottawa

I spent many years designing and developing marine water-jet propulsion systems. My company took out patents on specific design features that contributed eventually to a globally successful engineering enterprise and a widely accepted efficient marine-propulsion alternative. From the 1960s to the 1980s, many copied versions appeared worldwide, capitalising on my company’s pioneering efforts, but little was done to protect the patents through the courts.

We decided at the time not to pursue patent violations through expensive lawyers, but rather to focus our efforts on engineering developments and improvements. In that way we hoped to keep ahead of the competition by consistently providing a better product. This approach worked, and still does to this day.

I remember my professor of mechanical engineering in the 1950s saying that patents are not worth the paper they are written on.

GERALD DAVISON
Christchurch, New Zealand

As a patent lawyer I was inclined to accept the premise that patent “trolls” are piranha, eating the flesh of those truly engaged in useful commerce. But when I turned to pro bono work I soon recognised that many big businesses ignore

the patent rights of inventors and smaller businesses, treating them as a nuisance.

Trolls serve a purpose, a means of enabling the assertion of intellectual property by inventors who simply cannot otherwise do so, by levelling the playing field in the costs of litigation.

STANLEY LIEBERSTEIN
Westport, Connecticut

Rather than decrying the Chinese for not filing enough overseas patents, you should look more carefully at what China is doing and why. Back in the 1980s the Chinese studied the origins of the West’s prosperity and concluded that the patent system was an important part of economic growth. The result, largely based on German patent law, was a legal system for patent protection that is now one of the world’s best.

China’s 20-part intellectual-property strategy is far more comprehensive than anything in the West. This extends even to patent education in primary schools. Hu Jintao, a former president, said on many occasions that “competition in the future is competition in IP”.

IAN HARVEY
Chairman
IP Centre Advisory Board
Tsinghua University x-lab
Beijing

Germany and Poland

You were calm and balanced about the re-emergence of German nationalism (“Strict order”, August 8th). Ironic, therefore, that your very next article, on Poland’s opposition party, Law and Justice (PiS), should recall the *de haut en bas* verbiage which at times still resonates when Berlin tries to grapple with uppity Poles and other lesser breeds (“Less crazy after all these years”). Easterners are “nationalistic” when they dare speak out; Germans are always “European”, even (or especially) when espousing the “naked self-interest” you admit is common in the German Christian Democrat party.

You wonder whether PiS is sufficiently sane because

Krzysztof Szczerski, the president’s foreign-affairs supremo, contended in an interview that Germany should accede to basic Polish needs. But Poles have been asking for the same things for ages: treatment for Poles in Germany that is equal to that for Germans in Poland, a role with Ukraine, serious NATO bases in the country, and resistance to the wilder fantasies of EU climate-think.

Thus Poles who are not certifiably PiS artists or in thrall to a “resentful religious nationalism” (whatever that might be) can agree with Mr Szczerski on these at least. As for his tone, this irks you no end. I have read the interview and see no signs of “conditions” laid down “haughtily”, nor that he “harped on” about the hardly contentious request for Germany to treat Poland as an “equal”.

MACIEJ OLEX-SZCZYTOWSKI
Special adviser to the Polish foreign ministry, 2011–12
Warsaw

Trumped up

Would it really matter if Donald Trump became president (Lexington, August 15th)? America’s whole system of government is so clogged with partisan interests from across all segments of society that nothing would ever get done anyway. Except perhaps Mr Trump might declare war using his executive powers. Apart from that, what is there?

MERVYN MORRIS
Brisbane, Australia

The federal government should consider moving all of its sensitive information to Hillary Clinton’s private e-mail server. It would appear that her success in securing her data has been far superior to what the feds have been able to do with theirs.

BEVERLY TUCKER
Lexington, Kentucky ■

Executive Focus



DIRECTOR (D-1 LEVEL)

UNU INSTITUTE FOR WATER, ENVIRONMENT AND HEALTH (UNU-INWEH)

(DUTY STATION: HAMILTON, ONTARIO, CANADA)

The United Nations University (UNU) is searching for an entrepreneurial director for its Institute in Hamilton, Ontario, Canada which focuses on global water challenges in relation to sustainable development, the environment and public health. The UNU-INWEH Director has the overall responsibility for the organization and management of the Institute and its programmes under the direction of the Rector of UNU.

The Director is responsible for producing world class, policy relevant research that contributes to important policy debates within the United Nations and Member States and to the resolution of global water challenges. The Director is responsible for guaranteeing scientific excellence, building effective partnerships and providing guidance and inspiration for the conduct of UNU-INWEH activities.

Implementation of UNU-INWEH's strategic plan will be supported through an enhanced partnership with McMaster University, one of Canada's leading research institutions.

Qualifications: A Doctorate in Environmental Sciences or Engineering, Economics, Ecology, Hydrology, International Development, Geography, or a related field. Strong background in policy relevant research and international capacity development in the area of water, economics, environmental sustainability, public health or related fields.

Experience: Demonstrated leadership in advancing policy-relevant research; creating strong research networks and effective partnerships across the knowledge-policy-practice continuum; and translating research outcomes into policy and on-the-ground applications.

Candidates should possess excellent management and communications skills with fluency in English.

CLOSING DATE: 15 OCTOBER 2015

For the complete information about this position, please visit <http://unu.edu/about/hr>

Applications from suitably qualified women candidates are particularly encouraged.

The successful candidate is expected to take up the position by 1 July 2016.

H&P Henley & Partners

Henley & Partners is the global leader in residence and citizenship planning. Each year, hundreds of wealthy individuals, families and their advisors rely on our expertise and experience in this area. Our highly qualified professionals work together as one team in over 20 offices worldwide.

The firm also runs a leading government advisory practice. We have raised more than USD 4 billion in foreign direct investment and been involved in strategic consulting as well as the design, set-up and operation of several of the world's most successful residence and citizenship programs.

Henley & Partners offers the excitement of an innovative professional firm, along with a distinct entrepreneurial spirit and outstanding opportunities for advancement. Our continued growth has created the following career opportunities for highly motivated and talented individuals who wish to join the world leader in this fast growing industry:

- Deputy Managing Director, Malta
- Group Head of Internal Audit and Risk, Malta or Dubai
- Director of Institutional Business Development, International Posting
- Group COO, International Posting

Applications may be submitted through the careers section on our website or by email to recruitment@henleyglobal.com

The Firm of Global Citizens®



Inter-American
Investment Corporation

A Member of the IDB Group

Do you want to contribute to Latin America and the Caribbean?

You can **make a difference** at the Inter-American Investment Corporation. We are searching for **13 outstanding strategic Division Chiefs** to fill the top leadership positions at our Washington, D.C. headquarters.

An operational and financial consolidation of the Inter-American Development Bank Group's (IDBG, www.iadb.org) non-sovereign guaranteed operations has been approved by the Boards of Governors and is currently underway in order to further promote the economic and social development of the regional developing member countries, as a complement to the development work of the IDB. The consolidated functions will be housed in the IDBG under the Inter-American Investment Corporation (IIC) starting in 2016.

The IIC will concentrate on operations in defined Priority Business Areas, namely medium-and small-enterprise access to finance and technical assistance; the promotion of infrastructure development; support to innovation and technological development; the enhancement of private provision of basic goods and services, income-generating opportunities, and social mobility for vulnerable populations; and the fostering of green growth.

In that context, the IDBG is currently searching for the following **13 strategic Division Chiefs for the consolidated IIC private sector development entity**. The recruitment of the top Department Executive Managers and IIC General Manager is currently underway. The new entity is structured through a combination of business-embedded, business-aligned, and shared services (the below are business-embedded).

Investment Operations Department Divisions:

- Chief, Infrastructure and Energy Segments
- Chief, SME & Corporate Segments
- Chief, Financial Intermediaries Segments
- Chief, Products and Services
- Chief, Portfolio Management
- Chief, Environment, Social and Governance Safeguards

Strategy, Development Effectiveness & Programming Department Divisions:

- Chief, Corporate Strategy, Planning and Innovation
- Chief, Development Effectiveness
- Chief, Sovereign Guaranteed & Non-Sovereign Guaranteed Operations Coordination

Risk Department Division:

- Credit Risk

Finance and Administration Department Divisions:

- Finance Division
- Administration and Service-Level Agreement Management

Legal Services Department Division:

- Legal Services – Operations

The successful candidates must be **seasoned professionals with experience in Latin America and the Caribbean and who have a strong track record of success in equivalent positions with similar responsibilities at a significant public or private corporation, financial and/or development institution, or similar enterprise. Strong, experienced people managers sought.**

To see the complete terms of reference, eligibility requirements, and to apply, please go to www.iadb.org then "Jobs" and "Search here" on the careers site.

To read about the IDBG Private Sector Reform, please go to www.iadb.org and click on "Partner with Us", "Sectors", and "Private Firms and SME Development".

Preference will be given to citizens of IIC Member Countries.

Deadline for applications: 21 September, 2015.

The IIC offers a diverse and inclusive work environment.



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.

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

InterExec
UNIQUE NETWORK • OUTSTANDING TALENT

REGIONAL HUMAN RESOURCES ADVISOR

The WHO Regional Office for the Eastern Mediterranean (EMRO) is one of WHO's six regional offices around the world. It serves the WHO Eastern Mediterranean Region, which comprises 21 Member States and the occupied Palestinian territory (West Bank and Gaza Strip).

The Regional Office, together with country offices in 18 countries of the Region, works with governments, specialized agencies, partners and other stakeholders in the field of public health to develop health policies and strengthen national health systems.

EMRO is looking for a dynamic Human Resources Professional who has thorough knowledge of human resources principles and understands the complexities of designing and implementing HR reform in an international organization. One who has proven ability to be a collaborative leader, a strong strategic thinker who thinks outside of the box and a creative problem solver with demonstrated success in managing a large team in a high stress environment. S/he has at least 10 years of experience in human resources, inclusive of a record of innovation in policy and program delivery and at least 5 years of progressive management responsibilities. Tact, diplomacy and discretion in dealing with staff of diverse nationalities is a must.

If interested, please apply on our website at:
<http://who.int/employment/vacancies/en/>



World Health Organization



Senior Investment Strategist

Job description

APG Asset Management (APG AM) is seeking two Senior Investment Strategists for the Economics and Financial Market team in our Amsterdam office. One of the positions requires native Dutch communication skills (written as well verbal).

As Senior Investment Strategist, you contribute to the development of APG's long term scenarios – numbers and narratives. This process focuses on the main risks and uncertainties affecting Dutch pension funds' investment portfolios. Using a variety of models, you connect macroeconomic fundamentals to medium and long term asset return expectations. Maintaining and expanding these models and valuation frameworks is part of your job.

You are able to translate our views into concrete investment recommendations, and relay the analysis to internal and external audiences. Next to that, you provide the conventional support and advice to APG AM portfolio managers, with key research findings and macro-based tools to contribute to their investment strategy.

Profile requirements

The Senior Investment Strategist we are looking for is numerate, articulate and of an inquisitive mind-set. You have experience in building relations and engaging with clients and colleagues across the breadth of the organisation. You show a strong team spirit combined with an ability to work independently on a wide range of simultaneous projects.

Furthermore, we ask for:

- 5+ years' experience in funds management, policy or research (expecting a blend of both quantitative and fundamental analysis);
- Very strong analytical skills including strong understanding of econometric and financial modelling;
- Strong written and verbal communication skills (English and/or Dutch).

Interested?

More information about this position?

Check <https://www.apg.nl/en/joboffer/senior+investment+strategist/25521>
or contact Esther Scharloo, corporate recruiter, at +31 (0)6 10 02 88 33.



POLIO GLOBAL ERADICATION INITIATIVE

Director, Polio Eradication Geneva, Switzerland

WHO is the directing and coordinating authority for Health within the United Nations system, responsible for providing leadership on global health matters.

The Global Polio Eradication Initiative (GPEI) is a public-private partnership led by national governments and spearheaded by the WHO Polio Eradication Department, Rotary International, the US Centers for Disease Control and Prevention (CDC), and the United Nations Children's Fund (UNICEF). Its goal is to eradicate polio worldwide. To this end, the Polio Eradication & Endgame Strategic Plan 2013-2018 has been devised.

The Role:

To lead the WHO Polio Eradication Department and serve as the main technical and strategy leader for the global polio programme. Director, Polio Eradication serves as the overall leader of the GPEI, chairs the GPEI Strategy Committee, oversees the mobilization of financial resources and engages with donors and the media. The role reports to the WHO Director-General.

The successful candidate will have:

- An advanced university degree in a health discipline. Post-graduate training in public health, epidemiology, vaccinology or other related area.
- At least 10 years of experience in leading large-scale, international public health and disease control programmes.
- Experience in vaccines and surveillance, including in disease eradication policy and strategy, particularly with the development, implementation and assessment of polio eradication strategies and policies.
- Demonstrated people and team leadership skills.
- Expert knowledge of English.

To review full details of the position and to apply online, please visit www.who.int/employment "Current Vacancies" Vacancy Notice No: /15/FT411.



Taking a tumble

SHANGHAI

Stockmarket turmoil in China need not spell economic doom. But it does raise questions far beyond the country's shores

THE ability to make stockmarkets boomerang is usually reserved for central bankers. But on August 24th, hours into a global market rout that had started in Asia and was sweeping its way through Europe and then America, Tim Cook, the boss of Apple, turned his hand to it. "I can tell you that we have continued to experience strong growth for our business in China through July and August," he wrote in an email to CNBC, a financial-news channel. "I continue to believe that China represents an unprecedented opportunity over the long term."

By the time Mr Cook felt it necessary to opine on the state of the world's second-biggest economy, plenty had started to question its prospects. Following weeks of wobbling, the Shanghai stock exchange

had just cratered. A government once credited with near-magical powers to browbeat its economy into growth looked to have misplaced its wand. Suspicions abounded that a decades-long era of superlative—if recently softening—economic expansion might be coming to an end. So the news that Chinese consumers were still in the mood for new iPhones and whizzy watches did more to assuage nerves than reams of official pronouncements from Beijing ever could.

Apple shares reclaimed the \$66 billion they had lost; the Dow Jones blue-chip index, having opened down a calamitous 1,000 points, rebounded. But that was a precursor for days of volatility. Many markets around the world crossed the line into "correction" territory, having fallen more

than 10% from recent peaks, though some were rallying as *The Economist* went to press. Shanghai remained down by some 40%, a drubbing to rival the 2001 dotcom crash, if not (yet) the 2008 miasma.

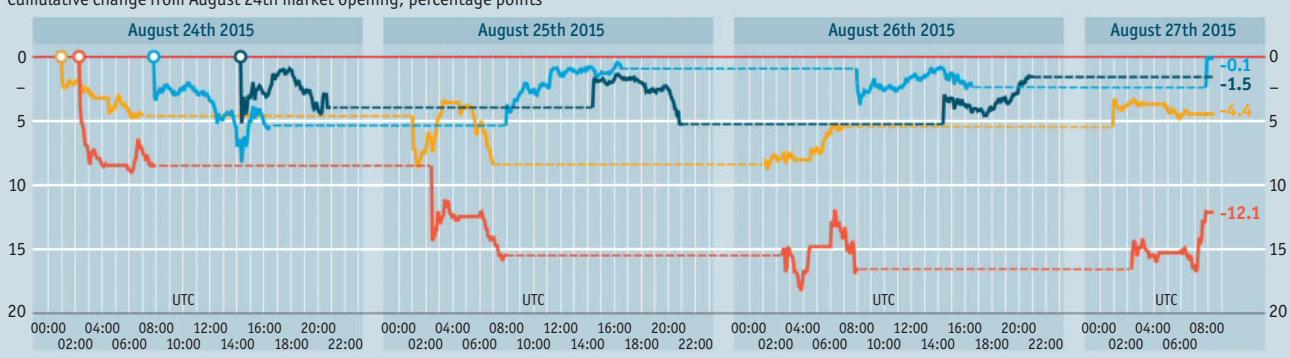
The effect has been felt beyond stockmarkets. A basket of commodities, including everything from steel to wheat, has fallen to its lowest level this century; oil is at six-and-a-half year lows. Emerging-market currencies have been hammered. The VIX index, a measure of fear in markets, jumped this week to its highest level since 2011. The see-sawing in stocks may even have put cracks in the architecture of markets: many exchange-traded funds, which investors use to buy baskets of stocks or other assets, decoupled from their underlying components, trading at nerve-wracking discounts. (Others blamed this on an ill-timed computer glitch.)

Investors are now trying to delve beyond iPhone shipments and gauge where China's economy—and so the world's—stands. In terms of global impact, a "hard landing" in China would now rival an American depression. Countries from Australia to Angola have grown richer ►

Black Monday, Tuesday, Wednesday...

Cumulative change from August 24th market opening, percentage points

Nikkei 225 Shanghai Composite Euro Stoxx 50 S&P 500



from digging stuff out of the ground and shipping it to China. Industries from car-making to luxury goods look to China for new business. It has been the most stable contributor to world economic growth. Will that continue?

Certainly, there are reasons to think it is in trouble. Exports are stumbling, bad loans rising and the industrial sector at its weakest since the depths of the global financial crisis. Never entirely credible, the government's claims that the economy is chugging along at 7% now elicit derision.

Even more alarming is the way these stresses appear to be showing through in its markets. On August 11th the central bank stunned investors by devaluing the yuan, whose rate it "guides" through regular interventions. The currency moved more in a day than it does in most months. The devaluation looks to have been a technical change to the way the exchange rate is managed. But thanks to poor communication, many saw it as China's first fusillade in a global currency war. Markets around the world have been on tenterhooks ever since. Capital outflows from China have shot up as investors have soured on the economy.

And then there is the daily carnage in the stockmarket. The government has thrown at least 1 trillion yuan (\$156 billion) at buying shares in order to stabilise them, only to see prices plunge even more violently. The fear is that all this market turmoil speaks to deeper fractures in the foundations of the Chinese economy, with the entire edifice at risk of toppling over.

So is this the hour of China's crisis? Highly unlikely. Though the economy faces grave problems, the financial tumult is misleading. China's stockmarket has long been derided as a casino, and for good reason. The bourse is small relative to the economy, with a tradable value of a third of GDP, compared with more than 100% in developed economies. Stocks and economic fundamentals have little in common. When share prices nearly tripled in the year to June, they no more reflected a stunning improvement in China's growth prospects than their collapse since then has foreshadowed a sudden deterioration.

Less than a fifth of China's household wealth is invested in shares; their boom did little to boost consumption and their crash will do little to slow it. Punters borrowed lots of money to buy stocks in good times, to be sure, and some of that debt will default. But it amounts to just 1% of total banking assets, a potential hit that, although unpleasant, is hardly systemic.

The property market matters far more for China's economy than equities do. Housing and land account for the vast majority of collateral in the financial system and play a much bigger role in spurring on growth. Yet the barrage of bearish headlines about share prices has obscured news

of a property rebound. House prices have perked up nationwide for three straight months. Two months after the stockmarket first crashed, this upturn continues.

On the downside, there is little chance this rebound will translate into a big acceleration in building activity, because Chinese developers still have to work through a glut of unsold homes, the legacy of their building frenzy of recent years. But the stabilisation of prices reduces the risk of a property-market crash—an event that would be for China what a stockmarket crash would be in America or Japan.

Some think China has, in fact, already suffered the hard landing dreaded by economists. They point to weakness across a broad range of physical indicators used as proxies for Chinese growth because the government's official data are seen as iffy. Cargo moved by rail has declined, electricity consumption is anaemic and producer prices are mired in deflation. Add it all up, the sceptics say, and China's annual growth looks to be just 2-3%.

This downbeat assessment oversimplifies



fies the economy. Heavy industry is, without question, struggling. The north-eastern rust belt is on the brink of recession. But China is a continent-sized economy, fuelled by more than just the construction of homes and railways. The service sector, which now accounts for a bigger share of national output than industry, is growing quickly. Retail sales remain strong, as Apple's Mr Cook was so keen to point out. Economic growth is almost certainly lower than the rate reported by the government. But it appears to be within the range of a soft landing.

Further turbulence would be manageable. On August 25th the central bank cut interest rates and reduced the portion of deposits that banks must lock up as reserves. Even with these cuts, the latest in a months-long easing cycle, benchmark one-year lending rates still sit at 4.6%, while required reserve ratios are 18% for big banks. The central bank looks set to continue cutting both, reducing funding costs for borrowers and freeing up more money for

banks to lend. These are the sorts of levers most Western economies do not have.

On the fiscal side, for all the talk of mini-stimulus measures, the government has in fact exercised remarkable restraint. It aimed for a budget deficit of 2.3% of GDP this year, a bit more than in previous years. But as of July it was still in surplus, having raised more in taxes than it had spent. This suggests it still has plenty of petrol in the tank if it wants to rev up growth.

A mess to mop up

Even if China holds up well enough now, there is still the worry that a sharper slowdown lies ahead. The government faces daunting challenges in managing the economy. It is trying to clean up the debt mess left over by the stimulus of 2009, when it unleashed a mammoth investment spree to fight off the global financial crisis.

Debt, by some counts, has reached more than 250% of GDP, almost doubling over the past seven years. Increases of that magnitude have presaged crises in other countries, from Japan to Spain. At the same time structural trends are turning against China. Its working-age population is now shrinking.

A range of reforms could help China tap new sources of growth: allowing private companies to compete properly with state firms; fostering the rule of law to give entrepreneurs more confidence to invest; and relaxing residency controls that stunt the free flow of its people. For the time being, however, these run against the Communist Party's reflexive need for control.

The turmoil of the past two months has sown doubts about whether the government has either the inclination or the skill to push through reforms. For all the flaws of China's political system, many outside the country had viewed its leaders as economically adroit, capable of bringing about rapid growth and snuffing out risks. Now they are not so sure.

The government's ill-fated response to tumbling markets has severely tarnished that aura of competence. The markets regulator banned short-selling and halted IPOs; traders and a journalist are being probed for spreading rumours. State-owned companies bought back their own shares. The central bank lent cash to an agency that vowed to push the market back up. State media boasted that the "national team" would triumph. It did not. The market sank lower, eroding the government's reserves as well as its credibility.

China's stockmarket should eventually find its feet and the devaluation debacle may recede into memory, but the political damage will be lasting. These episodes have raised unsettling questions about the commitment of Chinese policymakers to the market reforms needed to shore up the long-term health of the economy. An unusual editorial in the People's Daily, ►

mouthpiece of the Communist Party, said last week that Xi Jinping, China's president, wanted to make deep reforms but had encountered resistance "beyond what could have been imagined". Some guess that former leaders are pushing back against Mr Xi, who has led an anti-corruption drive that has made him China's most powerful leader since Deng Xiaoping. Others say that civil servants, fearful of this campaign, are sitting on their hands, afraid of doing much of anything.

Senior government and party officials have said almost nothing about the turmoil, which has fuelled speculation of divisions at the top. The prime minister, Li Keqiang, who oversaw the failed attempt to prop up the stockmarket, is likely to come in for particular criticism.

But Mr Xi himself can hardly escape scrutiny. Unlike most of his predecessors, who left the economy to their prime ministers, the president has immersed himself in economic decisions. He chairs new policymaking bodies on reform and finance. This makes it harder for him to escape blame when things go wrong.

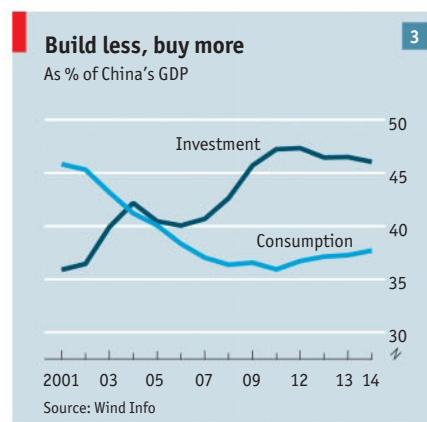
If China does, after a bumbling few months, press on with its reform agenda, it could yet pull off the amazing trick of opening up and modernising its economy without suffering a serious crisis. But even if it succeeds, there will be negative consequences for others. The economy is rebalancing, albeit slowly, away from investment and towards consumption (see chart 3). China still has many more homes, highways and airports to build, but the trend away from them is unmistakable.

Rebalancing act

As a result, its appetite for commodities has probably peaked. That is bad news for companies and countries that prospered over the past decade by selling it mountains of iron ore, copper and coal. A decline in Chinese consumption would be of huge consequence: it absorbs about half the world's aluminium, nickel and steel, and nearly a third of its cotton and rice.

Arguably worse for some emerging economies than the prospect of a Chinese slowdown is the reality of resurgent American growth. The rich world's anaemic post-crisis recovery has ensured that global interest rates remain at rock-bottom. The monetary stimulus has been boosted by "quantitative easing" (QE), bond-buying designed to make policy even looser. With bond yields depressed in America, investors piled into emerging-market bonds in the search for decent returns.

The days of cheap American money appear to be numbered. The Federal Reserve's QE programme was wound down last year and it is now contemplating raising interest rates for the first time since 2006. That prospect has driven up the dollar, which has risen by a weighted average



of 17% against the currencies of its trading partners in the past two years and by considerably more than that against emerging-market currencies.

This is a dramatic shift given that expectations of future rate rises in America are modest. But much of the money that flowed into emerging markets was pushed there by the falling yields on offer in America and pulled by the lure of racier returns. Capital has already started to flow out of emerging markets. If and when the Fed increases rates, investors will promptly repatriate more money to America.

The countries most vulnerable to such a reversal are those with biggish current-account deficits—in other words those that relied on foreign capital to bridge the gap between what they spent and what they earned from trade. The countries most exposed to shifts in China's economy, meanwhile, are the commodity exporters who supply the raw materials for the steel girders and copper piping that have underpinned the construction boom.

Brazil suffers on both counts. Its currency, the real, has fallen by more than a third against the dollar in the past year and by almost half since May 2013, when the Fed first hinted that its bond-buying would taper off—prompting a wobble across emerging markets dubbed the "taper tantrum". Brazil's central bank has raised rates to 14.25% to tackle the inflation caused by the real's dive. The economy is in recess-

sion. Investment in mining and in offshore oil has collapsed.

The currencies of other commodity-intensive countries nearby, such as Argentina and Mexico, have also fallen heavily against the dollar. Among emerging-market currencies only the Russian rouble—slammed by the collapse in oil prices and by sanctions related to Ukraine—has fared worse than Latin America's miners. Malaysia and Indonesia, the two commodity exporters closest to China, have also been caught up in the sell-off.

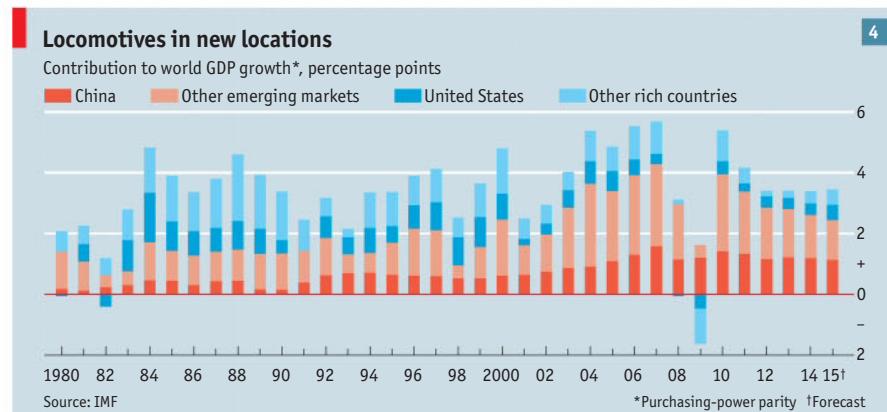
After two years of persistent selling, such currencies have begun to look cheap when set against conventional benchmarks. But that has not stopped them falling further in recent weeks as concerns about China's economy have intensified. The Colombian peso, the Malaysian ringgit and the rouble have been among the hardest-hit currencies in the past week.

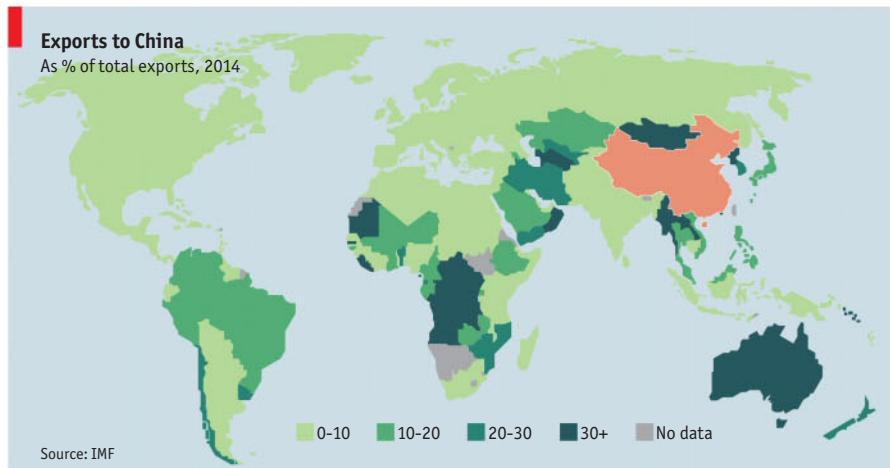
The unenviable third bucket

Despite being a commodity exporter, South Africa largely missed out on the China-led raw-materials boom, because of weaknesses in its transport and power industries (see page 37). It belongs more readily with Turkey in a separate category of emerging markets that have suffered badly because of an over-reliance on hot money to finance a large current-account deficit. Both economies are inflation-prone and have low domestic savings. They also share a tendency to do well when global capital flows freely and to do badly when, as now, investors are choosier about where they park their money.

Ironically, some of the most resilient countries have been those with the closest trade links to China, such as South Korea, Singapore and Taiwan. All have solid current-account surpluses and healthy foreign-exchange reserves and so have little to fear from capital flight in response to rising interest rates in America. And as net importers of raw materials, they benefit from falling commodity prices.

Even so, their currencies fell in the wake of China's devaluation in mid-August and cracks have recently started to show in ►





► their economies. GDP growth in Singapore has dropped below 2%, the lowest rate for three years. Surveys of purchasing managers point to falling manufacturing output in Taiwan and South Korea.

Factory-gate prices are falling across Asia, too, reflecting excess capacity in industry. In China they have declined for 41 consecutive months; in South Korea and Taiwan for 35 months; and in Singapore for 31 months, notes Chetan Ahya of Morgan Stanley. Falling prices make it harder for companies to service the debts they run up to pay for new capacity in the boom years.

Producer prices are falling even in inflation-prone India, which is one of the relative bright spots in emerging markets. India is less tied to China than other economies in Asia and, as a net oil importer, benefits from low crude prices (caused, mostly, by abundant supply in Saudi Arabia and America rather than Chinese wobbles). Its junior finance minister even speaks of taking up the baton of fast growth from China. The worry is that such boasts reveal complacency about reforms that are needed in India but have nevertheless stalled.

With large chunks of the emerging world in trouble, parallels are being drawn with the Asian crisis of 1997-98. Yet many of the factors that contributed to the intensity of that debacle—and the brutality of the recession in emerging Asia that followed—are missing today. The chief absentee is exchange-rate pegs, which were common in the mid-1990s. The illusion of currency stability that such pegs fostered led to a build up of dollar-denominated debts in emerging Asia. When capital inflows dried up, the pegs broke. Currencies quickly plunged in value, pushing up the cost of dollar debts.

These days far more emerging markets allow their currencies to float. By contrast with what happened in 1997, the recent flood of capital from the rich world into emerging markets went largely into local-currency bonds. Foreigners own between 25% and 50% of the stock of government bonds in Brazil, Turkey, South Africa, Indo-

nesia, Malaysia and Mexico, according to Morgan Stanley. For a while the momentum behind capital flows meant rich-world investors enjoyed a virtuous circle of higher bond prices and stronger currencies. Now that cycle has turned vicious but it is the currency (and thus the lender, not the borrower) that has adjusted most. Emerging markets typically have far larger arsenals of foreign-exchange reserves—and healthier current-account balances—than they did in the 1990s.

For these reasons the latest emerging-market dust-up lacks the severity of the 1997-98 crisis. But in at least one regard it is more worrying. The weight of emerging markets in global GDP is now much heavier, mostly because of China's greater mass (see chart 4, previous page). Slower growth there is felt more keenly in rich countries. Worryingly, world trade suffered its biggest fall since 2009 in the first half of this year.

There is one other contrast with the late 1990s. More recently the search for yield in exotic places took rich-world pension funds to the farthest edge of the investing universe: "frontier" markets, which are

typically poorer and have less developed financial systems than most emerging markets. Resource-rich Africa was one of the busiest parts of the frontier. Countries that had not long ago been freed from punitive debt burdens were suddenly able to borrow cheaply, albeit in dollars. Sixteen countries in sub-Saharan Africa have now issued such foreign-currency bonds, says Stuart Culverhouse of Exotix, a broker. With commodity revenues falling, repayment could get tricky. Firms that borrowed in dollars could face similar troubles—including some in China that have done so through opaque offshore arrangements.

Quite when the turmoil associated with the end of easy money comes to pass largely depends on the Fed. Before the tumult, markets priced the chance of a September rate rise at over 50%; now the probability is closer to 25%. Grandees such as Larry Summers, a former treasury secretary, and Bill Dudley, head of the New York Fed, have expressed scepticism about a rate rise next month.

Yet the Fed may plough on regardless. America's economy is well insulated from the Chinese shock: just 8% of American exports, worth 0.7% of GDP, go to China. When discussing the timing of interest-rate rises, Janet Yellen, the Fed's chairman, usually focuses on the domestic labour market rather than the fate of distant economies. If a jobs report on September 4th shows strong employment growth, the Fed could well raise rates despite market volatility.

After the "taper tantrum" of 2013, a "rate-rise rumble" was always a possibility as the prospect of Fed action neared. That has affected all emerging markets—including China. The crash in Shanghai was not evidence of a Chinese economy on the brink. Nevertheless, policymakers in Beijing have chosen a bad time to lose so much of their credibility as the world economy's safest hands. ■



What sort of landing for the economy?



Nuclear waste

Faff and fallout

SURRY, VIRGINIA

The next president will have to decide what to do about radioactive waste

After the baking heat of a Virginia summer, the spent fuel pool at Surry Nuclear Power station, which sits on the James river in the south-east of the state, looks almost worth jumping into. That would be unwise. Some 25 feet below the surface of the clear blue water, the tops of radioactive fuel assemblies glisten. Every 18 months a new load of spent fuel—uranium pellets encased in zirconium—is removed from the power station's two reactors and put into the pool, which absorbs the excess heat and some of the most dangerous (and short-lived) radiation. There it sits for five years, before being moved outside into concrete containers which look like huge washing machines.

But what then? Since the start of Barack Obama's term in office in 2009, America has had no long-term plan for its nuclear waste. As a candidate, Mr Obama promised to oppose the long-term plan to build a repository in Yucca Mountain, some 80 miles (129km) north-west of Las Vegas, to win the support of Harry Reid of Nevada, the Democrats' leader in the Senate. As a result, some 70,000 tons is waiting at power plants such as the one at Surry, in silos or in pools. Mr Reid, like Mr Obama, is standing down in 2017. Their successors will face a difficult question: how to reopen the debate about what to do with spent fuel.

In the early days of the nuclear age, when the priority was beating the Soviet Union, nuclear waste, much of it from

weapons programmes, was disposed of without much care. Spent fuel was left to disintegrate in pools; liquid waste was buried in tanks where it could leak into groundwater. That has left places such as Hanford, a former weapons-production site in Washington state, deeply contaminated. The cleanup there involves some 11,000 workers, costs around \$3 billion a year and will not finish before 2046.

The problem now, however, is civilian waste from power plants that came online in the 1960s, 1970s and 1980s. Nuclear pow-

Also in this section

24 Unionising fighters

24 The unstoppable Iran deal

26 Jimmy Carter

27 Counterfeit art

28 Lexington: The wheels on the bus

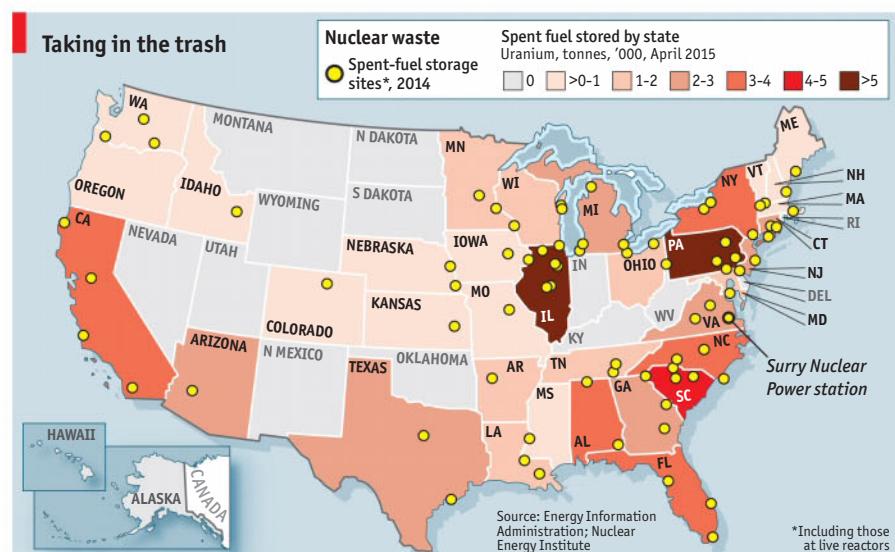
For daily analysis and debate on America, visit

Economist.com/unitedstatesEconomist.com/blogs/democracyinamerica

er generates a fifth of America's electricity; its 99 reactors account for almost a third of all nuclear power generated worldwide. Five more are under construction—the first to be approved since the 1970s—partly thanks to federal loan guarantees intended to boost clean energy production. The waste they generate has been stored safely, but it will stay dangerously radioactive for tens of thousands of years. That requires a longer-term plan than leaving it outside, however well encased in concrete.

Under the 1982 Nuclear Waste Policy Act, the federal government pledged to dispose of nuclear waste—both civilian and military—permanently. Several possible plans were drawn up, many involving burying the waste in salt deposits deep under ground. To pay for this eventual cost, a levy was added to the bills of consumers of nuclear power.

But politics got in the way. In 1987 Congress determined that only one place, Yuc-



Yucca Mountain in Nevada, would be considered. This, says Richard Stewart of New York University Law School, was the result of a stich-up between two congressmen who did not want their states to host waste dumps. Tom Foley, the then House majority leader, and Jim Wright, the Speaker, blocked proposals for sites in their home states of Washington and Texas.

Nevadans nickname the 1987 amendment the “screw Nevada” bill, and they have fiercely resisted implementation. Some \$15 billion has been spent on building the repository at Yucca Mountain, but

no waste has been moved there. Nevadans are quick to point to the damage done to their state by nuclear-weapons tests. Since 2010, the Department of Energy has formally ruled the facility out. In a lawsuit in 2013, the government was forced to stop collecting the levy on nuclear power until a plan exists for a permanent site. It has also been forced to pay utility companies for the costs of storing waste temporarily, since it did not start collecting waste fuel in 1998, as the original law dictated.

Some hope Yucca Mountain might be reopened by a new president. “The only as-

pect of used fuel in this country that has been problematic is the politics”, says John Keeley of the Nuclear Energy Institute, an industry lobby group. In January the Nuclear Regulatory Commission, the regulator, concluded that the site is safe for the disposal of waste. But the worries of Nevadans—that moving spent fuel on railways might lead to spills, or that radioactivity could leak into the environment—remain.

Recent experience doesn’t help. America already operates one of the world’s few deep storage sites for radioactive waste—near Carlsbad, in New Mexico. It stores waste mostly from nuclear-weapons production. In February 2014 the facility suffered two crippling accidents. One was apparently caused by workers packaging waste with the wrong sort of cat litter. The plant-based “Swheat Scoop” brand they used, unlike the mineral-based kind they were meant to, did not absorb radioactivity very well. The facility has not accepted any new waste since.

While there is no long-term solution for civilian waste, utility firms improvise. More of the stuff is being moved from pools into concrete casks: at Surry, around three-quarters of the waste is stored this way. These containers, technicians reckon, could safely last for a few hundred years. They are not easily interfered with, and they do not need a great deal of maintenance, unlike pools, where spent fuel can leak or corrode. Yet given how long the waste will remain radioactive, that is not altogether comforting. ■

The fight to stop the nuclear deal

Counting heads

Political polarisation is helping Barack Obama to preserve the Iran deal

WITHIN three weeks, on September 17th, Congress will have had its chance to vote on the Iran nuclear deal negotiated by America with five other world powers. With Republican majorities in both the House of Representatives and the Senate, such is the extent of partisan polarisation on the issue, a vote against the agreement is certain. That will count for little, however. Republican opponents of the deal have always known that their only chance of blocking it and preventing Barack Obama from suspending nuclear-related sanctions was to gain a two-thirds majority to override the inevitable presidential veto. That is now looking unlikely.

To get the supermajority required to overturn Mr Obama’s veto, Republicans need to persuade at least 13 Senate Democrats and 44 House Democrats to vote with them and against their president’s most ►

Teamsters

Truckin’ on

NEW YORK

The Teamsters, a pugnacious union, want to sign up actual fighters

CONOR MCGREGOR, also known as “The Notorious” and “The Dublinator”, is a mixed martial arts star and a big draw for the Ultimate Fighting Championship (UFC), the largest mixed martial arts promoter. A recent McGregor fight in Las Vegas fight drew 16,000 fans with a \$7.2m live gate and 1m pay-per-view buys. The sport has come a long way from its early days when eye-gouging was permitted. Once described by John McCain as “human-cockfighting”, it is now mainstream and immensely popular. Millions of Americans happily pay \$59.99 a go to watch top fights on pay-per-view television. In 2013, one of the owners of the UFC bragged to your correspondent that it was the world’s most valuable sporting franchise.

Mr McGregor reportedly earned \$500,000 (not including bonuses or

sponsorships) for a recent bout. But most UFC fighters make decidedly less. The median pay per fight is \$24,500, and most pugilists get in the ring only a couple of times a year. Some fighters think the muscle of a union might help them get better pay and more say. Earlier this month, the Teamsters, along with a local culinary union, announced that they intended to help fighters organise.

The Teamsters were once a powerful labour force and infamously corrupt. This is no longer the case. In January the federal government said it would soon end 25 years of strict oversight of the Teamsters to stamp out corruption. At its peak, it had 2m members. Today it has 1.4m. The heart of the union was made up of lorry drivers, but in the early 1980s the trucking industry was deregulated. New companies were formed which preferred to work with non-union drivers, whose compensation was typically 26% less than union drivers. Before deregulation, the Teamsters had more than 400,000 truckers among its ranks. Today it has only 100,000. More than 250,000 members work at UPS, the courier company. It is the largest single employer of the union’s members.

Deregulation also caused the Teamsters to diversify, says Lee Adler of Cornell University. It has 80,000 airline workers, including flight attendants and pilots. It has bakers, cheesemakers, yogurt processors and vegetable workers. Its members include warehouse staff, railway engineers, secretaries and printers. The union also has 273,000 public servants, including police officers, sheriffs, school bus drivers and public defenders. In St Louis many brewers are Teamsters. Pennsylvania has some Teamster zookeepers. They ought to have plenty to talk about with the MMA fighters, who also work in cages.



Coming soon to a picket line near you

IBM Hybrid Cloud:

If you have to choose between freedom and security, don't.

There's a new way to cloud.

With the IBM hybrid cloud, more flexibility doesn't mean less control. You're free to mix and match public and private cloud environments to run the services and apps you need while maintaining security across all your systems. Learn more at ibm.com/madewithibm

Smarter clouds are made with IBM.



► important foreign-policy achievement. The Senate has always been seen by opponents of the deal as their best bet. But so far, only two Democratic senators, Bob Menendez of New Jersey and Chuck Schumer of New York, have said they will vote against the deal. Mr Schumer is the presumptive next leader of his party in the Senate, but is now at odds with all his most senior colleagues. This week Patty Murray of Washington, the only member of the Democratic leadership not to have declared her position, came out in favour.

Ms Murray's support puts Mr Obama just five votes short of the 34 he needs to sustain his veto. The Senate majority leader, Mitch McConnell, recently conceded that Mr Obama had "a great likelihood of success" to get the deal passed. It is even possible that the president will not have to use his veto. The Republicans still need four more Democrats to jump ship if they are to overcome a Democratic filibuster and thus send the measure to Mr Obama.

Undoubtedly helping to stiffen Democratic support is the language used by some Republicans, particularly the GOP's presidential candidates, to condemn the deal and Mr Obama personally. Rick Perry says he would rip it up on the first day of his presidency. Donald Trump reckons the Iranians "are going to take over parts of the world that you wouldn't believe. And I think it's going to lead to a nuclear holocaust." Not to be outdone by Mr Trump for obnoxious invective, Mike Huckabee said that Mr Obama would "take the Israelis and march them to the door of the oven".

Even less hyperbolic critics have stuck to a simple line that the mullahs have taken Mr Obama for a fool and his naivety and weakness have put Israel at existential risk. They have made little attempt to suggest a better alternative other than one even they must know does not exist (ie, harsher sanctions leading to complete capitulation in Tehran and the dismantling of the country's entire nuclear infrastructure). Nor has there been any concession to the international nature of the agreement—much of it could go ahead even if Congress decides otherwise. Public opinion is understandably befuddled—polls have shown narrow majorities both for and against the deal, with lots undecided.

Washington's think-tanks have been in overdrive churning out considered analysis and advice (most of it broadly supportive of the deal), but are largely ignored by the politicians. Gary Samore, a veteran arms-control official now at Harvard's Belfer Centre, regrets the loss of a pragmatic, moderate core in both parties that could agree on foreign policy issues. "The American capacity to have a reasoned debate about national-security issues," he says, "has really been damaged by the polarisation in Washington." For the moment, though, it is helping the president. ■



Jimmy Carter

High Plains drifter

PLAINS, GEORGIA

Openly battling cancer is the latest phase of an exceptional post-presidency

IN THIS mobile age, ever fewer people remain anchored to the place they grew up, especially not the powerful, with their cosmopolitan lives and multiple homes. Jimmy Carter is an exception. He still lives in Plains, the small town where he was born in 1924, amid the flat, south Georgian landscape of farmland, pecan trees and super-abundant churches—in one of which he taught his regular Bible lesson on August 23rd, shortly after revealing that his cancer had spread to his brain.

Plains returns his affection. Hundreds of mock campaign placards, exclaiming "Jimmy Carter for Cancer Survivor", are fixed along the route to the house he has lived in since 1961, give or take spells in the governor's mansion and the White House. They begin at the edge of town, at the statue of a peanut with a toothy Carteresque grin, a relic of his triumphant presidential campaign of 1976, when his "peanut brigades", named for the crop he still farms, were dispatched across America from his cramped Plains HQ. He frequently tours the modest high street, where, as a boy, he sold five-cent bags of nuts he had boiled and salted. Willie Bell Raven, proprietress of Mimmie's diner, recalls how Jimmy would go to the movies with black friends, even though they had to sit separately on the train and in the cinema. Mr Carter spoke at her husband's recent funeral.

At over 34 years, Mr Carter's post-presi-

dential life is already the longest in American history. His devotion to his hometown is one of the twin, contradictory traits that have made it unique in content as well as duration—because, as well as being strikingly parochial, it has also been relentlessly globetrotting. He has conducted freelance diplomacy, sometimes helping to avert conflict, from North Korea to Haiti. He and his Carter Centre have monitored (and sometimes denounced) elections around the world, and helped to combat hitherto neglected tropical diseases, such as river blindness and Guinea worm, now almost eradicated. "I want the last Guinea worm to die before I do," Mr Carter said on August 20th. He and Rosalynn, his Plains-born wife, have spent a week every year building houses for the poor.

All politics is local

Jason Carter, his grandson, thinks there is a link between these local and global commitments: Mr Carter's bond with his ancestral land, Jason says, helps him understand the passions of territorial conflicts such as Israel's and Palestine's. His views on that issue have caused controversy, as has his willingness to talk to pariahs; he has unceremoniously reciprocated occasional criticism from later administrations. But the upshot of these instincts, and of his sense of how the presidency's moral authority could be wielded, has been unprec-

edented. His single term in the White House, which floundered in the Iran hostage stand-off and economic woe, remains a lazy byword for executive dither (its accomplishments, such as peace between Israel and Egypt, tend to be overlooked). His post-presidency earned him the Nobel peace prize in 2002.

Hampered as they have been by scandal, or by the tact required by their relatives' careers, it is hard to see his successors matching it. Mr Carter's public discussion of his illness was almost as remarkable, its candour exceeding even the letter about his Alzheimer's that Ronald Reagan wrote to the American public in 1994. With a characteristic mix of Christian faith and techni-

cal curiosity (a legacy of his spell as a submariner), Mr Carter described the four spots of melanoma on his brain, the removal of a tenth of his liver and his radiotherapy schedule. He said he was "perfectly at ease with whatever comes", but hopes to visit Nepal later this year. His grandson says his intention was merely to be honest, but many found his undaunted frankness inspirational.

Mr Carter ranked the peach pies delivered by his neighbours in Plains above the consolatory phone calls from other presidents. He is said to be working on a painting of Rachel Clark, a beloved black neighbour alongside whom he picked cotton during his childhood. ■

ican copyright law. In 2013 Richard Prince, an American artist, won a landmark case when an appeals court overturned a decision that he broke the law when he used photographs from a book about Rastafarians to create a series of paintings and collages. Mr Prince had argued that his appropriation of the photos should be permitted under the fair-use provision.

Determining "fair use" is complicated and to some extent subjective, but a prerequisite is that the artist accused of borrowing (or stealing in the Kapoor controversy) admits to using another artist's art. That is not the case with "Big Oil Bubble" as the Karamay sculpture is called. Its defenders say that it was inspired by the city's natural oil well (Karamay means black oil in Uighur, the local language) and that the blobs around the sculpture represent little oil bubbles. However similar to the Bean it looks, any resemblance to Chicago's sculpture is coincidental, they claim.

The Karamay sculpture very probably infringes Mr Kapoor's copyright, says Eduardo Peñalver at Cornell Law School, but what has actually been stolen from him? The Chinese are not printing t-shirts with the Bean or selling miniature statues of the sculpture. If anything, they are paying homage to the original as they did when replicas of the Eiffel tower were built in the cities of Shenzhen and in Hangzhou. Guangdong province has a clone of the entire Austrian village of Hallstatt.

When the good burghers of Hallstatt found out about a Chinese mining tycoon's plans to build a copy of their Alpine jewel in 2011, they were surprised and scandalised. The Chinese had charged ahead with their duplicate without telling anyone in Hallstatt, let alone ask for permission. Yet soon they came to see the advantages of having thousands rather than a few dozen Chinese tourists visit their town, eat their schnitzels and stay at their inns every year. Perhaps Mr Kapoor too will eventually come to see the bright side of the cloning of his Bean. ■

Counterfeit art

The Bean and the Bubble

CHICAGO

When is imitation in art flattery, and when is it theft?

ANISH KAPOOR has been making headlines on both sides of the Atlantic. In June, one of his sculptures on display in the garden of the palace of Versailles, which he described as "the vagina of a queen taking power", was spray-painted by vandals. This month he is in the news because the city of Karamay in western China is unveiling a sculpture that looks very similar to "Cloud Gate", a 110-tonne stainless-steel structure nicknamed the Bean, in Chicago's Millennium Park, that is popular with Chicagoans and tourists alike.

In both instances Mr Kapoor, a Mumbai-born British artist, reacted grumpily. The act of vandalism "represents a certain intolerance that is appearing in France about art", he told *Le Figaro*, a French daily, adding that he saw this mainly as a political problem. And he fumed that the mak-

ing of the sculpture by an artist whose name Karamay city officials are not releasing was a blatant act of plagiarism. "In China today it is permissible to steal the creativity of others," he said, vowing to take his grievance to the highest level and pursue those responsible in court.

Mr Kapoor expressed hope that the mayor of Chicago, Rahm Emanuel, would join him in his crusade for his copyright. Yet Mr Emanuel took a very different view of the Karamay version of the Bean. "Imitation is the greatest form of flattery," he said. "And if you want to see original artwork ... you come to Chicago."

In visual and other forms of art, a copy of an artwork is an infringement of copyright, whereas using elements of others' copyright-protected work can be permissible under the "fair use" provision of Amer-



Bean there, done that



Lexington | The wheels on the bus

An American icon runs into political trouble



IT IS just after eight in the morning and Chelsea, a young mother from Fort Wayne, Indiana, looks grey with stress as she drops her child at Glenwood Park, an elementary school in the city's north-east. Like many in this drab rustbelt city, she used to rely on school buses to pull off an elaborate daily ballet, involving her mother, a niece and others, to get her children to and from classes. But as this academic year begins, budget cuts have forced Fort Wayne to take scores of school buses out of service. When lessons resumed about 7,000 pupils found themselves without a bus ride. The changes make getting to work "a lot harder", says Chelsea, steering her ageing Chrysler around a new three-lane access loop at Glenwood Park, built to handle the extra car traffic.

These bus cuts are more than a local drama. Look closely, and Fort Wayne's woes point to a larger debate about how to pay for and supply public services. Today around half of all American schoolchildren—about 25m—ride an estimated 480,000 school buses to lessons. But school districts across the country face cuts to their transport budgets. Some voters, notably older folk, say they are not fussed. Such oldies grumble that today's children are soft if they need busing about, claiming—to quote a Republican state representative from Indiana—that they walked miles to school each day even in deep snow, and "uphill both ways". But among younger voters, especially parents, school buses remain popular. Paying for them is less popular.

Indiana offers an early glimpse of a trend that is only set to grow. The state's problem is that school buses are financed by property taxes. In 2008 state legislators passed property-tax caps, which may only be broken if local governments or school districts can win referendums to fund specific projects. Voters liked the tax caps enough to enshrine them in the state constitution in 2010, making them hard to reverse. Various waivers and tweaks delayed the full impact of the tax caps on school-bus budgets. Now—half a decade after the country was swept by Tea Party rallies and anti-tax fervour—the cuts are biting. Fort Wayne expects to lose \$2.5m from its school-transport budget in the coming year (and is forbidden to spend money from other funds on buses, or to charge fees for school transport). Local officials further reduce funds for schools by offering tax breaks to attract businesses, and by diverting property taxes to economic-development schemes.

Four other school districts in Indiana have served formal notice that they may scrap bus services.

In March Indiana's Supreme Court ruled that the right to a free public education does not guarantee free transport to the schoolhouse door, unless legislators pass a law to that effect. The Republicans who control the state's legislature are unlikely to oblige. Their priority in recent years has been school choice. The state has encouraged charter schools and created vouchers that parents can take to fee-paying private and religious schools, so that money no longer flows automatically into school districts but instead follows individual children.

Complicating the politics, school buses have their roots in a very different philosophy. More than just machines for moving children around, they have often been tools for social engineering. Busing took off in the 1930s, as progressive education officials sought to close one-room rural schoolhouses and move kids to "modern" township schools. Visitors to the National Museum of American History in Washington, DC, can see a handsome school bus used in pre-war Indiana. Some rural parents feared the new schools would bring higher taxes and alien values, the museum notes: they were overruled. Even their uniform colour dates back to a meeting of experts in New York in 1939, who deemed bright yellow the most visible shade at dawn and dusk, setting a standard now known as "National School Bus Chrome". The civil-rights era saw furious protests as courts ordered school-kids bused across once-inviolable racial lines.

A series of desegregation plans explain why Fort Wayne has rather a large school bus fleet (it has 240 now, serving a district with 30,000 pupils). A first plan saw black pupils carried from the inner city to white suburban secondary schools. That "one-way busing" did not bring about a "kumbaya moment" of racial or educational equality, recalls Fort Wayne's school superintendent, Wendy Robinson, who was raised in the city. A more ambitious desegregation plan, agreed to after a lawsuit in the 1980s, opened "magnet schools" in the inner city, offering such specialisms as science or a Montessori education. The aim was to create schools that both urban and suburban families wanted to attend, giving kids from all backgrounds a reason to jump on the bus.

Round and round

Today Fort Wayne's public schools are more racially mixed than in comparable cities and almost half of all district pupils are white. Many children are poor enough to receive free school lunches (and indeed breakfasts) but, at 88.6%, its high-school graduation rates are above the national average. Ms Robinson insists that her district embraces the concept of parental choice, and actively competes with next-door suburban districts. "We have to be good enough that people want to choose us," she says—though she sees vouchers that subsidise private or church schools as unfair competition. Fort Wayne holds annual "choice fairs" at which parents are wooed by each of the city's public schools and urged to select the establishment that impresses them, not just the nearest. But without lots of buses, Ms Robinson argues, parental choice is an empty promise for single mothers working two jobs, or for families without cars.

Fort Wayne's bus crisis is surely fixable. Indiana passed rigid tax caps without pondering the trade-offs that might follow. The school district is wedded to a business model that involves owning hundreds of its own yellow buses. America used to excel at finding practical solutions to such puzzles. Not any more. ■



Crime in Venezuela

Justice decayed

CARACAS

The government wrongly blames Colombia for its high murder rate

IT STARTED with a shooting. Two men, apparently on a motorbike, attacked a Venezuelan army anti-smuggling convoy on August 19th, close to the main border crossing with Colombia. Venezuela's president, Nicolás Maduro, quickly went on television and vowed to hunt down the "murderers" (though the four victims were injured, not killed). He decreed a state of emergency in six municipalities in the frontier province of Táchira and expelled more than 1,000 Colombians living in Venezuela. The Simón Bolívar International Bridge is closed until further notice.

The expulsions were summary and carried out brutally. But for once, the accusations levelled at foreigners, the usual scapegoats for any problem in Venezuela, were not entirely spurious. Colombians are certainly involved in the lively contraband trade in petrol and other goods, which are made artificially cheap in Venezuela by price controls and the weak currency, the bolívar. (Venezuelan mafias, some of them linked to its army, are equally enthusiastic smugglers.) But most Venezuelans, especially the 5m residents of its capital, Caracas, and its metropolitan area, worry more about home-grown killers and the country's soaring murder rate.

For the middle class, crime is a bigger topic of conversation than worsening shortages of basic goods. On August 9th John Pate, an American lawyer, was stabbed to death in his apartment, in a gat-

ed building, apparently the victim of a botched burglary. The murder shocked Caracas's dwindling band of foreign residents. The poor are not spared. Police routinely board buses in slums to search for weapons. "I was robbed twice at gunpoint last week," said Santiago Baura, a handyman, as his bus was being checked in Petare, a slum on the outskirts of Caracas.

Counting corpses in Caracas

Homicide rate per 100,000 people

Venezuela

37	54	82
2004	2009	2014

Selected countries

Latest available



Sources: Venezuelan Violence Observatory; UNODC

*Capital district

Also in this section

30 Canada's new rust belt

30 Seaweed on Caribbean beaches

Bello is away

For daily analysis and debate on the Americas, visit
Economist.com/americas

Reporting of crime statistics has been spotty since 2005, but the government admits there is a problem. The attorney-general said that Venezuela's murder rate last year was 62 per 100,000 people, ten times the global average. The Venezuelan Violence Observatory, an independent research institute, says the rate is even higher than that (see chart). The murder rate in Caracas is the highest in the region for a country's biggest city. According to one poll, less than a fifth of Venezuelans feel safe walking outside at night.

The government, which fears that crime will be a big issue in December's parliamentary elections, blames Colombians for this, too. In his weekly television address (broadcast the day before the news of the Táchira shootings), Mr Maduro claimed that Colombian "paramilitaries", not Venezuelan criminals, are responsible for the high murder rate. They "want to harm us and unleash a wave of deaths in our country," he declared.

In fact, Venezuela's populist regime, in office since Mr Maduro's predecessor, Hugo Chávez, assumed power in 1999, is a factor in the rising violence. Though the poor initially benefited from "Bolivarian socialism", economic mismanagement has made them poorer. It has widened the gap between people who have access to dollars and those who subsist on bolívares. More have-nots are turning to crime.

The government has paved the way by allowing the institutions of law enforcement to decay. The police force is underfunded and mistrusted. Venezuela has many fewer prosecutors and judges than it should. Chile, a country with much lower levels of violent crime, has a third more prosecutors than Venezuela in relation to the size of its population. Courts are reluctant to sentence criminals to serve time in crowded and violent jails: 90% of murders ►

► go unpunished. Gun control is weak.

With elections approaching and the polls looking grim for the government, Mr Maduro is cracking down. In July the government launched "Operation Liberation and Protection of the People" (OLP), swoops on criminals by heavily armed teams of police and soldiers, often accompanied by television cameras. Mr Maduro sent an OLP team to the Colombian border after the soldiers were shot.

Some teams have apparently resorted to the brutal tactics that *chavistas* denounced before they assumed power. In August a video surfaced on social media that appeared to show uniformed police murdering at least one suspect, with corpses lying nearby. Five officers have been arrested. Not even Mr Maduro can blame Colombia for that crime. ■

Canada's economy

The new rustbelt

OTTAWA

The puzzling weakness of manufacturing

IF YOU visit south-western Ontario and the Niagara peninsula you will see scenes of industrial decay. Steel mills, vehicle-parts factories and food processors sit abandoned, their car parks studded with tufts of grass. The region has the look of a rustbelt, and that has Canadians worried.

Manufacturing took a beating in the late 2000s and early 2010s, when high oil prices drove up the value of the Canadian dollar, making factories less competitive. But Canada should now be recovering from that bout of Dutch disease. The "loonie", as Canadians call their currency, has been dropping along with oil prices. On August 25th it fell to its lowest level in a decade against the American dollar. That, plus the strong economy in the United States, the market for three-quarters of Canada's exports, should have scraped off much of the rust.

So far it has not. Factory sales rose 1.2% in June, but were 3.1% below their level of a year earlier. The failure of manufacturing to respond to the tonic of a weaker currency is one reason why the economy probably contracted during the first half of 2015.

Now Canadians are starting to suspect that much of what they lost may never come back. In 2000 manufacturing accounted for 18% of GDP, not much lower than the share in Germany; by 2013 that had dropped to 10%, about the level in Britain and the United States. Factory employment has fallen by about 500,000 since 2005, to 1.7m. In the decade to 2012, some 20,000 factories shut down.

Caribbean resorts

Plaguing paradise

Smelly piles of seaweed are ruining holidays

SPEYSIDE on the island of Tobago has taken a direct hit. So have Skeete's Bay, Bathsheba and other beaches on the southern and eastern coasts of Barbados. Cancún, a Mexican resort, has been struck. The bombardment takes the form of globs of sargassum seaweed which have landed on Caribbean beaches this year, forming piles that are sometimes metres deep. They emit a rotten-egg stench when they decompose, ruining holidays for anyone with a sense of smell. Hilary Beckles, the vice-chancellor of the University of the West Indies, calls it "the greatest single threat to the Caribbean economy I can imagine."

There are more than 100 species of sargassum, possibly named after a Portuguese water flower. *S. natans* and *S. fluitans* spend their lives afloat and normally bother nobody. Buoyed by gas-filled bladders, they drift from nutrient-rich waters in the Gulf of Mexico into the Sargasso Sea.

They can be as friendly to marine life as a coral reef. Ten species of fish live only in sargassum, including the frogfish, which camouflages itself as a scrap of seaweed.

The infestations plaguing paradise originate further south, in the equatorial Atlantic, between Brazil and Nigeria.

Teardrop-shaped agglomerations, up to four miles long and half a mile across, drift west, making landfall on east- and south-facing Caribbean beaches. In Barbados tourists have been bused from southern beaches to western ones.

Marine biologists are not sure why sargassum started showing up so far from its native waters around four years ago. The rising temperature of ocean surface water caused by global warming may be partly responsible. So, too, may be nutrient-rich run-off from land newly deforested in the Amazon for farming.

So far, Caribbean resorts have reported little decline in tourism, but the region's officials are racking their brains for solutions before that happens. They have yet to find any. A minister from the island state of St Vincent and the Grenadines suggests intercepting the weed with floating booms. That would be expensive: a barrier just 300 metres (1,000 feet) long would cost \$80,000. Construction equipment can get rid of the stuff, but scoops up too much sand.

NASA tracks the clumps in the ocean by satellite, the basis for a system that can provide early warning of inundations. That will not help until a way is found to divert the weed. But it might spare holidaymakers unpleasant surprises.



Not how it looked in the brochure

One big problem is that Canada mostly makes components, not final products. That leaves manufacturers vulnerable when their customers move. Car-parts makers used to be well-placed for deliveries to carmakers in Michigan, but many of their customers have moved south.

Another reason the loonie's decline did not help more is that the currencies of competitor countries have also fallen. And industry has been hurt by the rising cost of inputs, often priced in American dollars, and by higher electricity prices, especially in Ontario. Canada's high wages are an-

other burden.

The candidates in Canada's national election, to be held on October 19th, have so far had little to say about manufacturing's listlessness. In part, that may be because there is not much that government can do. Harmonising regulations and easing border crossings with the United States would help. Some companies are helping themselves by investing heavily in new machinery and technology, hoping to make higher-value-added products. Manufacturing in Canada will not disappear. Neither, sadly, will the rust. ■



Politics in Malaysia

No more Mr Nice Guy

KUALA LUMPUR

Beset by scandal, Malaysia's prime minister cracks down on dissent

DOWN a quiet lane in Kuala Lumpur, Malaysia's capital, campaigners at trestle tables are doing a roaring trade in yellow t-shirts. The volunteers have already flogged more than 30,000 of the garments, which are becoming de rigueur for Malaysians planning to attend protests on August 29th-30th to demand the resignation of the country's prime minister, Najib Razak (above). The protests are being organised by Bersih (meaning "clean" in Malay), a loose union of non-government groups calling for electoral reform. In 2012 police dispersed thousands of Bersih protesters with tear gas and water cannons and arrested about 500. This weekend's rally in Kuala Lumpur, which authorities say is illegal, could yet go the same way. Maria Chin Abdullah of Bersih hopes that at least 200,000 Malaysians will protest in three cities. Malaysia's political system, she says, "has really become quite rotten".

The planned protests are the latest turn in a wild saga which has gathered pace since early July, when the *Wall Street Journal* reported that nearly \$700m had found its way into bank accounts owned by Mr Najib shortly before a close-fought general election in 2013. Much has been made of the suggestion that the money is somehow linked to 1MDB, a state investment firm struggling to service debts of around \$11 billion. Its dealings are now the subject of an investigation in Switzerland, through

which some of its cash may have passed.

Mr Najib vigorously denies the suggestion and says he has never used public money for personal gain. Rather, senior members of his party, the United Malays National Organisation (UMNO), assert that the prime minister received a legal political donation from a wealthy but as yet unnamed Arab family which approves of UMNO rule. On August 22nd local media reported one party chief as saying that UMNO had hoped the cash would help it reverse gains being made by a popular ethnic-Chinese opposition party, which he claimed was backed by clandestine Jews.

Digging in

The prime minister's opponents say he is dodging a proper investigation. In July he sacked his deputy, who had begun to question his handling of the affair, and promoted to the cabinet several members of a committee which had been arranging hearings into alleged mismanagement at 1MDB. In short order the attorney-general was replaced (supposedly on health grounds), a pesky police chief was retired and several members of the country's anti-corruption commission pushed aside.

The media is under the cosh too. A government agency has suspended the printing licences of two troublesome newspapers, while ministers say they are mulling new rules to curb speculation on social

Also in this section

- 32 An election in Singapore
- 32 Troubled Nepal
- 33 India's man of inaction
- 34 Banyan: Views of Japan

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

media. In August police issued an arrest warrant for Clare Rewcastle Brown, a British investigative journalist living in London (and sister-in-law of Gordon Brown, a former British prime minister); her blog, the Sarawak Report, has closely covered the affair. The charge against her, of participating in "activity detrimental to parliamentary democracy", reflects the government's contention that its critics are part of a sinister conspiracy.

The crackdown has underscored the weakness of Malaysia's institutions and displayed a new ruthlessness in Mr Najib. An urbane, British-educated scion of a political family, he seems to have abandoned earlier efforts to paint himself as a reformer. But he is digging in. Meanwhile the state of the economy, which Mr Najib had claimed to be carefully tending, grows more parlous. The country is running down foreign-currency reserves to prop up the ringgit, down by more than 16% this year. A slowing China and falling prices for commodities triggered the currency slide, but the political drama has accelerated it.

Mr Najib's resilience says much about the dominance of his party, which has led Malaysia's ruling coalitions for six decades. UMNO is easily the most popular party among ethnic-Malay Muslims, who make up more than half of the population and who trust the party to defend racial laws that give them a leg up over their ethnic-Chinese and ethnic-Indian compatriots. Gerrymandered electoral districts, compliant courts and the use of colonial-era sedition laws have helped it to shore up its power—even when, as in the last election, the opposition won most of the votes but a minority of seats in parliament.

The main risk of being turfed from office comes from within the party. It is why UMNO bigwigs have long fostered deep ➤

► lines of patronage that make them hard to budge. The party hierarchy has tended to reward loyalty over ability and to punish upstarts. Even a torrent of criticism from UMNO's senior statesman, Mahathir Mohamad, who saw off several challengers himself while prime minister from 1981 to 2003, has failed to unbalance Mr Najib.

In private many MPs from his party express little enthusiasm for the prime minister. But nor do they spy challengers whom they would risk their careers to support. The recent sackings have been a bracing reminder of what happens to critics. Some in UMNO have grown guarded about what they write in e-mails or say on the phone. It is lost on no one that Mr Najib's new deputy prime minister is also the country's home minister, responsible for its police. The fate of Anwar Ibrahim—a former UMNO star who went across to the opposition and who is in jail, for the second time, on an iffy sodomy charge—is a reminder that demotion is not the worst punishment Malaysian politics can impose.

At some point Mr Najib's plunging popularity may be perceived to imperil an UMNO victory at the next general election. At that point the cleanest way for party dissidents to defenestrate the prime minister

would be at UMNO polls for the party leadership. Yet these have been postponed by 18 months, perhaps to see off just such a threat. A more imminent challenge is a vote of no confidence which opposition politicians plan to force through when Parliament reconvenes in October. The hope is that enough parliamentarians from the UMNO-led ruling coalition will back the idea of a technocratic government, drawn from both sides, which would hold power until the general election, due in 2018. One possible candidate for prime minister is Razaleigh Hamzah, an elder statesman popular among business leaders.

This scheme remains unlikely, but it could get a boost if many tens of thousands of Malaysians take to the streets on August 29th. Yet it is also possible that the protest could end up rallying ethnic-Malay support for Mr Najib. Recent rifts in the multi-ethnic opposition have led to worries that many ethnic-Malay supporters of the opposition and of previous Bersih rallies may not turn out this time. The risk is that a big rally dominated by ethnic Chinese and Indians would inflame the pernicious sore, scratched on UMNO's fringes, that the country's Islamic heritage is under threat from non-Malays. That is a fiendish trap. ■

An election in Singapore

The Lee side

SINGAPORE

Fifty years on, the ruling party looks secure

ELECTIONS in Singapore are usually short, sharp affairs: the political equivalent of one-round boxing matches, in which the super-heavyweight ruling People's Action Party (PAP) swiftly wipes the floor with the puny opposition after a nine-day campaign period. This one, called for September 11th, well over a year before it was strictly necessary, seems different in a number of ways, if not in the likely outcome.

Firstly, the campaign has already in effect been under way for weeks, even though it was only on August 25th that Parliament was dissolved and the polling day set. The PAP has been steadily unveiling its candidates—a typical mixture of sitting MPs, former civil servants and soldiers and a few hopefules from the private sector—for the 89 elected seats. The nine opposition parties have likewise been hitting the streets to shake hands and distribute flyers.

Secondly, this will be the first election since the outpouring of grief that followed the death in March of Lee Kuan Yew, Singapore's founding prime minister. The current prime minister and leader of the PAP is his 63-year-old son, Lee Hsien Loong, who some speculate

wants an early election to give himself time to groom a successor.

The PAP's challenge is to improve on its showing in 2011, its worst since full independence in 1965. It still won 60% of the vote then and, thanks to a first-past-the-post system, 93% of elected seats. But such are its inbuilt advantages and expectations of dominance that the PAP reacted almost as if it had lost. The government has tried to tackle the causes of disgruntlement by curbing immigration, speeding up the construction of public housing and transport facilities, and improving welfare arrangements. It has also tried to learn to listen to Singapore's people rather than simply lecture them.

The PAP has also perhaps benefited from two historic landmarks this year. Mr Lee's death was a chance for the city-state to recall how remarkable its economic success has been, after the unpromising start of being expelled from its short-lived federation with Malaysia 50 years ago. Similar reflections have been prompted by lavish celebrations this month of the country's 50th birthday. When one party has been in power for so long, any display of patriotic fervour can be hard to distinguish from a political campaign.

Troubled Nepal

Federal express

KATHMANDU

A nasty bout of ethnic violence in an already battered country

MANY Nepalis believed the world was ending in April. A huge earthquake killed nearly 9,000 people and flattened over 600,000 buildings. But at least, after the tremors, a sliver of political hope appeared as politicians who had been failing to write a constitution since 2008 found an impetus to act.

Since the disaster the leaders of Nepal's biggest parties have swiftly agreed to an outline for the elusive new constitution—by first leaving out an all-important issue: what federal model Nepal is supposed to adopt. Disputes over that were behind the years of stalemate. The politicians moved ahead because Maoists, former soldiers who had handed in their rifles to form a political party, dropped demands for special conditions for women, the lowest Hindu caste and indigenous people.

Perhaps the politicians moved unusually fast because they wanted a shot at many plum posts, including a presidency. It took an intervention from the Supreme Court to remind them that it was also their job to come up with a proposal for how many states Nepal will get. The party leaders mapped out six, including one in the southern plains for Madhesi people, a group resentful of the high-caste folk who dominate in Kathmandu, the capital.

But that plan enraged other low-caste groups. It also upset the ethnic Tharu, roughly 1.7m people who live in western Nepal and who would be divided between two states. They fear being weakened as a voting bloc. "This is a time for do ►



Burning strife

► or die for us," says a Tharu lawmaker, recalling that many of her people were treated as serfs until only a few years ago.

Politicians in Kathmandu ignored the protests until August 24th, when tens of thousands of people massed in Tikapur in the western plains and, in confrontations, killed at least seven policemen. That sparked fears of wider ethnic violence in more towns, and of a crackdown by the police and army, which were deployed to enforce calm. Mobs of non-Tharu men nevertheless burned the homes of dozens of Tharus in the west. The police, who have an ugly reputation, reportedly detained and tortured some Tharus. Human-rights groups and others fear outbreaks of violence worse than anything since the civil war that ended in 2006.

India's prime minister, Narendra Modi, who is well liked in Nepal, sent a message this week to suggest that any new constitution should take into account the wishes of minority dissenters. That sounds reasonable, and Nepal's politicians call it fine in principle. But they also say that it is impossible to write a constitution that everyone will like. Nonetheless, if ethnic or caste groups as big as the Tharu feel excluded by the federal design, then stability will surely prove elusive. ■

To change India

Lights, camera, inaction!

DELHI

Does the prime minister prefer talk over deeds?

ASKED about his strategy towards Pakistan, Narendra Modi, India's prime minister, said that he wanted "friendship: I keep trying to find new ways all the time." After telling *The Economist* so, in May, it briefly looked as if the tetchy relations between the nuclear-armed neighbours would improve. Mr Modi agreed with his counterpart, Nawaz Sharif, to visit Pakistan next year for a regional forum. And the two leaders said their national-security advisers would meet in Delhi on August 24th.

It would have been the first proper conversation since Mr Modi scrapped talks between senior diplomats, on a pretext, a year ago. But it flopped before it began. First Pakistan's generals were furious that Mr Sharif agreed that the agenda would include terrorism (India's top concern) but not the disputed region of Kashmir (the generals'). Then gunfire was exchanged over the "line of control" in Kashmir. Adding to the ugly mood were terrorist attacks in northern India, which India blamed on Pakistan. Both sides gave up on the security talks, though they are badly needed.



Modi wants to fly higher

Mr Modi can claim that India reaches out to Pakistan only for the Pakistani army, which controls foreign policy and matters of security, to slap away his proffered hand—just as it blocks freer trade and backs terrorists who attack India. On a planned trip in September to America, or on his just-installed hotline to the White House, he will present Pakistan's army as the perennial troublemaker. Rubbing it in, in September India will celebrate the 50th anniversary of a short war in which the Pakistani army tried but failed to seize parts of Indian-run Kashmir.

Mr Modi's diplomacy appears to involve making warm statements now and putting off tough steps till later. It is like his style in domestic affairs. The prime minister is a forceful communicator. But he postpones the arduous job of getting things done. His critics say that Mr Modi cares more for the theatre of politics than the hard grind of passing laws or accomplishing reform through compromise. A former cabinet minister complains that Mr Modi's rhetoric is "way ahead of his plans".

An example is the government's claim at the start of the year that it would push through a bill promoting infrastructure and development by making it easier to acquire land from landowners. Yet the parliamentary process was managed poorly. After much confrontation, the government withdrew crucial parts of the bill in August, boosting opposition morale.

Similarly Mr Modi and his finance minister, Arun Jaitley, have vowed that a uniform goods-and-services tax (GST) will be in place by next April, fostering the kind of single market India badly needs. Yet in this summer's parliamentary session, neither man reached out to opponents in the Congress party, and nothing got done. A special one-off session might yet be called to pass the GST, but only if government and opposition can compromise. If not, a big, long-promised reform will be delayed again.

Elsewhere, an ambitious goal an-

nounced last year to deal with appalling public hygiene and water pollution has seen only modest follow-up. Investors grumble that promises to simplify tax laws, cut corporation tax and privatise state firms have come to little. Talk of creating millions of jobs on the back of an infrastructure boom now sounds empty.

This week India's media were agog when 75,000 people, including postgraduates and engineers, applied for 30 posts as "peons"—office boys—in Chhattisgarh's state government. And hundreds of thousands of protesters belonging to the Patel or Patidar caste shut down Ahmedabad, the commercial capital of Gujarat state, which Mr Modi used to run, leading to violence including eight deaths. The Patels demanded official favours for their caste, despite its success in business, including control of Gujarat's huge diamond-cutting business. Both developments suggest that many ordinary people do not share the government's upbeat rhetoric about economic prospects.

Mr Modi's defenders say he is far more active than previous leaders, and that voters understand that change takes time. Signs of fresh interest in Indian manufacturing include news that Foxconn, a Taiwanese manufacturer, may spend \$5 billion on a factory in Maharashtra to make smartphones. Mr Modi's Bharatiya Janata Party (BJP) remains popular, winning a string of municipal elections in Karnataka, Madhya Pradesh and Rajasthan in August. And a big national opinion poll taken early in August suggests that 79% of Indians still approve of Mr Modi.

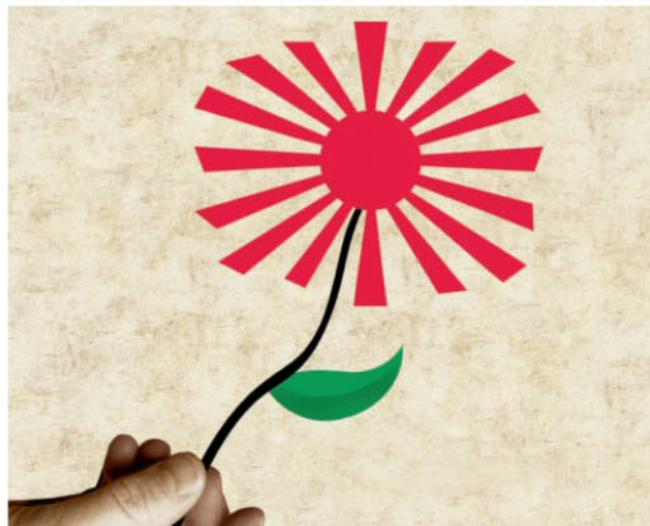
Caste, creed and conflict

But a tougher electoral test comes in Bihar, a northern state of over 100m people with assembly elections expected in October. The BJP did unexpectedly well there in the general election last year, winning 22 of 40 parliamentary seats. Any worse performance this time would hurt Mr Modi, who is campaigning hard in the state. Opposing the BJP is a coalition led by the incumbent chief minister, Nitish Kumar. He hopes for a repeat of state elections in Delhi, in February, when non-BJP parties in effect backed a single outfit (Arvind Kejriwal's Aam Aadmi Party) and won in a landslide.

Caste and religious identities matter especially in Bihar, a reason why Congress complained this week about the much-delayed release of census data collected in 2011 on religious affiliation. It shows that India's Muslim population has grown substantially quicker, accounting now for 14.2% of the population, than the majority Hindu one, which has just slipped to under 80% for the first time. The Muslim population in Bihar is especially fast-growing, and Congress warns that some campaigners in an already violent race will use new data to rally Hindus against minorities. ■

Banyan | The uses of history

Asian views of Japan's 20th-century expansionism are not all negative



A 92-YEAR-OLD politician may be inured to insults, however outrageous his alleged transgression. Even so Lee Teng-hui, Taiwan's president from 1988 to 2000, may have been taken aback by the hostility to comments he made to a Japanese magazine this month. He criticised efforts by Taiwan's present government to mark the 70th anniversary this year of Japan's second-world-war surrender as meant to "harass Japan and curry favour with China". Taiwan, he argued, had been part of Japan: its young men had fought not against the Japanese empire, but for it (the "motherland", he called it). Ma Ying-jeou, the current president, led a chorus of outrage in Taiwan. In China the press heaped scorn on his "absurd remarks". The angry derision was perhaps all the more intense because, historically, Mr Lee had a point.

Although China insists Taiwan has always been an "inalienable" part of China, it has not been governed from the mainland since 1895, when it was ceded to Japan. When Taiwan returned to China in 1945, it became the last redoubt of the Nationalist or Kuomintang party, the KMT, as it lost mainland China in its civil war with the Chinese Communist Party. Mr Lee was later the KMT's leader. But after he left the presidency, the party expelled him for his support of Taiwan's formal independence from China. Since then the KMT has tended to regard him as an embarrassment—like a gaga elderly relation given to relieving himself in public. Mr Lee's fondness for Japan is well-known. His elder brother is among those honoured at Yasukuni, a controversial shrine in Tokyo for Japan's war dead, including some convicted of war crimes. Mr Lee's views, however, though baldly expressed, are not uncommon in Taiwan. Nor, across Asia, is Mr Lee so unusual in his ambivalent feelings about Japan's colonial past.

The anniversary has exposed what is almost an obsession with history both in Japan and among some victims of its wartime aggression, especially in China and South Korea. For the first time China is to mark the anniversary with a big military parade on September 3rd. It insists this is not to goad or threaten Japan, but Japanese observers doubt this. This week Shinzo Abe, the prime minister, said he would not after all be in China at the time.

That is understandable. Yet Mr Abe's absence does not help counter the impression that Japan has not come to terms with its crimes during the war—nor, as China might see it, with its defeat.

His own attempts to remove history as an obstacle in Japan's relations with its neighbours have foundered. His formulation this month of the remorse Japanese prime ministers are expected to express once a decade was keenly awaited, and, despite upholding previous apologies, duly found wanting. China's official news agency dismissed it as "lacking sincerity". South Korea's president, Park Geun-hye, complained more soberly that it "did not quite live up to our expectations".

Part of the explanation for Mr Abe's failure lies simply in who he is. In China and South Korea he is seen as a revisionist intent on whitewashing Japan's war record, jettisoning its pacifist constitution and making Japan strong and proud again. His open reverence for his grandfather, Nobusuke Kishi, does not help—Kishi spent three years in jail as a suspected war criminal, but later became prime minister. Nor does Mr Abe's visit as prime minister in December 2013 to Yasukuni help, with the risk he may visit again.

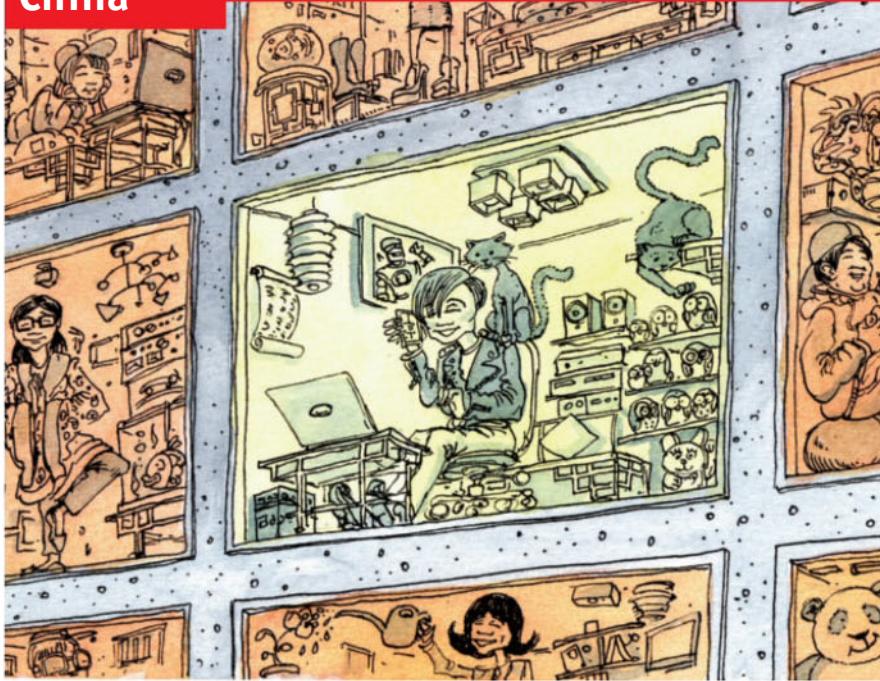
His "apology" itself, issued as a formal statement by his cabinet, was also seen as inadequate. It had all the right words, but glossed over some crimes, such as the imperial army's sexual enslavement of women. And it was set in the context of a condensed history of the early 20th century that could be read as an attempt at exculpation. He described how Japan, having established constitutional government earlier than anywhere else in Asia, had then given "encouragement to people under colonial rule from Asia to Africa", by winning the war with Russia of 1904-05. But it had later "taken a wrong course", which Mr Abe blamed partly on the Depression and Western protectionism. It became "a challenger to the new international order" (rather, some listeners may have inferred, like China today).

This hints at the rosy version of Japan's imperialist past with which the country's far right likes to delude itself: Japan as liberator rather than coloniser and, in the second world war, as victim rather than aggressor. This version is reinforced by the fact that Japan's early modernisation inspired nationalists from Mao Zedong to Jawaharlal Nehru. And in some countries during the war freedom fighters were even allied with Japan, notably Aung San in Burma and Subhas Chandra Bose in India.

Not history but current affairs

Even today in South-East Asia, Japan's war guilt and perceived remorse seem to matter less to governments and citizens. That is partly for historical reasons: Japan's invasion and colonial rule in South-East Asia were harsh but also comparatively short—a brief interlude between Western colonisation and independence. But most of all, South-East Asia has many other reasons to get on with a country that has been an important donor, trading partner, investor and, recently, potential ally against a rising China. A proper apology would be welcome, but it is less important.

In China the Communist Party, by contrast, seeks to exploit the struggle against Japan to bolster its own legitimacy, with nationalism playing the part that class struggle once did. South Korean nationalism, too, is founded in opposition to Japan, not least because Japan oppressed Korea for longer than most other colonies. Ms Park, whose father, awkwardly, was a Japanese army officer long before he was a dictatorial South Korean president, is especially exercised by the wrongs of history. Yet South Korea's poor relations with Japan, irksome as they are to the American ally both nations share, incur no imminent cost. So, for South Korea, as for China, almost any apology would be unacceptable. But that is no reason why they should not be offered a better one. ■



Family

Young, single and what about it?

BEIJING

This article looks at the sharp rise in young Chinese happy to live by themselves; the next at old people less happy to do so

IN HER tiny flat, which she shares with two cats and a flock of porcelain owls, Chi Yingying describes her parents as wanting to be the controlling shareholders in her life. Even when she was in her early 20s, her mother raged at her for being unmarried. At 28 Ms Chi took “the most courageous decision of my life” and moved into her own home. Now 33, she relishes the privacy—at a price: her monthly rent of 4,000 yuan (\$625) swallows nearly half her salary.

In many countries leaving the family home well before marriage is a rite of passage. But in China choosing to live alone and unmarried as Ms Chi has done is eccentric verging on taboo. Chinese culture attaches a particularly high value to the idea that families should live together. Yet ever more people are living alone.

In the decade to 2010 the number of single-person households doubled. Today over 58m Chinese live by themselves, according to census data, a bigger number of one-person homes than in America, Britain and France combined. Solo dwellers make up 14% of all households. That is still low compared with rates found in Japan or Taiwan (see chart), but the proportion will certainly increase.

The pattern of Chinese living alone is somewhat different from that in the West, because tens of millions of (mainly poor)

migrant workers have moved away from home to find work in more prosperous regions of China; many in this group live alone, often in shoeboxes. Yet for the most part younger Chinese living alone are from among the better-off. “Freedom and new wealth” have broken China’s traditional family structures, says Jing Jun of Tsinghua University in Beijing.

The better-educated under-30-year-olds are, and the more money they have, the more likely they are to live alone. Rich parts of China have more non-widowed

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

single dwellers: in Beijing a fifth of homes house only one person. The marriage age is rising, particularly in big cities such as Shanghai and Guangzhou, where the average man marries after 30 and the average woman at 28, older than their American counterparts. Divorce rates are also increasing, though they are still much lower than in America. More than 3.5m Chinese couples split up each year, which adds to the number of single households.

For some, living alone is a transitional stage on the way to marriage, remarriage or family reunification. But for a growing number of people it may be a permanent state. In cities, many educated, urban women stay single, often as a positive choice—a sign of rising status and better employment opportunities. Rural areas, by contrast, have a skewed sex ratio in which men outnumber women, a consequence of families preferring sons and aborting female fetuses or abandoning baby girls. The consequence is millions of reluctant bachelors.

In the past, adulthood in China used, almost without exception, to mean marriage and having children within supervised rural or urban structures. Now a growing number of Chinese live beyond prying eyes, able to pursue the social and sexual lives they choose.

In the long run that poses a political challenge: the love of individual freedom is something that the Chinese state has long tried to quash. Living alone does not have to mean breaching social norms—phones and the internet make it easier than ever to keep in touch with relations, after all. Yet loosening family ties may open up space for new social networks, interest groups, even political aspirations of which the state may come to disapprove. ►

Home alone

One-person households as % of total
2011 or latest



Sources: Jean Wei-Jun Yeung, National University of Singapore & Adam Ka-Lok Cheung, The Hong Kong Institute of Education

Also in this section

36 The isolated elderly

For now those who live alone are often subject to mockery. Unmarried females are labelled “leftover women”; unmarried men, “bare branches”—for the family tree they will never grow. An online group called “women living alone” is stacked with complaints about being told to “get a boyfriend”.

Even eating out can be a trial, since Chinese food culture is associated with groups of people sharing a whole range of dishes. After repeated criticism for dining alone, in 2014 Yanni Cai, a Shanghai journalist, wrote “Eating Alone”, a book on how sin-gletons can adapt Chinese cuisine to make a single plate a meal in itself. According to tradition, even a frugal Chinese meal comprises “four dishes and one soup”. A single diner is likely to find that rather too much to stomach. ■

Ageing

The kin and I

XI'AN

The state is unprepared for rising numbers of old people living alone

LIU CAIPING is a former maths teacher, now 71, who has lived alone in the western city of Xi'an since her husband died last year. The radio is her steadfast companion. Her eyesight is failing and she rarely goes out. Like many city residents, her former neighbours have scattered, and her two daughters are far away. When she can no longer cope on her own she will go to a nursing home, she says. That option remains extremely rare for old Chinese. And that highlights the problem: China is struggling to cope with a rapidly ageing society and a rising number of elderly people living by themselves.

For most of the past two millennia the family has been central to how Chinese have seen themselves—and the state has been seen as a family writ large. Filial piety was somewhere near the heart of a Confucian order regulating society, and the family was an extended, stable unit of several generations under one roof. A very common saying encapsulated it all: *yang er fang lao*—“raise children for your old age”.

Today multi-generation families are still the norm. Almost three-fifths of people over 65 live with their children, a higher proportion than in most rich countries. Yet things are changing fast. Increasingly, parents are living apart from their children—and when one spouse dies, as with Ms Liu, the other often lives alone. A fifth of all single-person households in China are made up of over-65-year-olds. In contrast to younger Chinese living alone, few elderly do so by choice. Many are poorly

educated. Women predominate, because they tend to outlive their husbands.

China is unprepared for the consequences of solo dwelling among the elderly. Government policy enshrines the idea that families should live together and provide for the old and others unable to look after themselves. Despite efforts to extend pensions and other social protection, provisions fall far short because the state assumes offspring will help the old and sick. The welfare system is ill-equipped to help the elderly living alone.

State financial support has improved in the past decade, but many millions of elderly Chinese still have no pension or retirement income. Health insurance is increasingly widespread, but usually covers only the basics. Rural areas lag far behind cities in the provision of pensions and health care for the old.

By 2025 nearly one in four Chinese will be over 60. China's one-child policy has made a mockery of *yang er fang lao*—fewer among the younger generation are around for the old to move in with, a trend reinforced by starting families later. By 2050 there are likely to be just 2.5 working-age adults for every person over 65, down from eight today. Chinese born in the boondocks who migrate to far-off cities in search of work cannot easily take older family members with them even if they want to.

Despite the challenges, many in China still regard responsibility towards their family as a defining feature of their culture. Not much difference with other countries there. But the expectation of filial piety means that those who are not recipients of it often feel ashamed or isolated, says Jean Wei-Jun Yeung of the National University of Singapore. Many are reluctant to seek the help of neighbours when they need it, for instance. A study of old people in Shanghai by Yu Chen of Fudan University found that 84% rarely or never attended social activities.

The government acknowledges the

problem. When it relaxed the one-child policy somewhat in 2013, one reason it cited was a growing number of elderly sin-gletons. Some enterprising local governments have introduced schemes aimed at the lonely old. Young trainee doctors in Hangzhou in eastern China can have free board with old people living alone in return for companionship and basic medical care. Several cities encourage “time banks”, a model borrowed from America and Japan, where over-60s help those, say, over 80, building up credits to call in years later. Yet a control-freak state remains nervous about initiatives it does not closely oversee.

With a weak social-safety net, little support is in place for when families fail to help those living alone. A study in 2013 by Na Yu of the Beijing Institute of Technology found almost no neighbourhood communities in the capital offering the full range of basic services elderly people needed. Elsewhere, cities offer social activities but little personal care. Because of a lack of doctors in the community, old people with chronic conditions tend to linger in hospital. Social workers are in short supply, underpaid and overworked and have minimal training. Residential care is growing but still scant. China has 5.8m beds (enough for nearly 3% of over-60s), but there are often long waiting lists.

This is the background to a rise in the suicide rate among China's elderly, even as that for other age groups is falling. In 2009-11 people over 65 accounted for just under half of all suicides, and more in rural areas: living alone in old age can be harsh anywhere, but in China it may be particularly isolating, given that so many young Chinese have left their villages, and parents, in search of work. The government has tried to enforce filial piety, passing a law in 2013 that threatens fines or jail if people fail to visit parents and feed their “spiritual needs”. It is a futile response. In a rapidly changing China, much greater state provision is needed. ■





South Africa's state-owned companies

Commanding plights

CAPETOWN

Poorly managed state companies are dragging down the wider economy

SCOOPING up gems from the beaches that form part of one of the world's richest diamond deposits ought to be about as profitable as, well, scooping up diamonds from a beach. Yet South Africa's state-owned diamond miner, Alexkor, has managed to make a hash of it. Over the past decade it has posted losses more often than profits and has needed frequent bail-outs.

Evidence of its staggering incompetence can be found in nearby Port Nolloth, a town of a few thousand souls who huddle between icy Atlantic winds and the Namqua desert, yet drive a surprising number of luxury German cars. This is because as many as half of the diamonds it mines there fail to make their way onto Alexkor's income statement, according to diamond-industry insiders. (The government says that only 10% are stolen.)

One old wheeze for getting gems out is to smuggle homing pigeons into the mine and then send them winging their way home carrying cargoes of rough diamonds. Security guards apparently cottoned on after they found one poor bird so heavily overloaded that it was trying to hop back to its coop. Until then few had bothered to ask why the tiny towns nearby had no fewer than six pigeon clubs. The mine's managers wring their hands, spend more on security and forecast a return to profitability, only to rack up more deficits.

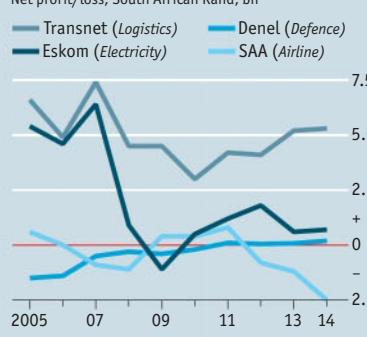
In this it is not unique. South Africa has more than 700 state-owned firms, though only a few count for much. The biggest in-

clude Eskom, the power monopoly, Transnet, the railway and ports monopoly, South African Airways (SAA) and Denel, an arms firm. Between them they account for at least 5% of the country's economic output. Yet these behemoths are mighty drags on growth. During the global commodity boom before the 2008 financial crisis South Africa's mines struggled to expand because underinvestment by Transnet had led to bottlenecks at ports and on the railways. Some reckon the country's coal and iron ore mines could have increased their exports by as much as 50% had they had the means to get their minerals out to international markets.

Chronic underinvestment by Eskom,

Rewards of incompetence

South Africa's state-owned enterprises
Net profit/loss, South African Rand, bn



Also in this section

- 38 Ebola in Sierra Leone
- 39 Making Iraq governable
- 39 Protests in Lebanon
- 40 Israel's outspoken president
- 40 Banning Muslim dress in Egypt

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

Economist.com/world/middle-east-africa

meanwhile, has led to rolling power cuts that have slashed productivity in factories and mines (as well as irritating South Africans, who like light in their homes). Power shortages contributed to the dire economic news released on August 25th showing that the economy had shrunk at an annual rate of 1.3% in the three months to June. This will be a problem for some time to come: foreign investors wanting to build power-hungry factories have been asked to come back in a few years. Few will bother. Some economists reckon that if Eskom and Transnet were better run, the country could be growing at up to three times its current sickly rate, optimistically forecast to hit 1.5% this year.

Many state-owned firms are also racking up large losses (see chart) and guzzling subsidies. Petro SA, a national oil company that wants to build the largest oil refinery in Africa, will in fact gain a superlative even if that plan doesn't go ahead: it is about to post a loss of about 15 billion rand (\$1.1 billion), the largest ever by a state-owned company in South Africa.

SAA, meanwhile, has soaked up more than 30 billion rand (\$2.3 billion) in bailouts over two decades. In the process it has managed to smother domestic competition: ten of the 11 private airlines that opened after South Africa's skies were deregulated in 1991 have gone out of business.

Instead of learning the obvious lesson—that the state is not good at running businesses—the South African government seems keen to double down. In mining, for instance, ministers talk about having a state-owned firm take over existing mines that are cutting jobs or going out of business because of low commodity prices. Instead of “unpatriotic” capitalist mines, the government would like more state-owned ones. “We think we should give it a push and see if it works,” says Ngoako Ramatlodi, the minerals and energy minister. ➤

His policies reflect a wider shift in the government's move away from markets and towards a "developmental state" in which the government owns "strategic" industries and uses them to pursue goals other than profitability.

When white rule came to an end in 1994 the government of Nelson Mandela inherited a sieve economy, full of state-backed firms whose job had been to soften the pain of sanctions by pursuing self-sufficiency. (Sasol, for example, made petrol from coal and natural gas.)

The new African National Congress (ANC)-led government swiftly lowered import tariffs and sold stakes in firms. Investment flowed in. Aeroporti di Roma bought a fifth of the national airports company, Swissair took a similar stake in SAA and investors paid \$1.2 billion for a chunk of Telkom, the phone company.

Yet this dash to privatisation soon slowed, because of opposition from the Congress of South African Trade Unions and the South African Communist Party,

both of which are allies of the ANC. By 2007 privatisation fell victim to political infighting within the ANC as an alliance of unionists and leftists ousted then-president Thabo Mbeki and backed his replacement by Jacob Zuma, the current president. In return, the left got policies committing the governing party to "strengthening the role of state-owned enterprises".

Since then the left's grip on government has grown ever tighter. The finance minister, Nhlanhla Nene, has been sidelined. Most new plans for the economy are now drawn up by two communists, Ebrahim Patel, the economic development minister, and Rob Davies, a trade minister who doesn't seem to think much of trade. Their model is China. An ANC policy document gushes that the economic "leadership of the Communist Party of China...should be a guiding lodestar of our own struggle." Many in the ANC like the idea that the ruling party should control businesses directly, and China's recent troubles probably won't change their minds. ■

wards. Health workers often lacked protective gear, ambulances were scarce and villagers did not realise how dangerous Ebola was. But their doubts dwindled as the deaths mounted. They recognised the full horror when Dr Khan died on July 29th.

After Ebola reached a climax in mid-August it began to plummet in the east, well before much foreign aid had materialised. Meanwhile the contagion spread westward across the country. When it hit Port Loko in the north-west, that district's health managers took charge, along with a politically appointed Ebola co-ordinator. They brushed non-medical people aside, ignoring chiefs and headmen, who often felt insulted. (Northerners, many from the Temne tribe, have a longstanding reputation for rebelliousness.) Medical officials also clashed with traditional healers loth to refer the sick to hospitals. The flood of donations from foreign governments and agencies in some respects made matters worse, as factions vied for vehicles, food and cash. Western-led aid agencies also jockeyed for access to the rush of funds.

By this summer things had improved. Sierra Leone's army was manning checkpoints and enforcing quarantines in the north. Foreign agencies were better co-ordinated and were encouraging chiefs and traditional healers to get involved. The paramount chief of Port Loko town, Alikali Mellah II, says the rift between traditional and political rulers has healed and rattles off a list of his favourite humanitarian outfits, which now reimburse chiefs for their time and travel expenses.

Meanwhile in Kenema, Chief Vangahun sits on his porch in a silver and aquamarine tunic, with his wife, three imams, his advisers and the district's official Ebola co-ordinator, pondering why the scourge lasted so much longer in the north-west. "Pouring money into the fight against Ebola does not solve the issue," says a local chief, as the men beside him nod. ■

Ebola in Sierra Leone

Hail to the chiefs

FREETOWN

How local leaders helped to curb an epidemic

WHEN Adama Sankoh, the last person known to have Ebola in Sierra Leone, was discharged from hospital on August 24th the medical clock began ticking: if no one else contracts the disease in the next 42 days, the country can be deemed free of it. But like most infectious outbreaks, this one forms a bell curve when charted over time. The right-hand tail of the curve has stubbornly refused to disappear, as the occa-

sional case keeps popping up.

What is most striking is that this long tail is mainly due to the disease lingering on in the country's north-west. By contrast its south-east has been free of the scourge for nearly six months. Yet the north-west has had far more foreign aid.

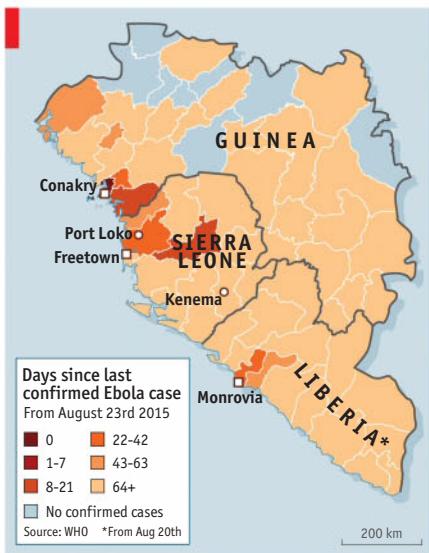
One reason for the south-west's success is that it is more isolated. (Traffic between the north-west and Freetown, the capital, is a lot heavier.) But subtler factors, including the influence of prominent locals, may deserve more credit.

It was in the east of Sierra Leone, near its border with Guinea, that Ebola first took hold in the country, in around April 2014. At Kenema Government Hospital, the biggest in the south-east, two respected doctors, Sheik Umar Khan and Mohamed Vandi, immediately sought ways to fight the disease. As personal doctors to Amara Vangahun, the paramount chief of Kenema town, they persuaded him to call an urgent meeting. The gathering included other paramount chiefs, imams, priests and political leaders such as the mayor. Under Dr Vandi's guidance the group passed 30 laws, for instance banning families from taking in visiting relatives who might be sick. For failing to report a guest, you could be fined or jailed.

At first the bell curve still swooped up



Time to hang up the gloves



Reform in Iraq

Good on paper

BAGHDAD

But the prime minister will find it hard to keep his fine promises

ON AUGUST 9th Iraq's prime minister announced reforms that ought to have pleased the thousands of Iraqis who have braved sizzling heat to protest this month. The demonstrators rage against dire and chronic power shortages, soaring unemployment and years of flagrant corruption. Haider al-Abadi's plan aimed not only to increase accountability but also to end the system of apportioning government jobs according to sect and party. Many Iraqis see such clientelism (which took root after America overthrew Saddam Hussein, Iraq's late despot, in 2003), as a primary source of the country's rot.

Mr Abadi has started to do what he promised. Three days after his announcement, he fired his cabinet secretary. So far, he has sacked a third of his ministers, abolished the posts of half a dozen vice-presidents and vice-premiers, and ordered a sharp reduction in the number of bodyguards who make Iraqi officials feel safe and important.

An unusually full-throated endorsement for reform from Iraq's most revered Shia religious figure, Ayatollah Ali al-Sistani, has helped to cow the prime minister's critics. And the release, on August 17th, of a damning parliamentary report has put Mr Abadi's most dangerous political rival on the back foot. It names the man he replaced as prime minister, Nuri al-Maliki, among 30 army officers and officials to be referred for possible prosecution for failing to prevent the sudden, humiliating fall of Mosul, Iraq's second city, to Islamic State fighters last year.

Yet the demonstrations have continued, with another big one planned in Baghdad on August 28th. However much Iraqis would be happy to see Mr Abadi curb their hated politicians' greed, few give the mild-mannered prime minister much chance of success. "His reforms threaten the interests of almost the entire political elite, who have made tens of billions of dollars skimming the system," says Ali Khedery, who advised successive American ambassadors in Baghdad and now runs a Dubai-based consultancy. "Reform must happen but because everyone is implicated it still requires a miracle."

Politically connected fat cats are only one obstacle. The rising power of Iranian-backed local militias represents another (despite the backing for Mr Abadi of Iraq's Shia religious establishment). Emboldened by the near-collapse of Iraq's regular



Protests in Lebanon

Talking trash

BEIRUT

Lebanon's citizens are also fed up with their do-nothing politicians

PEND enough time in almost any Lebanese home and you're likely to hear the phrase "wayn al dawlah (where is the state)?" It is a good question. Despite remaining relatively stable in a hugely troubled neighbourhood, Lebanon has few government institutions that work well. The last straw, for many, has been the piles of uncollected rubbish that have festered on the streets of Beirut throughout much of the scorching summer. Earlier this month, peaceful demonstrators started gathering in front of the Grand Serail, the fortress-like seat of government.

The peacefulness was short lived. Protests last weekend quickly turned chaotic, with Beirut's fancy downtown area engulfed in clouds of tear gas as rioters set fires and threw stones, and police fired rubber bullets and water cannons back. One man has died, and dozens have been injured. Before the smoke cleared, protesters from the "You Stink" campaign were blaming sectarian infiltrators, dispatched by politicians, for the violence.

Rage at the government's failure to collect rubbish was really only a pretext. For decades, Lebanon has endured daily electricity blackouts, forcing those who can afford it to pay extortionate fees to a so-called "generator mafia" (most of them linked to politicians) to get replacement power. Water is scarce in the sum-

mer, thanks to bad management. Internet speeds are among the slowest and costliest in the world. And bickering among rival groups has kept the country without a president since May last year (the prime minister is standing in for him). "The government barely makes any effort or even long-term plans to solve any of the issues," says Ramez Dagher, author of a Lebanese politics blog, Moulahazat.

The root of Lebanon's current mess is the sectarian constitutional foundation on which the country rests. Power is divided among Sunni and Shia Muslims, Christians and Druze. Enforcing policies on the ground are the *zaim*, local heavies loyal to their sect's political leaders, most of whom have been in power since the Lebanese civil war ended 25 years ago. After the shooting stopped, many militia leaders simply swapped their combat fatigues for business suits. Cronyism infects business and politics alike.

Concrete blast walls were erected on August 24th around the Grand Serail. Within hours they were covered in anti-state graffiti, and were dismantled the next day. The coming days will test the You Stink movement, as the politicians have in the past neutralised most protest by dividing the protesters along sectarian lines. For now though, many are hopeful. "As long as the root of the problem is still there," Mr Dagher says, "the people will keep protesting."

army last year, these militias, many of which look for spiritual guidance to Iran's Supreme Leader, Ayatollah Ali Khamenei, harbour bigger ambitions. "If the current reforms prove little more than window-dressing, they will mean the end of the political life of the prime minister and large portions of the political class," warns a recent report from the International Crisis Group, a think-tank. "In their place, militia

commanders would ride popular anger and military supremacy to power."

For the time being the Shia bigwigs, along with rival politicians of all stripes, have praised Mr Abadi's initiative. But since they know that the prime minister lacks the power to enforce many of his decisions, that may not last for long. Omnipotently Mr Maliki, the former leader whom many Iraqis blame for ignoring corruption ➤

► and entrenching sectarianism, has lately been cosying up to the militia leaders.

Already, there are whispers in Baghdad that some of the changes Mr Abadi seeks may be unconstitutional. Judicial appointees from Mr Maliki's time may block them. A further big problem is money. The collapse in the oil price has knocked the economy sideways. Last year Iraq earned some \$84 billion with an average oil price of \$91 per barrel. Export earnings for the first seven months of this year have crashed, leading to predictions of a budget deficit that could top 20%.

And this is quite aside from Iraq's dire security situation. Fixing the government in Baghdad would be a wonderful thing, but the sad truth is that it controls barely half of Iraq's territory. ■

Israeli politics

The left's Likudnik

JERUSALEM

President Reuven Rivlin is winning unexpected fans

HE MAY be a lifelong member of the Likud party, but Israel's president, Reuven Rivlin, is losing support among Israeli conservatives. On July 31st Jewish vigilantes killed two members of a Palestinian family, including an 18-month-old toddler, in an arson attack in the West Bank that was supposedly "revenge" for Palestinian home-building there. In a message published in both Hebrew and Arabic, Mr Rivlin wrote that "my people have chosen the path of terror and lost human form." For speaking out, he received a torrent of online abuse, and even death threats from some quarters. Daniella Weiss, leader of a settlers' group, tastefully quipped that "Rivlin can sleep quietly. He's not important enough to be killed."

But the president's focus on confronting racism has made him a surprising darling of the Israeli left. In interviews for his first anniversary in office at the end of July, Mr Rivlin attacked "those who believe that a Jewish-democratic state is a democracy for Jews only." By doing so, the president staked out distinct territory from that of his own party leader, Binyamin Netanyahu, the prime minister.

But though the president's statements are a welcome counter to a rising tide of hatred between Israel's communities, left-wingers and liberals might remind themselves that they are embracing a supporter of the settlements who has also said that "Zion is all ours. We must build in all the land of Israel." His popularity among the opposition is chiefly a function of the centre-left's failure to anoint a leader capable

Muslim dress in Egypt

Haughty about the hijab

CAIRO

Women campaign against places that ban the veil

NEARLY all women in Egypt, whose population is 90% Muslim, wear a veil. Some prefer a *hijab*, which covers the hair only; others a *niqab*, which leaves only a slit for the eyes; but few appear in public unveiled. So it would seem foolish for any Egyptian business to exclude covered women. Yet that is exactly what some fancy restaurants, pools and beach resorts are doing.

A manager at the Lemon Tree, a restaurant with three outlets, says the owners "do not think it is appropriate" for veiled women after 8pm. A Kempinski hotel in Cairo bans veils in the bar. The Steigenberger Golf Resort in Gouna, a beach town, makes veiled women swim in a separate pool.

Muhajabat, as women who wear the headscarf are called in Arabic, are now naming and shaming places on a Facebook page called "Hijab Racism". Some restaurants have rushed to clarify their policies. The only time we would turn anyone away is if we were full, wrote the owners of Lilly's, a café in Zamalek, a posh part of Cairo.

The veil was rare in the Middle East's cities and towns in the 1970s, but mass migration from the countryside—where it was often worn for traditional rather than religious reasons—made it more common. Several countries have attempted to regulate Muslim attire. Turkey banned traditional dress—for men—in the 1930s; the veil was later banned in public institutions. France and Belgium ban the full face covering. At the other end of the spectrum, in Saudi Arabia and Iran Islamic garb is compulsory for women.

Abdel-Fattah al-Sisi, Egypt's president, is a devout Muslim. But, like other Arab strongmen, he portrays himself as the alternative to Islamists. He has regulated

mosque sermons and is changing school textbooks. Earlier this month his education minister said he would prefer primary school girls not to wear the *hijab*. (Tunisia's president, Beji Caid Essebsi, wants to ban it.)

Mr Sisi doubtless thinks he is doing something popular. By some reckonings (there are no trustworthy statistics) Egyptian women started shedding the veil as a sign of resistance to the deeply unpopular Muslim Brotherhood, which ruled for just over a year after the fall of Hosni Mubarak in 2011.

Yet citizens generally don't like being told what to do. In 2013 Turkey's ruling AKP party decided to loosen restrictions. In 2011 Syria reversed a year-old ban on the *niqab* in universities. Egypt's government seems to be treading carefully. On August 3rd Khaled Abbas, the tourism minister, said the government will shut down establishments banning covered women. So far, though, he has done nothing.



Not always welcome

of challenging the four-term prime minister, Mr Netanyahu.

"There is a deep leadership vacuum on the left," says Tamar Zandberg, a Knesset member of the left-wing Meretz Party. "Rivlin is a right-winger, but also a democrat, a man who represents liberal values of equality. He has filled space just by doing what the leaders of the main parties on right and left are failing to do, saying what needs to be said about human rights and dignity."

Still, Mr Rivlin has no real alternative to offer. He dismisses the plausibility of a two-state solution, describing it as patronising to imagine that the Palestinians could

ever accept a solution where "one state is an invincible superpower and the other is sub-autonomous" in a recent interview. He doesn't think Israel should end its military occupation of the Palestinian territories. Instead he will only commit himself to a hazy notion of "confederacy" with Palestinians and Jordanians.

The role of Israel's president is anyway ambiguous. The title was invented by Israel's first prime minister, David Ben-Gurion, to honour, but also to sideline, the veteran Zionist leader Chaim Weizmann. "My handkerchief is the only thing I can stick my nose into," the powerless Weizmann later grumbled. ■



Also in this section

- 44 French security derailed**
- 44 South-eastern Europe's hopes**
- 45 Turkey's mighty president**
- 45 Greek elections again**
- Charlemagne is away**

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

Migration in Europe

Looking for a home

BRUSSELS, HELSINKI AND WARSAW

Asylum-seekers, economic migrants and residents of all stripes fret over their place

FINLAND, with its baffling language and culture of reserve, is not an easy place for outsiders to penetrate. For Nura Farah, the breakthrough came via the dissected brains of dead cows. Ms Farah, who arrived with her mother in 1993 as a teenager seeking asylum from Somalia's civil war, spent eight years dreaming of a better life in London while she was taunted at school and bore racist abuse on the streets. But in 2001, working as a lab technician in Helsinki, she found herself charged with testing cow tissue for bovine spongiform encephalopathy, or mad-cow disease. The work was fulfilling, her colleagues encouraging, and she moved on to bigger challenges. She took on Finnish citizenship, gave birth to a son and last year became the first Somali Finn to publish a novel.

Finland is a long way from the migrant trouble that has erupted across Europe this summer. But as a country with little history of immigration that has had to integrate an unfamiliar minority, its experience resonates. Most EU countries will soon start receiving asylum-seekers from Italy and Greece, the main entry-points for illegal migrants. Many residents, particularly in Europe's eastern half, resent this intrusion. Yet Europe's migrant crisis has seemingly outgrown national responses.

Not since the second world war has the continent faced refugee flows of such complexity and scale. Smugglers are exploiting

the political vacuum in Libya to transport Africans across the Mediterranean to Italy. Refugees from Syria's civil war clamber into rubber dinghies at Turkish ports to reach Greek islands. Then they traverse the continent by the thousand, causing havoc at borders and leaving officials to choose between haplessness and brutality. Migrants who have endured the savagery of the Islamic State or the caprice of Eritrea's police state find themselves tear-gassed by Macedonian police or evading the clutches of French security guards.

The raw numbers

Around 270,000 illegal migrants have reached Europe's shores so far this year, more than in the whole of 2014, itself a record year. These numbers should be manageable in a continent of 500m; but asylum-seekers' preferences for certain parts of Europe over others create pinch points at borders and tensions between governments. Some have resorted to security measures to keep migrants out; others speed their passage to the next state. What such responses share is a wish to pass the problem on. The current crisis is testing, and fracturing, that approach.

European Union officials in Brussels are searching for a common migration policy. Their first success, after 800 would-be migrants drowned off the Libyan coast in April, was to persuade Europe's leaders to

triple Operation Triton, a border-surveillance mission that operates south of Italy. Tens of thousands of migrants have been picked up since then; 4,400 on one day, August 22nd. After a shocking beginning to the year the death rate has plummeted.

But migrants are adjusting their routes. The big change this year is the number entering Greece via short sea hops from Turkey. Syrians in particular have been put off the Italian route by the chaos in Libya and the dangers of the sea. The Greek government, which has other things on its mind (see page 45), needs help processing the arrivals and wants many to settle elsewhere. In May the European Commission proposed relocating 40,000 asylum-seekers from Greece and Italy to other EU countries (Britain, Denmark and Ireland have opt-outs from such matters), with national quotas determined by a formula incorporating population, GDP, unemployment and previous asylum bids and resettlements. But opposition from eastern Europeans and Spain squashed the plan.

Instead, most countries have volunteered to accept a certain number of relocated asylum-seekers, amounting to 32,256 over the next two years; the EU hopes to reach 40,000 by the end of the year. As with the original plan, eligibility is limited to migrants arriving in Italy and Greece from mid-April who hail from countries with asylum acceptance rates in Europe of over 75%: for now that means Syria, Eritrea and perhaps Iraq. The programme may be operational in October, though logistical problems could delay the start in Greece. Less controversially, European countries, working with the UN refugee agency, will resettle 22,504 people from outside Europe who already have refugee status. Most will probably be Syrians currently languishing in Jordan, Lebanon and Turkey. ►

► These numbers are puny next to the scale of the problem: almost 50,000 asylum-seekers reached Greece in July alone. Some 4m Syrians have fled their homeland, not to mention the Sudanese, Somalis and others in camps in Africa who are also candidates for resettlement—or may decide to try their luck at the border. Yet by EU standards, this is progress: the Triton expansion and the relocation plan erode the notion that asylum-seekers are the sole responsibility of the country they reach first.

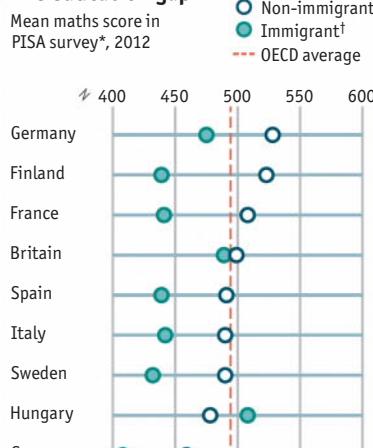
Europe has coped with emergencies before. The Yugoslav wars of the 1990s generated vast refugee flows that Germany and others were able to manage. After the Vietnam war France accepted around 100,000 boat people. Yet today many central and eastern European countries balk at calls to accept even a few hundred migrants. Some argue, plausibly, that new arrivals will simply up sticks as soon as they are relocated, exploiting the passport-free Schengen area to rejoin family in Sweden or find work in Germany. Poland's government, facing re-election in October, is torn between a Europe demanding solidarity and a sceptical electorate; 70% oppose taking in asylum-seekers from Africa or the Middle East.

Some have more atavistic concerns. Slovakia wants Christian refugees only. Hungary's prime minister, Viktor Orbán, portrays his country as a doughty defender of European values in the face of an invasion by people from "different civilisational roots" and the "intellectual derangement" of liberals who want to let them in. His government is building a fence along the border with Serbia to keep out the wretches traipsing up from Greece and Macedonia. Ban-the-burqa debates have sprung up in the three Baltic states (combined population 6.2m), which together will accept 725 refugees.

Many easterners fear that outsiders will bring with them unwelcome values and habits. Some look at crime-ridden French

The education gap

Mean maths score in PISA survey*, 2012



*Programme for International Student Assessment evaluating 15-year-old students worldwide †First or second generation

Source: OECD

banlieues or segregated Swedish cities like Malmö and see a future they wish to avoid. Finland shows how easily short-term refugees may become long-term residents. Thanks to family-reunification rules and the magnetic pull of the diaspora, there are now more than 16,000 Somalis in Finland, up from 49 in 1990, making them the country's third-largest minority, after Russians and Estonians. Somalis account for one-quarter of asylum applicants in Finland this year, but just 2% across Europe.

It may seem fanciful to imagine Syrians or Eritreans putting down roots in Poznań or Presov. (It may not happen, if enough asylum-seekers break the terms of their relocation and move on.) But no doubt something similar could have been said about Helsinki three decades ago. Overwhelmed by the "Somali shock" in the early 1990s, and in the midst of recession, Finnish authorities had to improvise. Instant responses, like building reception centres and crackdowns on overt racism,

gave way to integration policies such as language classes and measures to ease Somalis into the workforce.

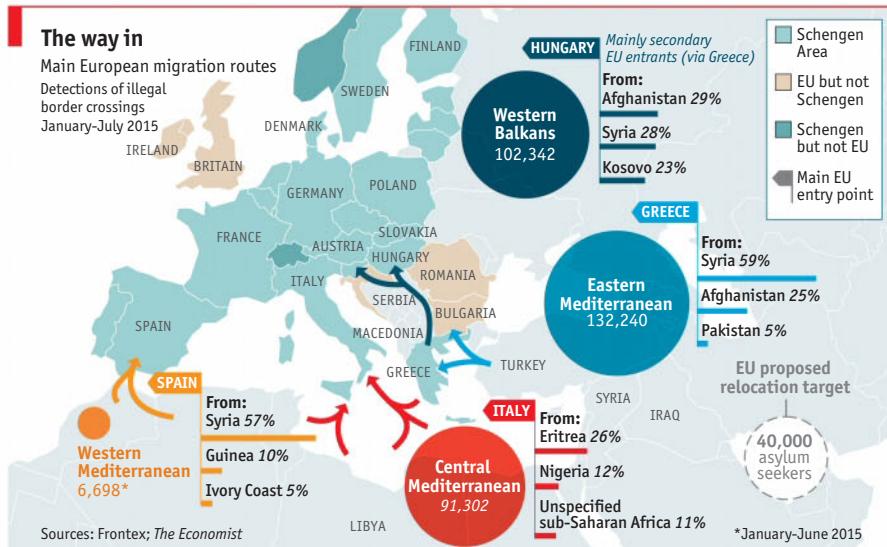
Today the picture is mixed. Somalis tend to appreciate Finland's peace and the freedom it affords their Muslim faith. Finland's enlightened social-housing policy, which aims to ensure mixed neighbourhoods, stops or at least slows the development of Sweden-style ethnic ghettos. But Finnish children with immigrant backgrounds struggle at school (see chart). In 2012, 38% of young Somali men in Helsinki were neither in work nor education. And Finnish identity has not, by and large, found space for the Somalis. Intermarriage is rare. Ambitious Somalis move abroad. When Finland's biggest newspaper included her novel in a list of books to watch, Ms Farah's delight quickly soured when she saw she had been described as Somali rather than Finnish.

Without much recent history of immigration to draw on, eastern European hosts will have to learn the lessons of integration quickly. The EU will pay countries €6,000 (\$6,900) per asylum-seeker. But language lessons must be organised and reception centres prepared. Schools have to make specific provisions for children, some of them traumatised, while helping them integrate with their peers. Citizens living near reception centres will need reassuring. NGOs must be mobilised. Perhaps most importantly, governments must ease the passage of adults into the workplace, the best motor of integration. This might mean tinkering with laws. All this takes planning and political will. "You need to start yesterday," says Annika Forsander, who ran Helsinki's integration office for seven years.

Yet few eastern European governments have an interest in seeing the experiment succeed. For if it does, Brussels will have a better chance of pushing through a mandatory relocation scheme; the commission plans to revive the idea, with a few tweaks, early next year. Why might the second plan succeed when the first flopped? Pressure from Germany, groaning under an expected 800,000 asylum claims this year, is one reason. Angela Merkel, the chancellor, describes the migrant crisis as "the next great European project". This week she teamed up with François Hollande, the French president, to urge action; a sure sign she wants to get something done.

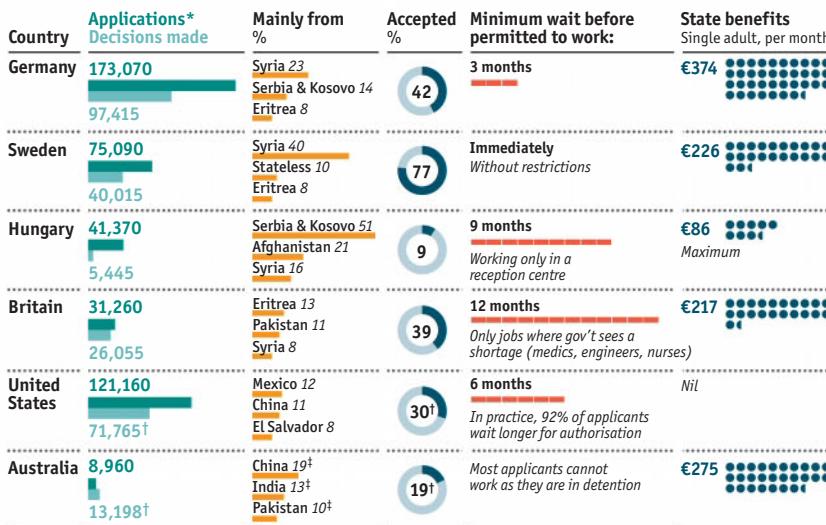
Logistically the Germans will cope with their migrants, thanks in part to an efficient domestic relocation plan that helped inspire the EU version. But the government frets about a political backlash; thugs have torched lots of refugee homes and the moans from regional officials are growing louder. The EU's relocation plan is presented as a way to relieve Italy and Greece, but it may also be an effort to reduce the burden on Germany and other ►

The way in



What to expect

Asylum processes, selected countries, 2014



Sources: UNHCR; government statistics; *The Economist*

*From UNHCR 2014 report

†From UNHCR Statistical Database †2012-13 figures

► popular destinations, such as Sweden and Austria. Further rows lie ahead.

The tough approaches some governments take to illegal immigration spring from a reasonable concern: they want to choose their migrants rather than the other way around. Economic migrants and asylum-seekers journey together. Often they are the same people—a Syrian refugee may wish both to avoid decapitation and to earn higher wages. (Still, nearly two-thirds of the migrants to reach Europe this year are from countries so dangerous that their nationals are usually granted asylum.) Security services must be alert to the possibility of terrorists exploiting well-trodden migration channels. Assembling fences, mobilising troops and dispatching drones is therefore tempting. Yet it sits awkwardly with Europeans' self-imposed obligation to offer protection to anyone with a well-grounded fear of persecution. And it often merely displaces the problem from one country to another.

Some officials speak of tackling the networks that enable migrants to make their epic journeys across deserts and mountains. The best hope, many argue, is to convince so-called "countries of origin" to crack down on smugglers. Yet ruthless as they may be, smugglers are meeting a demand, and plenty of transit countries enjoy the economic activity they bring.

As outsiders appear ever more desperate to enter Europe, its residents seem ever keener to keep them out. A recent Eurobarometer poll found immigration at the top of voters' concerns for the first time in the survey's 42-year history. Populist parties with anti-immigrant streaks are on the rise: last week the Sweden Democrats, a nationalist party with neo-Nazi roots, topped a poll in Sweden. It is hard to imag-

ine a policy that would play into the hands of such outfits better than a diktat from Brussels to accept more Muslim refugees. Last month Olli Immonen, a potty-mouthed Finnish MP, called on his countrymen to "defeat this nightmare called multiculturalism" (foreigners account for 5.9% of the Finnish population). Finland's Somalis say the climate has grown frosty.

To help secure the support of voters for more generous asylum rules, EU officials still have cards up their sleeves. Next year they will review the Dublin rule, which in theory obliges asylum-seekers to make their claims as soon as they enter Europe; in practice it is a shambles. The EU also promises to clamp down on Italian and Greek officials, who are supposed to register asylum-seekers on arrival but tend to nod most through. Another tool is to expe-



Desperation on all sides

dite the processing of asylum-seekers from peaceful countries, notably the Balkan states. This is a particular concern for Germany: this year it has received more than twice as many asylum-seekers from Albania, Kosovo, Macedonia and Serbia as from Syria. Almost all of their claims are rejected, but in the meantime they must be fed, housed and otherwise supported. Mr Hollande and Mrs Merkel have backed an EU plan for a common "safe country" list.

In the longer term, leaders will have to talk to their people about demography. Within ten years, according to Bruegel, an economic think-tank, Europe's labour force will start shrinking. Africa, meanwhile, is growing apace; by 2050, the UN projects that its population will be well over three times that of Europe, up from around 1.5 times as big today, and far younger. Europe could do with some sprightly immigrants to boost its tax base and pay for its growing army of pensioners.

Yet the scale of migration needed to tilt Europe's demographic curve is way beyond what voters might accept. Nor will skill gaps necessarily be met by arrivals from developing countries, however enterprising. Other ideas are thin on the ground. Guest-worker programmes have fallen out of fashion. The EU's "blue card" for highly skilled non-European migrants is a flop; bar Germany, European countries have stuck with their own labour-migration schemes. (The EU is promising a rethink.)

Hope nonetheless

That may be no bad thing: Europeans should compete for foreign talent rather than form a monopoly buyer. But the domestic politics are hard. Finland, which experienced a baby boom earlier than most other European countries, has an ageing and declining labour force. But the success of anti-immigrant politicians has diminished the prospect of importing labour. Still, politics can change as countries grow richer. Over the years Spain and Ireland have come to see themselves as countries of immigration rather than emigration. Germany may be inching closer to passing a comprehensive migration law that goes beyond the old guest-worker schemes.

Amid all the wrangling, one should not overlook the benefits to migrants, even if they emerge in unexpected ways. Fadumo Dayib, who arrived in Finland in 1990, speaks extremely warmly of her adopted nation, but to fulfil her ambitions she had to move on somewhere else. Having spent the past year studying at Harvard she is now planning to run for the presidency of Somalia. Even migrants who struggle to take on their adopted homeland's identity are surprised to find it suddenly materialise when they travel. A few years ago Ms Farah visited London but, confronted with its bustle and noise, found herself craving the quiet of her Helsinki suburb. ■

French security

Derailed

PARIS

A foiled train attack in France forces a rethink of how Europeans travel

A MAINLINE train station in France at the end of summer hums with the thrill of journeys taken and families reunited. The French travel more by high-speed rail than any other European nation. Trains in the French mind are about more than just efficiency and convenience: they are a symbol of national prowess. Which is why the thwarted attack on August 21st on a high-speed train bound for Paris has stirred up a particularly difficult debate.

The attempted assault took place when Ayoub El Khazzani, a 25-year-old Moroccan-born man, emerged from an on-board lavatory shirtless and armed with an automatic rifle, nine clips of bullets, a hand gun and a box-cutter. Thanks to the fortuitous presence and quick thinking of two off-duty American servicemen, who together with other passengers overpowered him, nobody was killed. François Hollande, the French president, said that the assault would otherwise have "degenerated into carnage". He awarded the *Légion d'honneur*, the country's highest honour, to six of those who intervened.

The French public prosecutor, François Molins, has opened a formal investigation into attempted murder in connection with a terrorist act. Mr El Khazzani claimed that he found the weapons in a park in Brussels, the Belgian capital, where he boarded the train, and that he meant only to rob passengers, not kill them. Mr Molins says he is a radical Islamist whose planned assault was "well targeted and premeditated". Shortly before loading his weapon, Mr Molins said, Mr Khazzani watched a jihadist video on his phone. He had recently returned from Turkey, a country often used by would-be jihadists as a route to Syria.

That the gunman was able to board a train with a bag loaded with heavy weaponry is not surprising. There are no security checks inside the EU's passport-free (or Schengen) zone. To board a Eurostar train from Paris to London, outside the Schengen area, requires lengthy baggage and passport checks. Not so when boarding a high-speed train—on a neighbouring but segregated platform of the same Paris station—to Belgium or the Netherlands.

Improving security without compromising convenience is tricky. Ever since deadly terrorist attacks in Paris eight months ago, French soldiers have patrolled stations, though not trains. European transport ministers will discuss how to improve security in October. Ségolène Royal,

France's ecology and transport minister, has called for metal detectors for railway travel, especially for trains that cross intra-EU borders. But this is highly unlikely. Guillaume Pépy, the head of the French railways, dismisses the idea of airport-style security on trains as unrealistic. There is 20 times more passenger traffic on trains than on planes in France. It is precisely the ease and efficiency of train travel that makes it such a cherished part of French life.

The foiled train attack also raises fresh questions about Schengen. Charles Michel, the Belgian prime minister, says the rules should undergo "adaptation". Spanish intelligence services had tipped off their French counterparts about Mr El Khazzani's suspected Islamist links, and the French had put him on a watch list. Nonetheless, he was able with his Spanish residency card to travel to a number of Schengen member countries, including in and out of France, without detection.

The European Commission insists that Schengen's rules are "not negotiable", although there remains some margin for improved policing and random checks while leaving internal borders open. "It's an illusion to imagine that we can inspect everything," says Jean-Charles Brisard, a French counter-terrorism consultant. "The real focus has to be on prevention and intelligence." France has already boosted its intelligence budget and tightened counter-terrorism laws. But co-operation within Europe remains uneven. European plans to share passenger records, for instance, urged by many after the Paris terrorist attacks, are still under negotiation. The problem is that terrorists adapt faster than the rules that are meant to thwart them. ■

South-eastern Europe

Knocking on heaven's door

PRISTINA AND TIRANA

Balkan laggards harbour new hopes of entering the EU

EVER since the end of the Balkan wars in 1999, the most important question in the region has been when and how to join the European Union. Slovenia made it in 2004 and Croatia followed in 2013. For the rest, however, the goal is still far off. The prospects of Albania, Bosnia, Kosovo, Macedonia, Montenegro and Serbia—all at different stages of EU integration—have appeared stuck for some time.

But recent months brought progress, mostly unnoticed in the rest of crisis-ridden Europe. On August 25th Kosovo and Serbia signed several EU-aided agreements, including one giving Kosovo's Serb-



Ready to launch

dominated municipalities more rights. The EU also mediated an agreement leading to new elections in Macedonia, where a political crisis had come to boiling point. An unworkable EU policy blocking Bosnia's advancement was abandoned.

The single biggest change, says Remzi Lani, an Albanian analyst, is that western Balkan leaders now take their cue from Berlin, not Brussels. "It is the German moment," he says. The shift was on display at a regional summit in Vienna on August 27th. Heads of government met as part of what has become known as the "Berlin process", spearheaded by Angela Merkel, Germany's chancellor, who visited Albania, Bosnia and Serbia in July.

This time round German diplomats are playing an even bigger role. The European Commission does nothing in the Balkans now, says one senior diplomat, "without a green light from Germany". Another big player has also discreetly returned to the game. America, which after 1999 gradually disappeared from the Balkans, is now far more active again, often helping the EU with timely diplomatic shoves. American officials played a leading role in pressing Kosovo to pass a law on August 3rd to create an EU-backed war-crimes court. They also helped to secure a deal to end the Macedonian crisis in July.

There are several reasons why the Balkans are attracting more attention in Western capitals. Corruption, nationalism and extremism are all on the rise. Some Muslims are going to Syria to fight for the Islamic State. Sympathy for Russia is rising in some countries. Serbia's plans to take part in Russian military exercises earned it sharp public rebukes from farther west. Bećim Collaku, Kosovo's minister for EU integration, says: "From a strategic point of view the EU needs to accelerate the process." Enlargement may be unpopular in many member states, but the cost of delay is rising. ■

Turkish politics

The gambler

ISTANBUL

The president rolls the dice by calling new elections

WHEN he became Turkey's first popularly elected head of state last year, Recep Tayyip Erdogan vowed to be no "ordinary president". Departing from political tradition once more, he has now called early elections for the first time in the country's modern history after his Justice and Development party (AK) lost its 12-year majority in parliament on June 7th and failed to form a coalition government.

The setback has not dented Mr Erdogan's oft-voiced determination to create a powerful executive presidency. It may even have made a return to the polls more attractive, showing him firmly in charge. "Agree or not, Turkey's regime has de facto changed," he said on August 14th, implying that a rewriting of the constitution that he has long sought may be unnecessary. Proving his point, Mr Erdogan has stretched the boundaries of his supposedly non-partisan role. He refused to give the opposition leader, Kemal Kılıçdaroğlu of the Republican People's Party (CHP), the chance to form a government, triggering allegations of staging "a civilian coup".

Returning to the polls is a gamble, however. Mr Erdogan appears convinced that voters, having directed a warning shot at his party at the recent polls, will return it to power. But pollsters see little evidence of that. For the time being, Ahmet Davutoglu, the prime minister, has been asked to form an interim unity government. Most of the opposition has refused to join, with the exception of the main pro-Kurdish People's Democratic Party (HDP).

The situation is complicated by clashes in Kurdish areas in the country's south-east between regional independence fighters and the armed forces, which have claimed hundreds of lives. Several municipalities have declared self-rule and elected mayors have been remanded in custody. The authorities have imposed curfews in towns where military operations are under way and more than 100 areas have been designated "temporary military zones".

Funerals of soldiers have become a daily feature on television and emotions are running high. While AK is aiming to drive up nationalist votes, some bereaved relatives have turned against it. "Why are those who earlier talked of a peace settlement now saying war to the end?" shouted a grief-stricken lieutenant-colonel while burying his younger brother.

The situation in neighbouring Syria is another source of volatility. Turkey has

opened its airbases to American aircraft targeting Islamic State fighters and started its own bombing campaign. A backlash of some kind is likely. At the same time, the economy, once a pillar of AK's popularity, is stagnating. The Turkish lira has plummeted and Mehmet Simsek, the finance minister, says that "Turkey's gains of the past 12-13 years are currently at risk."

Mr Erdogan believes turbulence will encourage Turks to vote for security and certainty. "Chaos prevails in this country because there is no presidential system," one minister asserted. But the president's oversized ambitions and his interference in the process of forming a government irk many voters. So too does a sense that corruption is getting worse. When Turks vote again on November 1st they will have a chance to show whom they hold responsible for their woes. ■

Greek elections

And another one

ATHENS

Having invented democracy, Greeks seemingly cannot get enough of voting

WHEN in doubt, call an election, goes a Greek political adage. It is as valid as ever. After only seven months in power, Alexis Tsipras, the prime minister, resigned on August 20th with the intention of winning a new mandate. The move followed a revolt by hardline legislators in his left-wing Syriza party over austerity measures, wiping out Mr Tsipras's majority in parliament. Greeks will vote for the sixth time in eight years on September 20th or 27th.

It makes political sense for Mr Tsipras to seek a new mandate right away rather than try to limp on. Austerity measures im-



Melina Mercouri liked doing it

posed by European creditors will start to bite in October, after which governing may become even trickier.

The creditors have mostly supported the return to the polls even if it increases short-term uncertainty. In any case, they intend to drip-feed aid only when the measures Mr Tsipras signed up to have been implemented.

The most recent opinion polls show Syriza leading the centre-right New Democracy party by 24% to 22%, an unexpectedly narrow margin; some 15% of voters are undecided. Polls conducted before the austerity package was agreed put Syriza at 33-35%, close to the 36.3% it won at elections in January.

Syriza's rebel faction, led by Panagiotis Lafazanis, once a senior official in the Greek communist party and until recently Mr Tsipras's energy minister, quickly transformed itself into a new political party named Popular Unity. It includes 25 MPs from the outgoing parliament and will probably pull in at least one-third of the members of Syriza's 200-strong central committee, say party insiders.

Mr Lafazanis will campaign for an exit from the euro and the reintroduction of the drachma. Some 25% of Greeks favour such a move, claim Popular Unity officials. The recent poll puts support for Popular Unity at 4.5%. Yanis Varoufakis, the outspoken former finance minister turned international anti-austerity guru, has declined to join the party.

Mr Tsipras is hoping that the brevity of the campaign will favour him. The opposition is incoherent, and thanks to a quirk of Greek law governing elections held within 12 months of the previous one, he as his party's leader gets to choose all its candidates. Two months of capital controls, which restrict daily cash withdrawals to €60, and a stagnating economy have not destroyed Mr Tsipras's personal appeal. Even though he could not escape austerity measures, "he put up a terrific fight against the Germans in the negotiations [and] that made people feel better," says Aristides Feinios, a garage owner. Most analysts, though, think that Syriza will fall short of an overall majority (it won 149 out of 300 parliamentary seats in January), forcing it into a coalition.

Greece's reward for adhering to the new creditor-imposed programme, say officials, will be access to billions of euros in the new funds, a carrot offered by the European Commission which may help speed a return to sustained economic growth from 2016. Greece would also be eligible for additional funds from the European Central Bank's quantitative-easing fund to stimulate growth, which Ireland and Portugal have already qualified for after successfully completing their own bail-out programmes. But weary Greeks will have to put up with more voting first. ■



Public services

Pay-as-you-go government

From divorces to corpses, cash-strapped government departments are finding unusual new sources of revenue

IN A court in Highbury, north London, a resigned-looking 59-year-old with a thick beard and alcohol on his breath pleads guilty to assault. The judge hands down a fine of £65 (\$100), but waives the offender's obligation to contribute to prosecution costs: his weekly disposable income is just £40 in welfare payments, after he pays the rent in the supervised hostel where he lives. But the judge has no discretion over a "criminal courts surcharge" of £150, an innovation introduced in April. Had the man pleaded not guilty and then been convicted, the charge would have risen to £520, or £1,000 had the crime been a more serious offence. The Ministry of Justice expects the new charge to bring in up to £85m a year.

Strapped for funds, central government departments and local councils are scrabbling to find new ways to balance their books. Ministries outside the departments for health and education have seen their budgets cut by an average of nearly one-quarter since 2010-11. Local councils have seen 37% of their central government funding disappear. And that is just the beginning: departments have been asked to find further savings of up to 40%, as part of a spending review due in November.

To plug the funding gap, departments are digging into the pockets of their customers. The Home Office, which will receive £1 billion less from the Treasury this year than last, is planning to make money from immigrants. It costs the Home Office around £600 to issue a visa for settling a

dependant, but it now charges £2,141 for the service. A recent round of increases in visa fees is expected to earn the department a handy additional £90m a year. Since April, immigrants from outside Europe have also had to pay a new £200 "NHS surcharge", regardless of whether they end up using the National Health Service.

The Ministry of Justice, which has seen its budget cut by 34% in real terms since 2010-11, has been particularly enterprising. As well as the criminal courts surcharge, it has introduced a £250 fee for taking a case to an employment tribunal, rising to £950 if the claim proceeds to a hearing. In July the government announced it was considering plans to cover as much as one-quarter of the cost of running some tribunal courts with fees levied on the courts' users. It has also raised charges for services such as getting divorced (which went up to £550, from £410) and evicting a tenant (now £355, up from £280).

Local councils have been similarly innovative in their charges. Getting old is getting expensive: councils squeezed 4.4% more in fees out of social-care users over the four years from 2009-10. Even dying isn't cheap: income from cemetery, cremation and mortuary services went up by 11.4% in the same period, according to the Institute for Fiscal Studies, a think-tank. Eight out of ten local authorities expect to raise charges further. Fees for services such as green waste collection are creeping in; hours of free parking are shortening; lei-

Also in this section

47 The BBC's weather forecasting

47 Murder and politics in Belfast

48 Bagehot: The statecraft of Davela Merkeron

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

sure centres are getting more expensive.

Charges can be an efficient way of rationing public services. London's congestion charge, an £11.50 levy on cars entering the city centre, prevents its streets from getting clogged. Parking charges force people to vacate sought-after spaces. After Newcastle introduced a small fee for its municipal rat-catching service in 2014, the number of call-outs dropped by 35%, which the council put down to residents dealing with the problem themselves by "clearing out their sheds" (others say there are simply more rats about). Local authorities rightly balk at cutting spending on social services while subsidising bars' licensing applications to the tune of £170m a year.

Taxing decisions

But some of the so-called charges are much more like taxes. Technocrats at the Office for National Statistics classify a charge as a payment related to the use, and cost, of a service. If a charge is above cost, or separate from the person's use of a service, then it is a tax. That leaves the Home Office's pricey visas and NHS surcharge looking uncomfortably tax-like.

The distinction matters. Voters get more exercised by taxes, which tend to be announced in the annual budget, whereas new charges slip through departmental bills without the same fiscal fanfare. Diplomats are exempt from taxes, but not from charges. This has led to an amusing squabble over the London congestion charge: the city says that foreign embassies owe it £90m in fees and fines over the charge—which the embassies insist is a tax (in 2006 the American ambassador was branded a "chiselling little crook" over his refusal to pay by the then-mayor, Ken Livingstone).

The court fees have sparked concerns about access to justice. In June the government launched a review into charges for employment tribunals, after figures ➤

► showed that the number of sex-discrimination cases fell by 83% after the charges were introduced in 2013. So far there has been no drastic improvement in the success rates of such cases, suggesting that the fees are putting off genuine victims rather than merely time-wasters. Officials say cases can take several years to resolve, so an improvement may yet emerge.

The criminal courts charge has infuriated lawyers. "In criminal cases, no defendant is ever a volunteer...people don't receive a service—they are forced to be here," says Robert Kain, a defence lawyer. More than 30 magistrates have resigned over the new charge. The Magistrates Association says its members report that more defendants are pleading guilty, to avoid the higher fees. The charge could even be self-defeating, if missed payments bung up the courts—not unlikely, given that many offenders are poor and chaotic.

Back in Highbury, the convict is ordered to pay his charges in fortnightly instalments of £10, to which he nods quiet assent. Missing them could mean further appearances—and, perhaps, further income for the government. ■

Weather forecasting and the BBC

Turned out not so nice

The end of a special relationship

SOME partnerships are regarded as so sacrosanct that they are expected to survive hurricanes, tsunamis and other acts of God. And so it was with two venerable British institutions—the BBC and the national meteorological office. The Met Office, founded in 1854, has provided every forecast on the Beeb since the first one in 1922, giving British people the information they need each day to avoid talking about anything meaningful with people of other social classes.

But on August 23rd the BBC announced that the Met Office had not made it to the final round of the tendering process to provide forecasts from next year. Reports suggest the finalists are a Dutch and a New Zealand company.

The BBC says it is "legally required to go through an open tender process" to secure the best value for money for its licence fee, the tax levied on television owners to fund it. "This is disappointing news," said Steve Noyes of the Met Office, with understatement.

Experts were less restrained. "It's terrible news. The Met Office predictions are among the most accurate in the world," says Grant Allen of the University of Manchester, alluding to one of the great mysteries of world meteorology; how the Met Office of a country famed

Murder and politics in Northern Ireland

The consequences of a killing

BELFAST

The murder of a former IRA man causes political tremors

NORTHERN IRELAND'S peace process, which has for more than a year been stumbling uncertainly along, was dealt a destabilising blow on August 26th when a unionist party signalled its imminent withdrawal from the region's power-sharing executive. The Ulster Unionist Party announced that it intended to pull out of office following a gangland murder in Belfast. Should other parties follow, Northern Ireland's fragile devolved government could collapse.

The trigger for the upset was the back-streets killing on August 12th of Kevin McGuigan, a former member of the IRA, which disbanded in 2005. Police say that members of the IRA were involved in the murder, though there is no evidence the

killing was sanctioned at senior levels. George Hamilton, Northern Ireland's chief policeman, said the IRA remained in existence, but that it had radically changed: "It is our assessment that [the IRA] is committed to following a political path and is no longer engaged in terrorism," he said.

Nonetheless, the Ulster Unionists' leader, Mike Nesbitt, said the confirmation that the IRA was still around had shattered his party's trust in Sinn Fein, the one-time political wing of the IRA with whom it now shares office.

The Ulster Unionists' proposed exit presents a serious test for the administration, which for nearly a year has been bogged down in disagreement over welfare reform. Relations between the two parties which dominate the executive, Sinn Fein and the Democratic Unionists, have degenerated into ill-tempered public spats.

Many locals see the power-sharing government as an inefficient talking-shop for overpaid politicians. But its collapse would cause alarm in London and Dublin, where both national governments invested decades of effort in constructing an assembly which they hoped would underpin the peace process with political foundations.

Theresa Villiers, Britain's secretary for Northern Ireland, attempted to play down the continued existence of the IRA. "There is no evidence it's involved in terrorism or paramilitary activity," she said, following the murder. Although most would like the IRA to disband completely rather than lurk in the wings, the judicious application of constructive ambiguity has helped to keep the peace process afloat.

The Ulster Unionists lack the power to bring down Northern Ireland's government on their own, since they head just one of its 13 departments. But their walkout will put pressure on the Democratic Unionists, the largest party in the government, to follow suit.

Peter Robinson, the Democratic Unionists' leader and Northern Ireland's first minister, will seek to regain the political initiative by stressing that he too is concerned about the IRA's continued existence, though the police believe it represents little threat to the peace process.

A complicating factor is that the two unionist parties, which have been bitter rivals for decades, will be contesting elections in May next year. This led Martin McGuinness of Sinn Fein, a former IRA commander who is now Mr Robinson's deputy first minister, to claim that the Ulster Unionists' walkout was "more about inter-unionist rivalry than...feigned concern about our unequivocal commitment to peace". Whatever the motivation for the Ulster Unionists' exit, politicians in London and Dublin will be anxious to persuade other parties not to follow them out of the door. ■



No silver linings

Bagehot | The statecraft of Davela Merkeron

What Angela Merkel teaches David Cameron about political hegemony



WHILE wandering in the Peloponnesian countryside, Philopoemen, an Achaean general, would gesture to folds in the landscape and ask his friends: "If the enemy should be upon that hill, and we should find ourselves here with our army, with whom would be the advantage?" Machiavelli cites this in "The Prince", his treatise on power, to support his argument that a leader should remain on a war footing during peacetime. Without acting as if an enemy is always over the next hill, he argues, the prince will lose the discipline and loyalty of his sergeants and people. He will lose his edge.

Bagehot commends the example to David Cameron, whose Conservative party is without significant external foe. On August 25th a poll by ComRes put it on 42%, its best result since 2010. The Labour Party is tearing itself apart and will imminently make Jeremy Corbyn, an unelectable albatross, its leader. Even the right-populists of UKIP are mired in infighting. For the first time in his decade-old leadership of the Tories, Mr Cameron is experiencing something that only two other recent prime ministers (Margaret Thatcher and Tony Blair) have known: hegemony.

Yet political dominance is not without its hazards. Winning it could be to the Tories what winning the lottery is to those poor souls who end up divorced and miserable; leaving the party divided and Mr Cameron ineffectual. Like sudden money, sudden power begets squabbles about how it should be used: Eurosceptic MPs are already planning to hijack the upcoming Conservative conference with whining about Mr Cameron's renegotiation of Britain's EU membership. It also attracts pretenders: the prime minister's rivals are circling, some flirting with disloyalty in their bids to woo party members (Boris Johnson, London's mayor, may yet back an "out" vote in the EU referendum). And it makes MPs relaxed about disunity: many plan to rebel in forthcoming votes on military action, data protection and devolution. The prime minister's post-election honeymoon is about to end.

What to do? Bagehot submits that Mr Cameron should follow the example of Angela Merkel. His circumstances, it is true, are other than those of the German chancellor. He is a Cavalier in an adversarial parliamentary system; Mrs Merkel is a Roundhead in a federal, consensus-based one. Yet she knows how to manage a party that is riding high (in polls, her CDU has long hovered

around the 42% mark that the Tories have only now reached); how to govern with no powerful rivals; how to preserve, deploy and enhance a hard-won political hegemony. Her formula echoes Machiavelli's maxim of 500 years ago (and Philopoemen's actions of two millennia earlier): always imagine that your enemy is cresting the nearest hill; always act as if you are days from a narrow election. This *Machtkalkül*—her constant, careful calibration of political risks and assets—has several aspects.

Merkieavelli's method

A fundamental one is her close relationship with the public. Mrs Merkel obsesses about the views of her voters—reportedly commissioning over 600 opinion polls between 2009 and 2013—and treats these as revealed truth. She communicates directly with them through television addresses, press conferences, a weekly podcast and, recently, a national tour to discuss the quality of life in Germany. "There is a Merkel majority, but not a CDU majority," explains one bigwig in the SPD, her bedraggled coalition partner. But Mr Cameron, though much more popular than his party, is curiously shy. By replicating the German chancellor's confident self-promotion and hair-trigger interest in the public mood, he could perhaps achieve her ability to defeat parliamentary rebellions through sheer popularity. As part of this strategy he might rehire Lynton Crosby, the Australian pollster and big-data strategist who helped win the election for the Tories.

Central to her obsession with owning the political centre ground is Mrs Merkel's pragmatism about policy. She quickly junks unpopular measures (like support for nuclear power) and steals popular ideas from the centre-left (like a minimum wage and rent controls). To be fair, Mr Cameron is already doing this. He talks about being a "one nation" prime minister and recently adopted electorally popular Labour policies like a "living wage" and a crackdown on tax dodging. But he could go further: outflanking Labour on house-building and rights to paternity leave, for example, or even persuading disgruntled Blairites to cross the floor once Mr Corbyn is enthroned.

Mrs Merkel's fiercely guarded tenancy on the political centre is also about process. She consistently opts for consensus, incrementalism and—when all else fails—the dictum that an unpopular choice is "alternativeless". Mr Cameron, meanwhile, is prone to last-minute fixes and can be both imperious and impetuous. That must stop. He could help settle the EU question by framing his renegotiation not as merely a six-month dash to repatriate powers but instead as a decade-long process to reshape the union. The sometimes-aloof prime minister could also emulate Mrs Merkel's use of a gang of close parliamentary outriders (known as her "Boygroup") to woo, cajole and smooth-over legislative differences. In his battles over the expansion of Heathrow airport and intervention in Syria this could make the difference between success and ignominious defeat.

The question is: can Mr Cameron do it? Copying Mrs Merkel would mean changing his hands-off style of leadership. Hers may look stately and calm, but it entails a frantic, constant calculation and recalculation of risk and reward. By contrast it is hard to imagine the prime minister spending a House of Commons debate glued to the flow of intelligence and data on his phone, or wooing his praetorian guard of MPs. But he should make the effort. Because if he does not, many in his party will run amok. And one day—sooner or later—a revived opposition, electable and ambitious, will appear over the crest of that hill. Better be ready. ■



Luxury tourism

A place to lay your bread

The way that the rich travel is changing

AT THE Burj Al Arab hotel in Dubai, one of the world's most luxurious (pictured above), guests can avail themselves of 24-carat gold iPads and caviar facials. The cheapest rooms cost \$1,000 a night; those interested in the royal suite can expect to pay nearer \$25,000. Such ostentation is not to everyone's taste. But it illustrates a trend: the way that the rich spend their money is changing.

Once, the well-heeled bought fancy stuff. Nowadays they spend more on things to do and see. A report last year by the Boston Consulting Group (BCG) found that of the \$1.8 trillion spent on luxury goods and services worldwide in 2012, nearly \$1 trillion went on "luxury experiences". Travel and hotels accounted for around half that figure.

This partly reflects the growing weight of rich folk from developing countries. Wealthy Chinese spend 20 days a year travelling for leisure, according to ILMT, a travel agency. The most popular destination was Australia, and nearly half made it as far as Europe. On average, affluent Americans went on holiday 3.9 times in 2014, says Resonance, a consultancy, up from 3 times in 2012. Around half travelled more than 1,000 miles (1,600km) for their most recent trip. They favoured Europe, especially Italy, Britain and France.

Antonio Achille of BCG says luxury consumers have distinct spending styles, depending on how old they are and

whether they were born rich or became so later. The young and the recently affluent tend to buy visibly costly items that will impress their peers. Soft Living Places, an Italian luxury hotelier, recently filmed an advert to educate newly rich Russian tourists. It offered such advice as "don't show off by ordering the most expensive bottle of wine on the list." By contrast, the longer someone has been rich, the more likely he is to value quality over ostentation.

When they travel, rich 20-somethings are drawn toward gregarious pleasures that can be shared on social media to make their friends jealous. But plenty also view holidays as a time to learn something and broaden their cultural horizons, says Chris Fair of Resonance. Though older travellers to India still frequent the Taj or Oberoi hotels, younger ones are more likely to plump for a homeshare—albeit a posh one. The established wealthy spend relatively more on travelling to five-star hotels.

Tapping into this more traditional market is not easy: in some respects, the luxury-hotel business has become commoditised. As the standard at the best establishments has risen, high-paying guests have come to expect a level of service that is ever harder to exceed. "There is only so much caviar and champagne you can throw at them," says Milton Pedraza of the Luxury Institute, a consultancy. Opulent bathrooms, world-renowned chefs and state-of-the-art technology are now the norm at

Also in this section

50 Sustainable tourism

the poshest hotels.

So differentiation must come from more personalised service. Value is added by "being generous in small ways", says Frank Marrenbach, the chief executive of the Oetker Collection, a luxury-hotel group. Attentive service means remembering customers' every preference, either because they have visited before or because the hotel has gathered data from previous trips elsewhere. Equally important is knowing when to step back, says Mr Marrenbach, because for rich guests downtime is also a luxury. At Villa Stephanie, a spa the group runs in Germany, guests can flick a switch in their rooms that blocks all wireless signals to their phones and computers. (Fortunately for paupers who stay in cheaper joints, many of these devices already come with a handy off-switch.)

The established rich, because they own so much stuff, place a high value on doing or feeling something new. According to BCG, they claim to gain three times the emotional reward from an experience, compared with owning something with the same price tag. For luxury-travel retailers, this means that selling fancy add-ons to trips is one of the most lucrative parts of the trade.

Abercrombie & Kent, an upmarket travel agency, for example, arranged for its guests in Egypt to view Queen Nefertari's tomb, even though its doors had been sealed to the public for decades. In Moscow its clients can attend a private opening of the Kremlin grounds and have lunch ►

Journalist wanted: The Economist is looking for a journalist to write about global public policy, based in London but travelling everywhere. First-rate analytical and writing skills essential; sense of humour a plus. Salary negotiable. Applicants should send a CV and an original 600-word article on any subject, written in the style of *The Economist*, to econjob@economist.com by September 4th. For more details, see <http://www.economist.com/publicpolicyjob>

► with an ex-KGB agent who worked as a spy in London during the cold war. Even when shopping, the experience can matter as much as the acquisition. For some it is important not just to own a Burberry raincoat but also to have bought it from the brand's flagship London store.

The biggest concern of rich travellers, according to Resonance, is safety. As crime levels have fallen in cities such as London and New York, they have become more appealing to affluent visitors. Metropolitan travel is now as popular as traditional "drop-and-flop" resorts with well-off Americans, says Resonance. Hotels and tour operators catering to the rich must be able to prove their security credentials. Abercrombie & Kent owns its own "destination management companies" in many African and Asian countries, which can respond quickly to problems, including by evacuating guests caught up in Nepal's recent earthquake.

For the very richest travellers, there is another consideration. Many will go to extraordinary lengths to make far-flung destinations feel like home. Kevin Johnson has worked as a chief-of-staff and palace manager for several billionaires. Some of his employers would even take their favourite bed on their travels, he says. When arranging a holiday on a remote island, his bosses also insisted on their own IT infrastructure, often sending someone ahead to install it. This was partly to ensure security, he says, but also to be sure they could watch their favourite television channels. For the traveller who has everything, the familiar can be the biggest luxury of all. ■

Responsible holiday-making

Travelling light

The paradox of sustainable tourism

A TOURIST flying economy class from Britain to Kenya and back generates around a tonne of carbon emissions, according to the International Civil Aviation Organisation. No matter how many times he reuses his towels or sits on a composting toilet when he is there, he could never hope to offset the burning of all that jet fuel. Does that mean the very notion of "sustainable tourism" is an oxymoron?

The phrase has three possible meanings. The first is ecological. Given the contribution that transport, especially by air, makes to global warming, on this definition it is almost guaranteed to fall short. The only truly sustainable holiday would be camping in the back garden eating berries, says Harald Zeiss of the Institute for



10,000 airmiles away from home

Sustainable Tourism at Harz University in Germany. The second is social. Ideally, when cultures meet and gain in mutual understanding the long-term benefits will be intangible, but real. The final one is economic. Tourists who step off the beaten track have a chance to help lift the poor out of poverty and encourage them to preserve their environments for financial gain. The question is how much weight to give to each.

According to the World Tourism Organisation (UNWTO), a UN agency, 1.1 billion international trips were made in 2014, a 4.4% increase on the year before. As popular destinations become overcrowded, more people seek places that remain comparatively unspoilt. But pristine wildernesses don't stay pristine for long once they are on the holiday trail. The paradox of sustainable tourism is that it can be "both a destroyer of nature and an agent for its conservation", notes Andrew Holden of Bedfordshire University in Britain.

Keeping resorts small, and perhaps even temporary, can help resolve that paradox in favour of conservation. Maurice Phillips and Geri Mitchell opened Sandele, an eco-resort, in Gambia in 2008. Locals are too often persuaded to sell their land to developers for less than it is worth, says Mr Phillips, and villages can vanish once the hotels go up. Instead, he leased the land for Sandele from villagers, and employs them in the resort. When the lease runs out in 20 years' time the property will revert to locals, who should by then have the skills to manage it. The pair also run courses for locals, including on how to make "rocket stoves" that require very little wood for fuel, thereby reducing deforestation.

Those on larger-scale eco-tourism pack-

ages may be doing good in other ways. Concentrating large numbers of visitors in a single location increases their local impact—which can be for the better. If a resort buys local food, says Mr Zeiss, or invests in renewable-energy generation that can be used by those who live nearby, then the surrounding area can receive a boost.

But hotels must seek ways to mitigate their negative effects. Though signs suggesting that guests can help "save the planet" by re-using their towels overstate the case, water-guzzling is one of the biggest evils of mass tourism. An analysis by Thomas Cook, a large holiday firm, suggests that on average each tourist around the world accounts for around 350 litres of water per day by showering, using the swimming pool and the like—which rises to 6,000 litres when indirect use such as food production is added. In Greece, for example, each tourist directly uses around three-fifths more water than a local. Being more frugal with water can boost firms' profits. TUI, another big travel company, says it saved €2.2m (\$2.5m) in 2014 by cutting energy and water use at 43 of its hotels.

But often it is the guests themselves who kick against energy-saving initiatives. To stop patrons leaving lights and air-conditioning on when they are out, many hotels have keycards that control the electrics in rooms. Yet some report that guests override the system by inserting a business card into the control slot before heading out, rather than wait to recharge portable devices or put up with a stuffy room for a few minutes on their return.

Overall, the benefits of sustainable tourism outweigh the harms, thinks Dirk Glaesser of the UNWTO. Mr Zeiss argues that the most unnecessary flights are taken not by tourists but by businessfolk who fly abroad for a toe-touch meeting that could easily have been replaced by a video-call, and then fly home the same day. Perhaps. But it is unclear how many such trips actually occur. Executives already have an incentive to avoid unnecessary business travel—it is less fun than the frivolous sort. ■

A green-fly problem

Kg of CO₂ equivalent



Sources: "How bad are bananas? The carbon footprint of everything" by Mike Berners-Lee; ICAO; *The Economist*

*Assuming 6 towels per washing load, line-dried



Marketing in the digital age

A brand new game

SAN FRANCISCO

As people spend more time on social media, advertisers are following them

EARLIER this year BMW advertised on WeChat, a popular messaging app in China with around 550m monthly users. But its ads were shown only to those whose profiles suggested they were potential buyers of expensive cars. Others were shown ads for more affordable stuff, such as smartphones. The campaign bruised a few egos. Some of those not shown the BMW ad complained, referring to themselves as *diao*, or (putting it politely) losers.

The carmaker's experience shows the complexities of advertising today, when it is so easy for dissatisfied customers to make their voices heard. But it was also an

example of how marketing chiefs are struggling to find the right way to reach consumers on new digital platforms, where they are spending ever more of their time.

Not long ago social-media marketing was something that brand managers might ask their summer interns to deal with. Today it has become a pillar of the advertising industry. Social networks like Facebook, Twitter and LinkedIn have cultivated vast audiences: 2 billion people worldwide use them, says eMarketer, a research firm. Online advertising of all sorts continues to grow, and within that category, spending on social-media ads has gone from virtually nothing a few years ago to perhaps \$20 billion this year (see charts).

Advertisers like social-media platforms because they gather all sorts of data on each user's age, consumption patterns, interests and so on. This means ads can be aimed at them with an accuracy that is unthinkable with analogue media. For example, Chevrolet, an American car brand, has sent ads to the Facebook pages and Twitter feeds of people who had expressed an interest in, or signed up to test-drive, a competitor's vehicle.

Such fine-tuned targeting means that the distinction between advertising and e-commerce is becoming blurred. Facebook, Twitter, Instagram and other platforms are selling ads containing "buy now" buttons, which let users complete a sale on the spot.

Also in this section

52 Monetising Snapchat

53 Mergers among agricultural suppliers

53 Taxing multinationals

54 Croissantomics

55 Schumpeter: Manage like a spymaster

For daily coverage of business, visit
Economist.com/business-finance

It is too early to tell how many consumers want such a convenience, but the social platforms foresee a future in which they get paid by advertisers to provide instant-shopping services that make the platforms more useful to their members, and get them to spend more time on them.

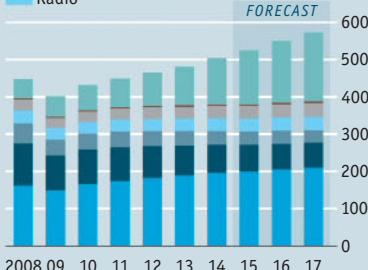
To wring the most out of the ability to target consumers precisely on social media, ad agencies are making big changes to their campaigns. Instead of creating a single, broad-brush message that will run across television, radio, print and outdoor, they are producing many variations on a theme, matching each to the subset of consumers they judge most likely to respond to it. Last month Lowe's, an American home-improvement retailer, ran a campaign on Facebook in which users were sent one of several dozen versions of its ad, depending on which part of their homes they had mentioned on social media.

The iterative nature of digital marketing has meant lots of work for ad agencies and public-relations firms. However, the ➤

Going online...

Global advertising spending, \$bn

- Television
- Newspapers
- Magazines
- Radio
- Outdoor
- Cinema
- Internet

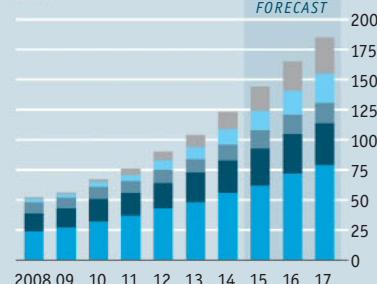


Source: ZenithOptimedia

...and getting sociable

Global internet-advertising spending, \$bn

- Paid search
- Display
- Classified
- Online video
- Social media



Source: ZenithOptimedia

► brands that hire them must weigh the “production-cost trade-offs” that come with personalisation on social media, says Pete Blackshaw of Nestlé, a food manufacturer. “You can target too much.”

Marketing chiefs also need to think through efforts to give their brands “online personalities”. Twitter has been the main place where brands try to sound authentic and clever. When Apple announced its gold iPhone in 2013, Denny’s, a restaurant chain, sent out a gently mocking tweet showing a photo of its pancakes, which are “always available in golden”. It seemed to

go down well with consumers.

But in attempting to ride social-media trends, companies can easily fall flat on their faces. DiGiorno, a frozen-pizza maker, noticed that a number of people were using the hashtag “#WhyIStayed” on Twitter and sent out a jocular tweet that they had stayed for the pizza. It turned out that the comment thread was about domestic violence and why women remained in abusive relationships. DiGiorno took to social media again—this time to apologise.

In spite of such pitfalls, social platforms are likely to receive an ever larger part of

marketers’ budgets. But the digital-media business is still young and volatile, and it is hard to predict which social networks are destined to become the new-media equivalents of America’s big four broadcast-TV networks. For a time, Twitter seemed to be the place to be for advertisers; more recently it has been dogged by management turnover and slowing user growth. Now Facebook is the favourite among marketing folk: it claims nearly five times as many users and nine times as much revenue as Twitter. Facebook has bought several nascent social-media services that might have grown to become challengers, such as Instagram, a photo-sharing app, and WhatsApp, a messaging app. It has been rolling out ads cautiously on Instagram, to see how users react, but has yet to start doing so on WhatsApp.

Some old media have yet to feel much pain from the loss of ad revenue to digital rivals. TV advertising has until now kept growing. But as time goes on, and as TV audiences both decline and shift to services that do not have ads, such as Netflix, the competition will be more keenly felt. However, social networks, and TV advertisers interested in switching to them, have yet to work out what is the optimal format for video ads. In 2012 Twitter acquired Vine, which lets people post six-second videos; several months ago Periscope, an app for live video also owned by Twitter, was all the rage. Advertisers have experimented with both services, but as yet neither has taken off as a marketing medium.

It still makes sense for marketers to try these new services out, because there is something of a first-mover advantage in digital advertising. Brands that are early to use new platforms benefit disproportionately, explains Linda Boff, a marketing chief at General Electric, because their users have not yet become saturated with marketing messages.

The latest social platforms to get the attention of marketing types are a bunch of messaging apps, such as Snapchat (see box), WeChat and Kik, where young users send messages, photos and videos directly to friends. Brands are also starting to do more with Pinterest, where users can “pin up” images of things that appeal to them. It seems a fair assumption that users may want to buy the things they are pinning up, although the platform, which has 70m users, may never achieve the scale of Twitter (300m), let alone Facebook (1.5 billion).

Even if marketers master social media without coming across as clumsy, grating or intrusive, there will surely be a limit to how much advertising will shift to the platforms. Television ads are still great for reaching big audiences with simple messages. Print ads can lend brands an air of credibility (we would say that, wouldn’t we?). Like fund managers, advertisers will always want a balanced portfolio. ■

Monetising Snapchat

Snap judgments

VENICE, CALIFORNIA

The messaging app tries different ways to sell ads without annoying its users

A WHOLE generation of young people has been snapped up by Snapchat. Every day around 100m people worldwide use the smartphone app to send (sometimes saucy) photos, videos and messages that quickly disappear from the recipient’s phone. Some 60% of American smartphone users between the ages of 13 and 34 use the service, the firm claims. It is among the most highly valued private technology firms in the world: its most recent financing round, in May, put a \$16 billion price tag on it.

The app’s impermanent messages, which help protect the sender’s privacy, have made it popular among young users. So has its clunky user interface, which dissuades parents from using the app. One of Snapchat’s most-used features is “stories”—mash-ups of videos that users take with their smartphones’ cameras, recapping their day’s activities, over which they can doodle and write captions before sharing them with friends. Perfect for the “selfie” generation.

In recent months advertisers, eager to reach young consumers who spend less time with older media, have become captivated by Snapchat’s potential. Both Facebook and Google reportedly tried to buy it in 2013. Snapchat preferred to go it alone, and must now balance the interests of users and advertisers.

It has experimented with different ad formats. When it first started allowing commercials a year ago, brands could pay for their “stories” to be seen, but now they cannot. “It’s frustrating when brands come onto a platform and try to act like people, because brands aren’t people,” Evan Spiegel, the firm’s 25-year-old boss, has said. Nor does Mr Spiegel want to slip ads into personal messaging streams, because users would find this intrusive. For the same reason, Facebook’s messaging apps, Facebook Messenger and



WhatsApp, do not yet offer ads.

Snapchat was a pioneer of “vertical” video ads, which play upright, the way people hold their smartphones, and have higher completion rates. Like Facebook, which recently started embedding news articles in its social-networking app, Snapchat has put more emphasis on attracting professional content, which keeps users’ attention for longer, giving advertisers more opportunities to reach them. About a dozen media firms, including CNN and the *Daily Mail*, now host selections of news articles in a section of Snapchat called “Discover”. Publishers sell ads within their articles and share the revenue with Snapchat.

It is early days, and as yet only a trickle of revenue is coming in. This makes Snapchat’s valuation all the more eye-popping: Twitter, which is stockmarket-listed and had \$1.4 billion in revenue last year, is supposedly worth only about \$1 billion more. When Snapchat goes public, as is expected in the next couple of years, it will face an audience far more critical than its rapt users currently are, and judgments that will not conveniently disappear at the end of each day.

Agricultural supplies

Controversial hybrids

Syngenta has sent Monsanto packing. But other deals may follow

SIX companies dominate the business of farm supplies. The interest of Monsanto, the world's biggest seed producer, in buying Syngenta, the largest agrochemicals firm, had threatened to whittle them down to five. That raised worries about whether the reduction in competition would mean less innovation—and thus slower improvements in crop yields—as well as higher costs for farmers.

However, Syngenta played hard to get. It rebuffed a bid of \$45 billion in June. And another, made on August 18th, worth around \$47 billion. So, on August 26th, Monsanto walked away. But consolidation of the industry may be in prospect anyway. The takeover battle stimulated the interest of other big agricultural suppliers: BASF, another of the big six, had reportedly sought financing to make a rival offer for Syngenta. And Monsanto itself may not be done. Next year the firm may set its sights on another target, reckons John Klein, an analyst at Berenberg, a bank.

Two decades ago the industry was far more fragmented. In 1994 the top four companies in the worldwide market for seeds and crop biotechnology had a combined share of 21%. By 2009 the top four's share was 54%. Similarly, in agrochemicals, the top four's share rose from just over a quarter to more than half over that period. But the pressure for another round of consolidation remains.

Low commodity prices, which are beginning to curb farmers' spending on supplies, are one reason for that. Another is plants' growing resistance to old herbicides. Monsanto has enjoyed rich rewards from its weedkiller, glyphosate, sold as "Roundup", and from "Roundup Ready"

seeds that it has genetically altered to withstand the chemical. But the weeds are fighting back. A study published in 2013 by the Union of Concerned Scientists found that weeds resistant to glyphosate are present in more than half of America's farms. Monsanto is developing crop seeds resistant to dicamba, another herbicide, and plans to spend perhaps \$1 billion or more on a plant to produce the chemical. This will somewhat help it bear the embarrassment of Syngenta's rebuff. But buying a big rival would further secure its grip on the market.

Syngenta's boss, Mike Mack, argued that Monsanto's bid showed that it lacks "fundamentally new innovation" to drive its growth. Monsanto's purchases in recent years of several firms that provide farmers with detailed data on local soil and climate conditions are "just cover for the fact that their core markets have been saturated," Mr Mack said. Others disagree. Mr Klein says precision farming, possible thanks to troves of data, remains "enormously important" for American agriculture.

Even so, buying Syngenta would have strengthened Monsanto's position in Asia and Africa, and helped it broaden its focus from maize and soybeans. The takeover would have brought cost savings and, by means of an "inversion"—a shift in Monsanto's base to Britain—a lower tax bill.

Those opposed to the industry getting even more concentrated fear it would mean less innovation, as a handful of global giants concentrate on defending their existing intellectual property. Since the mid-1990s the big six—Monsanto, Syngenta, Bayer, Dow Chemical, BASF and DuPont—have between them bought up more than 200 other companies and their patents. Some fret that research would become more focused on the most profitable crops, rather than seeking improvements to those that might feed the poor, such as cassava in sub-Saharan Africa.

The other big worry is that the fewer firms there are producing seeds and herbicides, the more expensive these will be for farmers. In recent years American farmers' spending on fertiliser, seeds and other inputs has risen significantly (see chart), and the prices they have been able to charge have not kept pace with their increasing costs. The country's National Farmers Union opposed Monsanto's moves on Syngenta, and welcomed the bid's collapse.

To such concerns, Monsanto had responded that the merger would give it greater scale in under-served markets, with farmers gaining access to a broader variety of products. It also said combining the two firms' research pipelines would help to speed up the development of new products. This failed to convince Syngenta's bosses, apparently, even though the final offer was around the level that a recent poll of Syngenta investors had indicated might sway them. Its share price



Roundup Ready—but so are some weeds

swooned after the bid collapsed.

Getting the agreement of Syngenta's board and shareholders would not have been the final hurdle anyway. Monsanto had offered Syngenta a break-up fee of \$3 billion if competition authorities were to scupper a deal, by way of demonstrating confidence that they would not do so. But getting approval from regulators in America and other important markets might nevertheless have been challenging. Other combinations of the big six raise fewer antitrust questions. Syngenta and Dow, for example, could join up without the need for Syngenta's seeds business to be sold—as Monsanto had planned, to pacify regulators. One deal has not flowered. Others may. ■

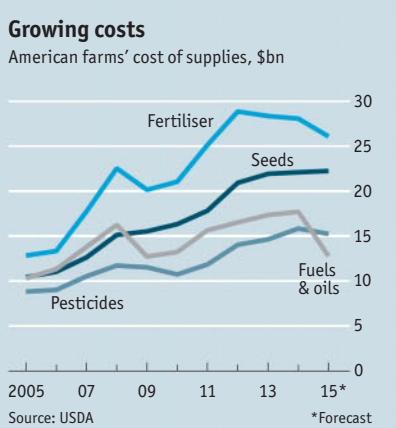
Taxing multinationals

Patently problematic

Proposals for consistent global rules on company tax cause worries all round

C LARITY or chaos? Supporters of the Base Erosion and Profit-Shifting (BEPS) project, being worked on by the OECD, argue that it will bind multinationals to a consistent set of global tax rules, providing them with less licence than they now have to short-change governments through artful use of loopholes in national laws. Sceptics worry that it could only lead to chaos if countries adopt the new guidelines to differing degrees, or if some governments conclude they are too soft, and take unilateral action to stop tax revenue on profits being siphoned abroad.

With two months to go before the club of rich and middle-income countries presents its plan to the G20 for approval, much of its detail remains unclear. But no one doubts that, with so many clashing national interests at stake, there are limits to what ►



► can be achieved. Discord has been evident lately, even among allies: in June a US Treasury official accused Britain and Australia of undermining international agreement by "going their own way". One beef is over Britain's new "diverted profits" tax, which imposes a levy on profits routed to tax havens through "contrived arrangements".

The BEPS negotiators have paid special attention to the vast "intangible" assets that multinationals hold these days: brands, copyrights, patents and so on. Much of their profit-shifting to cut tax bills, and many of the tax breaks that governments offer, relate to such intellectual property (IP) and its accompanying royalties.

IP-related tax benefits are not about to disappear. In fact, BEPS will help to regularise some of them, albeit in diluted form. Perversely, this is encouraging countries that previously shunned them to give them a try. Take the "patent box", a scheme by which companies pay a lower tax rate on profits from IP that was developed in the country in question. Britain's patent box, introduced in 2013, cuts the tax rate to 10%, half the main corporate rate, on profits from qualifying IP. Ireland plans to introduce one that matches the Netherlands' 5% rate (see chart). Last month a committee of America's House of Representatives launched proposals for an "innovation box" with a tax rate of around 10%.

The aim of patent boxes is to encourage firms to innovate. But Germany, among other doubters, argues that they are a beggar-thy-neighbour policy, whose result is that R&D spending, along with the profits booked to it, is simply shifted between jurisdictions, rather than being increased overall. Britain and other box-offerers have ceded some ground during the BEPS talks. An Anglo-German agreement, subsequently blessed by the OECD, advocates a "modified nexus" approach. In essence this is a set of criteria which seek to ensure

Beneficial boxes

Corporate-income-tax rate, 2015, %



Bakeries

Croissantonomics

NEW YORK

Lessons in managing supply and demand for perishable products

AIRY croissants, rich chocolate-chip biscuits, wedges of succulent cake—the goods at the City Bakery, in Manhattan, look delicious. Maury Rubin, its founder, studied in France. But his best creations are distinctly American: pretzel croissants (surprisingly tasty), and recipes for making money.

Mr Rubin is among those bakers who revere traditional methods but want a fat profit. However, a good bakery is bad business. Flour is cheap but organic butter, which makes up half a croissant, is not. Central locations for outlets are expensive to rent. In all, it costs Mr Rubin \$2.60 to make a \$3.50 croissant. If he makes 100 and sells 70, he earns \$245 but his costs are \$260. Since he refuses to sell leftovers—all goods are sold within a day—he loses money. "Welcome to the bakery business," Mr Rubin says.

The obvious fix is to raise prices. But Mr Rubin says shoppers bristle when the cost of baked goods passes a certain threshold. He has two main solutions. First, don't be just a bakery. He also sells fancy salads and sandwiches to office workers, which have higher margins.

Second, use data to cut waste. Mr Rubin studies sales to discern trends in

demand, then adjusts supply accordingly. There are no brownies or carrot cake on Mondays or Tuesdays—people don't buy rich desserts after decadent weekends. He watches the weather closely, as demand melts in the rain. He keeps an eye on school calendars, to bake less when children are away. He bakes more after the fasting of Yom Kippur, when demand from Jewish customers picks up. And each day, after the breakfast rush, he fine-tunes supply by checking sales every 60-90 minutes. Trays of pastries are ready to be baked, but nothing goes into the oven until the numbers are in.

Having no croissants at the end of the day is a sign of success. Late one recent afternoon, his counter offered trios of fruit on triangles of rice paper, cooked in sugar. This dessert looks lovely and is cheap to make. But Mr Rubin will sell only a few, as he makes them expensive: they are there in part to make his counters look pretty and full, to draw in coffee-drinkers at the end of their working day. Such strategies have helped the City Bakery survive since 1990. It now has seven smaller shops in New York and seven outposts in Japan, with plans to open in Dubai.

that IP tax benefits are more closely linked to the location of related economic activity, and to where the patent was developed.

But it comes with some concessions from the other side. Companies will be allowed to pay a reduced tax rate even on IP that they have bought, or whose development they outsourced. Corporate-tax departments will surely do their best to stretch the definitions of these to their advantage. Existing patent-box regimes may be allowed to remain until 2021. Even once the new regime comes in, there are doubts about its effectiveness. Not only might it prove to be riddled with loopholes, it could also be a recipe for sweetheart deals between national treasuries and favoured industries, since it appears that the tracking of R&D spending by companies will be overseen by the very countries offering the breaks, says Alex Cobham, an economist with the Tax Justice Network, an NGO.

With patent boxes set to survive, countries are falling over each other to adopt them, according to Ajay Gupta, who writes about global tax trends. Switzerland could be next. Mr Gupta sees it as "a race that will surely end with multinational enterprises walking away with the top prize." Martin Sullivan, a commentator for *Tax Notes*,

every diligent accountant's bedtime reading, writes that what little evidence there is on the impact of patent boxes suggests that they do little or nothing to boost innovation. They may increase the number of patents being filed, but in most cases this would "just be legal manoeuvring without any corresponding increase in the stuff we really want: scientists doing research and inventors inventing." A European Commission working paper earlier this year reached the same conclusion.

Although critics fear BEPS will be too soft on multinationals, there is much for firms to worry about. Their greatest fear is that if the proposals prompt some countries to take unilateral action, it could lead to the return of double taxation—multiple countries claiming tax on the same dollop of profit. This was a risk firms often ran before double taxation was abolished under various treaties. They can, however, take comfort from the way that governments are increasingly aiming their punches at each other. As Richard Hay, a tax lawyer with Stikeman Elliott, puts it: "BEPS started out as a plan to squeeze more tax out of big companies, but it has morphed into a competition between countries over revenue allocation." ■

Schumpeter | Manage like a spymaster

Counter-intelligence techniques may help firms protect themselves against cyber-attacks



UNTIL recently, for most businesses security was a question of buying decent locks, doors and windows, installing CCTV, making sure that reception staff sign visitors in and out, and trying not to leave confidential papers in the photocopier. But attacks on their computer systems, be they by business rivals, political activists, criminals or foreign governments, are much harder to defend against—and can have far worse consequences than a physical break-in. A company can suffer a devastating blow to its reputation, its intellectual property, or its ability to serve customers—not to mention its bank balances. It may never learn who has attacked it or why, or how much information has been taken; so it may never be sure if it has done enough to plug the leak.

Cyber-security is now burning a hole in boardroom tables. Before the recent hacking of Ashley Madison, an online broker of adulterous trysts, the most notorious example in the past year was that of Sony Pictures Entertainment, in which a torrent of embarrassing e-mails, personal information about employees and copies of unreleased films was released on the internet by unknown infiltrators. But there is a steady stream of less prominent cases in which businesses suffer serious damage. Earlier this month the FBI said it had uncovered a scheme in which hackers had got into the computers of three firms that distribute corporate press releases, and made a fortune by trading on market-sensitive information before it had been officially released. Ubiquiti Networks, an American maker of wireless-networking equipment, admitted this month that it had been diddled out of \$46.7m by fraudsters who falsified e-mails from an executive, instructing the finance department to wire money to the criminals' bank accounts. Customers of Carphone Warehouse, a British mobile-phone retailer, are venting their fury after large numbers of them had their financial details stolen from the company by hackers.

Many companies now hire “penetration testers” to see how strong their defences are, both online and in the real world. This can help them to identify unexpected weaknesses before someone with malign intent takes advantage of them. But as soon as one gap is plugged, the hackers will start looking for others. So, it is important for managers to adopt some of the wiles of the spy world. Counter-intelligence officers assume that their adversaries are constantly probing for weaknesses and trying to exploit

them. Instead of attempting to identify every potential line of attack, their aim is to minimise the damage when someone does break in, and if possible, to turn the situation to their advantage.

The first lesson from the spymasters is that sometimes the convenience of having everything easily accessible on an internal network has to be sacrificed. Intelligence agencies' most important stuff may not be kept on computers at all—manual typewriters and carbon paper still have their uses. Sensitive information may be kept in separate chunks, with no one person in possession of, or aware of, them all. A great deal of thought goes into who needs to know what, how the rules for information-sharing are set and who enforces them. Companies can adopt the same “defence in depth” approach, to make it hard for an electronic intruder to gather enough information to do serious damage.

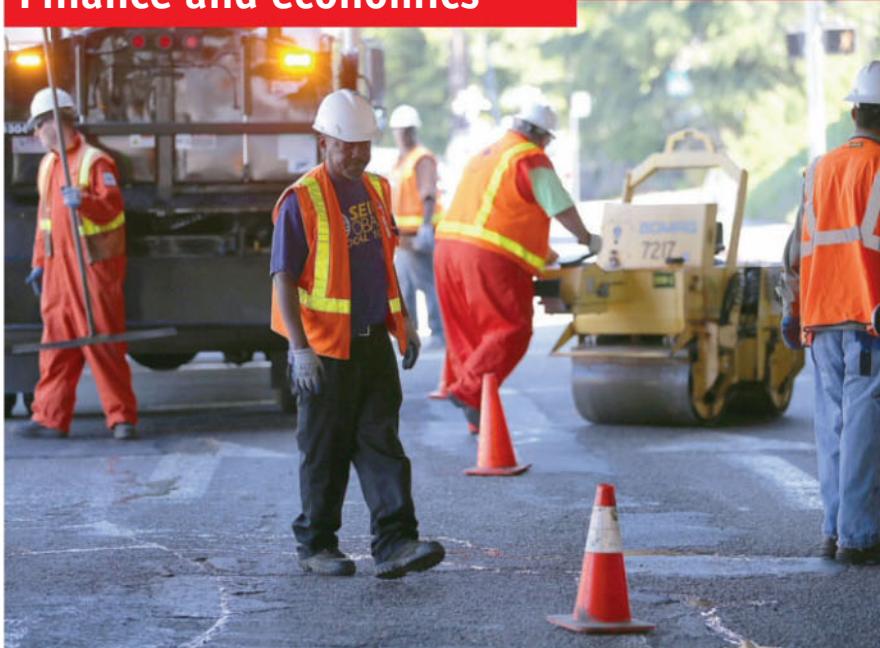
More often than not, hacking attacks are facilitated by carelessness. But with the right incentives and punishments, good computer-security habits can be acquired, and bad ones shed. However, it has to start at the top—which is why spies fume about the way Hillary Clinton casually kept official e-mails on a private computer when she was America's secretary of state. If the boss does not take cyber-security seriously, nor will her underlings.

Another lesson from counter-intelligence is the use of deception. The best way to find out if you are being attacked is to offer a tempting target. “Honeypots” are bogus but convincing computers, networks and files which will attract an attacker's attention, while revealing his presence to the silent watchers. For example, one American bank placed a series of fake profiles of non-existent staff on its internal computer network, including e-mail addresses. Whenever a transfer request arrived, addressed to one of these aliases, it knew that the sender was likely to be a fraudster.

If you find out who is attacking you, and what they want, you have some options. You can bring in law-enforcement: breaching someone else's network is a crime in most jurisdictions. But that may not help much if the attacker is from a lawless country. You may simply gather more information about the attacker, building a picture of his aims and capabilities. If he is trying to steal blueprints of your products, say, then make sure he gets fictitious documents that will mislead him. In 2012 spies in Georgia put a file labelled “Georgian-NATO Agreement” on a computer network that they knew a Russian hacker had breached. The document was, of course, bogus—it also contained a virus that let the Georgians spy back at the hacker, although this would be a step too far for most companies.

In paranoia we trust

Managers could also do with practising a little of the constructive paranoia that spymasters adopt when dealing with technology. For instance, when on a business trip abroad, take a disposable laptop containing no sensitive information; and assume there will be attempts to slip spyware onto it. Spooks know that people's private and family lives are a vulnerability to be exploited: an executive at a corporate-security firm says he knows of cases in which criminals stole the smartphones of the spouse or children of the boss of a family firm, to look for bank-account details or other exploitable information. And an unexpected message from an old friend or business associate should always be treated with suspicion: it may be a spoof e-mail from someone who has scoured your LinkedIn or Twitter account to find out who your contacts are. You don't have to be paranoid to run a business in the age of cybercrime, but it helps. ■



Infrastructure in the rich world

Building works

An historic opportunity to improve infrastructure on the cheap is in danger of being squandered

IT IS hard to exaggerate the decrepitude of infrastructure in much of the rich world. One in three railway bridges in Germany is over 100 years old, as are half of London's water mains. In America the average bridge is 42 years old and the average dam 52. The American Society of Civil Engineers rates around 14,000 of the country's dams as "high hazard" and 151,238 of its bridges as "deficient". This crumbling infrastructure is both dangerous and expensive: traffic jams on urban highways cost America over \$100 billion in wasted time and fuel each year; congestion at airports costs \$22 billion and another \$150 billion is lost to power outages.

The B20, the business arm of the G20, a club of big economies, estimates that the global backlog of spending needed to bring infrastructure up to scratch will reach \$15 trillion-20 trillion by 2030. McKinsey, a consultancy, reckons that in 2007-12 investment in infrastructure in rich countries was about 2.5% of GDP a year when it should have been 3.5%. If anything, the problem is becoming more acute as some governments whose finances have been racked by the crisis cut back. In 2013 in the euro zone, general government investment—of which infrastructure constitutes a large part—was around 15% below its pre-crisis peak of €3 trillion (\$4 trillion), according to the European Commission, with drops as high as 25% in Italy, 39% in Ireland

and 64% in Greece. In the same year government spending on infrastructure in America, at 1.7% of GDP, was at a 20-year low.

This is a missed opportunity. Over the past six years, the cost of repairing old infrastructure or building new projects has been much cheaper than normal, thanks both to rock-bottom interest rates and ample spare capacity in the construction industry. Simon Rawlinson of Arcadis, an infrastructure consultancy, reckons building costs in Britain, for example, were 20% lower in the aftermath of the financial crisis. The market upheaval of recent weeks may delay the first post-crisis interest-rate rise in America by a few months, but construction costs have been rising in America and Britain, among other places, as their economies have strengthened and unemployment has fallen.

Investment in infrastructure can provide a tremendous boost to an economy. The most striking examples are in emerging markets: paving roads has helped double school attendance by girls in Morocco; improved sanitation has helped reduce child mortality in India by over 50%. But the impact in rich countries is also great. Standard & Poor's, a rating agency, reckons that the activity spurred by increasing government spending on infrastructure by 1% of GDP would leave the economy 1.7% bigger after three years in America, 2.5% bigger

Also in this section

- 57 Ukraine's debt restructuring**
- 57 Nigeria's creative central bank**
- 58 Monetary policy in Japan**
- 58 The economics of generosity**
- 59 Cornering the private-island market**
- 60 Free exchange: The drawbacks of auctions**

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

in Britain and 1.4% in the euro zone.

A few countries have stepped up spending: investment in infrastructure in Canada rose from 2.5% of GDP a year in 2000-06 to 3.3% in 2007-12. State governments in Australia have made their money go further by leading the early, riskier stages of projects and then privatising them once operational, freeing up capital for the next scheme. (As an extra incentive the federal government now even tops up states' proceeds from asset sales by 15% if they are reinvested in infrastructure.) In 2012, for example, Ontario Teachers' Pension Plan and Hastings, a fund manager, bought a 50-year lease on a recently completed desalination plant near Sydney from the government of New South Wales.

But many other governments have failed to follow suit. The so-called "Juncker Plan", which is supposed to mobilise €315 billion of mostly private investment in infrastructure in Europe, was announced with great fanfare last November; the website listing possible projects has yet to be launched. Planning constraints play their part: it takes four years just to get the permits for the average European power project, according to McKinsey. Crossrail, a new train line running under London, was first mooted in 1974 but is not due to be completed until 2018. Despite the risk of white elephants such as Ciudad Real Central Airport in Spain, which closed only a few years after opening, politicians still tend to prioritise eye-catching schemes over duller but more practical ones. America's post-crisis stimulus package dedicated \$8 billion to high-speed rail, but only \$1.5 billion to small, worthwhile projects nominated by state governments.

Yet none of this should impede spending on maintenance, for which there is also a huge backlog. Mending leaking pipes, fill-

▶ing potholes and painting bridges is unlikely to lead to a popular uprising. There is also lots of scope for modernisation without undue disruption: adding a layer of plastic on top of an asphalt road can increase its lifespan by a third. Investments in technology can make better use of existing infrastructure without adding a brick. New digital monitoring systems, for example, have increased the capacity of Frankfurt Airport from 150,000 passengers a day to 200,000, by providing advance warning of impending bottlenecks.

Such repairs and improvements typically yield higher returns than more grandiose projects. They are also much quicker to initiate. Western politicians searching for a way to pep up growth in light of the current uncertainty about the health of the world economy need look no further. ■

Ukraine's debt restructuring

Tinkering around the edges

Ukraine's deal with its creditors is less impressive than it appears

AT FIRST sight, it was a triumph. After months of negotiations Ukraine and a committee of its creditors (which include Franklin Templeton, an American investment house and BTG Pactual, a Brazilian one) reached a deal this week to restructure the country's international bonds, as well as a smattering of other sorts of debt, worth about \$18 billion. Payments have been pushed back, meaning that the government will not need to cough up any principal or interest on the debts in question until 2019. The principal on the bonds will also be cut by 20% on average.

This is a better deal for Ukraine than many were expecting. It is rare for a country to get a haircut on its debts without also defaulting (one exception is Greece). When the negotiations began, the creditors had refused even to consider writing off any of the country's debt, arguing instead that delaying repayment alone would be enough to right Ukraine's finances. The Ukrainian government's repeated threats to declare a moratorium on debt repayments—a default by another name—may have helped soften their stance. (That it did not have to follow through will help Ukraine whenever it next tries to borrow commercially.)

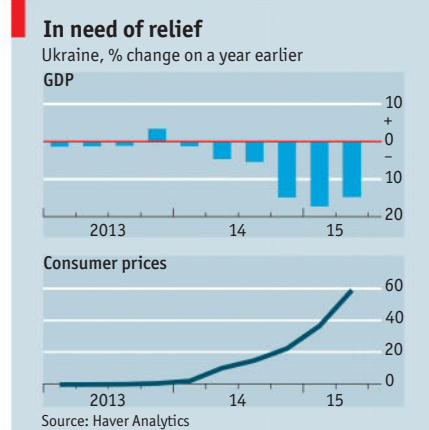
But Ukraine's position was stronger than it might have seemed, thanks to the stance of the IMF. The fund has already lent Ukraine about \$11 billion since the conflict there began last year. Ukraine needs further help to remain solvent, and thus to keep paying its creditors. The fund has pledged to lend another \$11 billion by the

end of 2018. But as a condition for disbursing the next \$17 billion, due some time in the autumn, following a review of the country's economy, the fund has demanded that Ukraine's debt be restructured. To make the burden sustainable, and thus justify further lending on its part, it said that Ukraine would need to write off \$15.3 billion in debt and interest payments by 2018 and to reduce its public-debt-to-GDP ratio to 71% of GDP by 2020.

Taking into account debt that has already been restructured—including bonds of the state import-export bank and the state savings bank—Ukraine will probably meet the first condition. That depends, though, on all owners of Ukraine's international bonds, of which there are hundreds, accepting the deal. Russia, which holds a \$3 billion bond due in December, has already declared it unacceptable.

Both the government and the creditors claim that Ukraine is also on track to meet the debt-to-GDP condition, provided economic growth is in keeping with expectations. If so, the IMF can keep lending. But that looks too optimistic. By the end of the year, Ukraine's GDP may be nearing \$70 billion, a fall of 60% in dollar terms over the past two years. As it is, it fell by 17% year-on-year in the first quarter, and 15% in the second (see chart), making the IMF's debt-to-GDP target a challenge, to say the least. Moreover, roughly \$50 billion of public and publicly guaranteed debt, including concessionary loans, was not part of the negotiations. (Indeed, as private creditors like to point out, Ukraine will repay the IMF over \$4 billion before 2019.) The deal amounts to a minor cut in Ukraine's total stock of public debt, from about \$71 billion to \$67 billion.

In the short term, moreover, the agreement will do little for the average Ukrainian, now far poorer than he was at the end of the Soviet Union. The hryvnia, Ukraine's currency, is still feeble: inflation is nearly 60%. And the long-term prospects are little better. Even if the war stopped tomorrow, the country would need tens of billions of dollars to rebuild itself. ■



Defending the naira

Wheelbarrows to the rescue

LAGOS

Nigeria's central bank pioneers a new method to shore up the local currency

YOU might think Godwin Emefiele, the governor of Nigeria's central bank, had problems enough. The collapsing oil price has slashed Nigeria's export earnings. Foreign reserves have fallen from more than \$40 billion early last year to just over \$30 billion now. In response Mr Emefiele (pictured) devalued the local currency, the naira, in November and again in February. The devaluations are stoking inflation. Like many other central bankers in commodity-exporting countries, he is faced with the unenviable choice of raising rates despite the damage to an already faltering economy, or leaving them be despite rising inflation and a swooning currency. Unlike other central bankers, however, Mr Emefiele has decided to compound the awkwardness of his position by getting involved in industrial policy as well.

In June the central bank said it would not provide foreign exchange for 41 categories of imports, ranging from wheelbarrows to private jets. The idea, Mr Emefiele says, is both to conserve dollars and to stimulate local manufacturing. "Central banks in developing countries like ours cannot sit idly by and concentrate only on price and monetary stability," he argues.

Yet manufacturing is not easy in a country plagued by power outages, poor roads and badly trained workers. In the past, protectionist policies have not spawned competitive industries, but lined the pockets of well-connected manufacturers. "If you ban imports, companies will either be forced to compromise on quality or cost," ▶

complains one businessman.

Another likely result is an increase in smuggling. Nigeria's imports of cars have plummeted as a 70% tariff imposed by the previous government is phased in. Mysteriously, those to the tiny nearby countries of Benin and Togo have soared.

Mr Emeifie's efforts to prop up the naira also look counterproductive. He has managed to keep it at about 199 to the dollar since March. In theory, imports of the 41 proscribed items aside, it remains fully convertible. But the central bank has imposed all sorts of restrictions on currency trading, dollar deposits and cashpoint withdrawals in foreign currencies. It justifies this by saying that speculators are distorting the market.

The result is that businesses are having a hard time getting hold of foreign exchange. Many have resorted to the black market, where the naira is sold at about 225 to the dollar (see chart). Others have simply cut imports and the jobs that rely on them. Isoken Ogiemwonyi, who runs a posh clothing shop in Lagos, has a new rule: "Anything imported, I can't do."

The new regulations are also contributing to foreign investors' disenchantment with Nigeria. JPMorgan, an investment bank, is threatening to boot the country from its government-bond index if it does not deregulate currency trading by the end of the year. That would prompt many foreigners to sell, raising borrowing costs and putting the naira under more pressure. As it is, Samir Gadio of Standard Chartered, a bank, reckons that foreigners sold a net \$3 billion-4 billion of Nigerian bonds in the last quarter of 2014. They now hold less than 10% of the outstanding stock, compared with 27% in 2013.

The central bank takes consolation in the fact that reserves have ticked up by a couple of billion dollars since May, though this may be attributed as much to stricter book-keeping under Nigeria's new president as to Mr Emeifie's efforts. Earlier this month Kazakhstan, another big oil exporter, unpegged its currency, prompting a mighty slide against the dollar. Mr Emeifie was unmoved. ■

Pegs might fly

Currencies against the \$, inverted scale



Sources: Association of Bureau de Change Operators of Nigeria; Thomson Reuters

Monetary policy in Japan

Core concern

TOKYO

Life keeps getting harder for Japan's central bankers

AFTER two years of remission, Japan seems likely to sink back into the "chronic disease" of deflation, as Haruhiko Kuroda, the governor of the Bank of Japan (BoJ), calls it. New data are expected to show on August 28th that core CPI, the central bank's preferred indicator of inflation, turned negative in July for the first time since the bank launched a big programme of quantitative easing (printing money to

buy bonds) in April 2013 (see chart on next page). At the time, it pledged to lift inflation to 2% in two years.

The news will heap further pressure on the BoJ to ease monetary policy yet more this year, as will worries about Chinese growth. The fact that Japan's economy shrank by 1.6% in the second quarter on an annualised basis adds to the concerns. The central bank is currently buying about ¥80 trillion (\$670 billion) of long-term Japanese government bonds (JGBs) a year, or twice the annual issuance. It now holds over ¥300 trillion of JGBs, or nearly a third of all outstanding bonds.

Mr Kuroda's excuse for deflation's apparent return is that the falling oil price has pushed down core CPI, which excludes fresh food but includes energy. In the longer run, the bank argues, consumers' in- ►

The economics of generosity

The kindness of neighbours

A new paper asks why some Tanzanian farmers are more selfish than others

IN THE semi-arid lowlands of Mufindi, in southern Tanzania, water is hard to come by. Villagers rely on irrigation to grow maize, potatoes and spinach. Informal and often woolly codes govern how much water each farmer diverts to their own fields, and how much they leave for their neighbours downstream. Some farmers, naturally, turn out to be more grasping than others. Economists typically see such decisions as irreducible: there is no accounting for individuals' values and preferences. But a new study* investigates why there is such variation in generosity among Mufindi's farmers.

The researchers asked other villagers to rank each farmer's social status on a scale of one to four. Then they invited the farmers to take part in a game in which participants had to decide how much water they would take under different scenarios. Participants were paid small sums, which varied according to how well they did in the game. They received more money if they reaped a bigger harvest by taking more than their share of water, for instance, but less if the other villagers fined them for violating water-sharing norms.

In hypothetical times of scarcity, only high-status women shared the water fairly. Low-status men and women would share fairly when water was plentiful, but were stingier when water was scarce. High-status men hogged water at all times. Rather than simply conclude that some farmers were more altruistic than others, however, the researchers split the participants into groups by status and gender to discuss



Turning his back

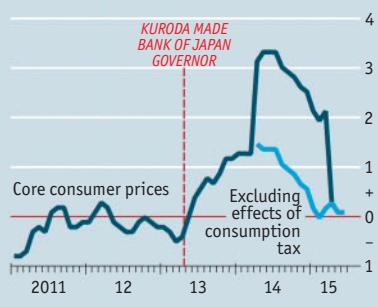
the outcome.

Rich and powerful men, it turned out, were less worried about being greedy, either because the gains dwarfed any fine, or because they assumed their downstream neighbours would not dare complain. One villager said that she had to keep quiet, since the person overusing the water was influential. By contrast, another said, "Low-status people are not expected to break the rules." Women, even of high status, also seem inhibited. The apparent generosity of women and the poor, in short, may not be the product of compassion, but of discrimination.

* "Sharing common resources in patriarchal and status-based societies: Evidence from Tanzania", *Feminist Economics*, July 2015

Core blimey

Japan, % change on a year earlier



Increased spending power will fuel inflation.

Mr Kuroda has already postponed the deadline for achieving inflation of 2% twice. The new deadline is next summer. But that now looks optimistic, and Mr Kuroda is hinting at another postponement. This week Shinzo Abe, the prime minister, said he understood the bank's explanation that reaching the target of 2% "is in fact getting difficult". But the bank is increasingly rattled by mounting criticism.

The side effects of monetary easing are under scrutiny, too. A weaker yen is seen by politicians in Mr Abe's Liberal Democratic Party as benefiting big exporters but hurting small firms and households by raising the price of imports. Another worry is that the BoJ's voracious bond-buying has impaired the functioning of the market for government bonds. Debt hawks complain—as ever—that the purchases are eroding the need for fiscal discipline on the part of the government.

The BoJ, for its part, remains confident that the economy is on the mend. It discreetly suggests that a big part of the problem lies with the inclusion of energy in its preferred measure of inflation. In July it quietly began publishing a novel measure in its monthly bulletins, which outsiders have dubbed "new core CPI". This strips out the cost of energy as well as fresh food, and is rising by a relatively brisk 0.7%.

Some speculate that the bank may start to include new core CPI in its official forecasts. "We will never use the word 'alter' or 'shift,'" says one person close to the bank. But the move is long overdue, and the sooner the bank makes it the better, says Christopher Wood of CLSA, a brokerage.

Yet depending on how the economy fares, even the new index may not keep rising. Measures of inflation expectations remain fairly stable for now, but may begin to fall if core CPI does indeed turn negative. That might prompt the BoJ to ease monetary policy by techniques other than bond-buying, such as adopting a negative interest rate for the excess reserves banks keep with it, or buying more exchange-traded funds. Such steps are unlikely to reduce the controversy surrounding the bank. ■

Private islands**Non-profit paradise****Low prices attract a new type of customer**

JUST off the west coast of Florida lies the sun-drenched island of Little Bokeelia.

It is blessed with cascading waterfalls, tennis courts, pools and a Spanish-style villa. Despite such enticing features, the island languished on the market for three years, before selling in July for a mere \$14.5m—half the original asking price.

Little Bokeelia is not the only island that is proving hard to shift. In the Bahamas, where prices per acre are among the world's highest, hundreds of atolls lie unbought. The price of undeveloped islands, which make up around 80% of the market, has dropped roughly by half since the financial crisis, says Farhad Vladi, a private-island broker.

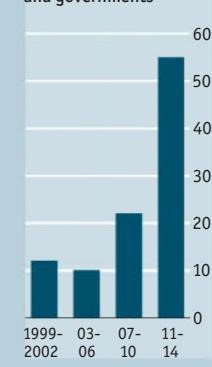
In the early 2000s private islands were the trophy of choice for millionaires but the recession sapped demand. Building on an island is much pricier than on a mainland plot, and there are many potential pitfalls. It is not for the faint-hearted, says Edward Childs of Smiths Gore, an estate agent in the British Virgin Islands. Mega-yachts and private jets are seen as more predictable investments. As a result private islands can be surprisingly inexpensive (see left-hand chart).

But low prices have helped a new type of client to enter the market. Governments and NGOs acquired around 60 islands between 2011 and 2014, mainly in North America, up from 22 in the four years before (see right-hand chart), according to numbers compiled by Mr Vladi. They plump for undeveloped islands, which are cheaper and more pristine than built-up ones.

Conservation is the main reason for the new legions of unlikely island own-

**Frond management**

ers. In Canada the Nova Scotia Nature Trust plans to buy or protect over 200 islands. Funded by donations, the non-profit wants to preserve unique ecological systems, says Bonnie Sutherland, head of the trust. In Maine non-profits own 65 islands, which nurture seabirds and seals. The unspoiled sands of the Discovery Islands, 150 miles west of Abu Dhabi, were slated for development until the government intervened in 2012. Now its main residents are nesting turtles and baby osprey. And for less ecologically minded island-owners, it's reassuring to know there are recession-proof buyers out there.

Treasured islands**Price range of private islands, 2010-14, \$m****Known island purchases by NGOs and governments**

Free exchange | Off the block

Economists may idolise auctions, but most people do not

THE first item sold on eBay, an online marketplace, was a broken laser pointer, which was snapped up for \$14.83 in September 1995. By 2002 eBay had hosted nearly \$15 billion of transactions and had more registered users than Britain had people. Yet the fad for online auctions faded almost as quickly as it appeared. Only 20% of sales on eBay, which turns 20 on September 3rd, now involve auctions.

At eBay's inception, users could sell things only by auction. This was tremendously exciting for economists, who love the things for their ability to magic prices out of thin air and to allocate goods efficiently by determining who values them most highly. The main obstacle to holding auctions is the cost of bringing together enough interested buyers and sellers. But eBay made connecting buyers and sellers cheap. Without it, that broken laser pointer may well have languished unsold.

eBay also benefited from a first-mover advantage. Buyers want to go where there are lots of competing sellers, and sellers will flock to wherever they can find the most eager customers. The size of eBay's network was its own, self-perpetuating engine of growth. But not all the millions of users piling in, it turned out, were economists, and thus devoted to auctions on principle.

In 2000, in response to demand from users, eBay allowed sellers to list items in hybrid auctions. The bidding process would proceed as usual, but buyers could circumvent the auction by agreeing to pay a fixed "Buy it Now" price. Recent research* suggests that this was quite useful for auctioneers. Anthony Ding of Stanford University finds evidence that setting a high "Buy it Now" value boosts the final price at auction, by encouraging bidders to think that the object is valuable.

Yet even hybrid auctions did not suit all sellers. Auctions are particularly useful for establishing the price of one-off or second-hand items, whose value might be unclear. But that is not necessary when it comes to mass-produced items like new CDs or electronic gadgets. Many professional retailers using eBay knew exactly what their inventory was worth, and saw no need for an auction. They often set a minimum bid equal to the "Buy it Now" price, making the auction redundant.

So in 2002 eBay started allowing its sellers to post objects for sale at fixed prices, without any form of auction. And in 2005 it allowed sellers to post objects at a precise price, but give buyers the chance to haggle ("best offer" transactions, in eBay's patois). With all of these options available, the share of sales involving auctions has fallen steadily (see chart).

An NBER working paper from 2013 by Liran Einav, Chiara Faronato and Jonathan Levin of Stanford University and Neel Sundaresan of eBay Research Labs tries to work out why auctions have fallen out of favour. Of the 33 percentage-point drop in the share of auction listings between 2005 and 2009, they calculate, 2.5 percentage points were attributable to the greater preponderance of mass-produced goods on the site, and 2.8 percentage points to the influx of professional sellers. But that leaves 27.7 percentage points unexplained.

Unbiddable

One explanation may be that many buyers found auctions a hassle. In theory, they should be quick and easy. Economists would have expected bidders to decide the maximum they were willing to pay for an object, and then leave it to eBay's software to raise their bid as necessary up to the sum concerned. But many buyers do not take advantage of this feature, nudging up their offer manually from time to time. That, in turn, opens the way for a strategy known as "sniping". If buyers think that their rivals are bidding too low, then it makes sense to swoop in at the last minute and submit a winning bid so close to the end of the auction that others have no chance to respond.

Another NBER working paper, published in February by Matthew Backus of Cornell University, Tom Blake and Dimitriy Masterov of eBay Research Labs and Steven Tadelis of the University of California, Berkeley, looks at sniping. It finds that around 30% of bidders submit more than one bid, and that a similar share of auctions involve bids in the last ten seconds. They also find that bidders really hate being sniped—so much so that it might hurt eBay's business. New buyers who lose an auction after being outbid at the last minute are 4–18% more likely to leave the platform than those who are outbid earlier in the process.

Even for the snipers clever or lucky enough to make the winning bid, this process takes time and energy. Mr Einav and co-authors suggest that in a world where social media are competing for users' attention and smartphones have shortened attention spans, people are less willing to pour their efforts into such a labour-intensive method of shopping. They compare how the sales method affects the prices of otherwise similar items from the same vendor. Things sold under auction tend to go at a discount, which the authors term a "hassle cost" of the auction. They find that this discount, which is now around 8% of the fixed price on average, doubled between 2003 and 2009. Buyers, in other words, have gradually demanded more compensation to put up with the rigmarole of an auction.

There is still a place for auctions on eBay. Even for mass-produced goods, hybrid auctions offer a way for sellers to discriminate between impatient buyers who are willing to pay a premium to conclude a sale right away, and astute shoppers hunting for the best bargain via auctions. Nonetheless, in the first quarter of this year roughly 80% of eBay's listings involved no auction in any form. Though it will struggle to shake off the association, eBay is no longer really an auctions website. For all their efficiency and their powers of price discovery, they were simply not necessary in most situations. For economists in search of broken laser pointers, however, auctions still hit the spot. ■

* Studies cited in this article can be found at www.economist.com/auctions15

Haemorrhaging hammers

eBay sales by value in the United States, % of total



Source: "Price Formation in Bilateral Trade: Evidence From Online Bargaining", by M. Backus, T. Blake, B. Larsen and S. Tadelis, working paper



Virtual reality

Grand illusions

COLOGNE

Virtual reality flopped in the 1990s. This time it's different—apparently

YOUR correspondent stands, in a pleasingly impossible way, in orbit. The Earth is spread out beneath. A turn of the head reveals the blackness of deep space behind and above. In front is a table full of toys and brightly coloured building blocks, all of which are resolutely refusing to float away—for, despite his being in orbit, gravity's pull does not seem to have vanished. A step towards the table brings that piece of furniture closer. A disembodied head appears, and pair of hands offer a toy ray-gun. “Go on, shoot me with it,” says the head, encouragingly. Squeezing the trigger produces a flash of light, and the head is suddenly a fraction of its former size, speaking in a comic Mickey-Mouse voice (despite the lack of air in low-Earth orbit) as the planet rotates majestically below.

It is, of course, an illusion, generated by a virtual-reality (VR) company called Oculus. The non-virtual reality is a journalist wearing a goofy-looking headset and clutching a pair of controllers in a black, soundproofed room at a video-gaming trade fair in Germany. But from the inside, it is strikingly convincing. The virtual world surrounds the user. A turn of the head shifts the view exactly as it should. Move the controllers and, in the simulation, a pair of virtual arms and hands

moves with them. The disembodied head belongs to an Oculus employee in another room, who is sharing the same computer-generated environment. The blocks on the table obey the laws of physics, and can be stacked up and knocked down just like their real-world counterparts. The effect, in the words of one VR enthusiast, is “like sticking your head into a wormhole that leads to some entirely different place”.

Matrix algebra

The idea of virtual reality—of building a convincing computer-generated world to replace the boring old real one—has fuelled science fiction's novels and movies since the 1950s. In the 1990s, as computers became commonplace, several big firms tried to build headsets as a first attempt to realise the idea. They failed. The feeble computers of the time could not produce a convincing experience. Users suffered from nausea and headaches, and the kit was expensive and bulky. Although VR found applications in a few bits of engineering and science, the consumer version was little more than a passing fad in the world's video-game arcades. But now a string of companies are betting that information technology, both hardware and software, has advanced enough to have another go. They

are convinced that their new, improved virtual reality will shake up everything from video-gaming to social media, and from films to education.

Oculus, based in Menlo Park, California, is the emblem of this VR revival—partly because it was the first to demonstrate a plausible headset, partly because of its fairy-tale rise to prominence. As a teenager the firm's now-22-year-old founder, Palmer Luckey, used to collect old VR headsets and tinker with them in his parents' garage. Frustrated by their limitations, he hacked together a headset of his own and in 2012 turned to Kickstarter, a crowdfunding website, hoping to raise \$250,000. The idea was to distribute the headsets to other members of a small online community of VR-loving hackers.

One of these turned out to be John Carmack, a legendary video-game and graphics programmer, who made some modifications to one of Mr Luckey's headsets and demonstrated it, in all its taped-together glory, at a gaming conference in 2012. Partly thanks to Mr Carmack's evangelism (he is now Oculus's chief technology officer), Mr Luckey's Kickstarter project ended up raising \$2.4m, and he dropped out of university to pursue the idea full-time. In 2014 his work attracted the interest of Mark Zuckerberg, the founder of Facebook, which bought Oculus for \$2 billion.

Oculus plans to launch its “Rift” headset early next year. But it is not the only firm with such ambitions. Sony's offering, called “Morpheus”, will go on sale at around the same time. “Vive”, a joint product of Valve, a big American computer-game firm, and HTC, a Taiwanese smartphone-maker, is planned to appear later ►

► this year. Other, lesser-known companies are working on similar products. Meanwhile, Google and Samsung are dipping their toes in the water, making cheap kits that let people turn their smartphones into bare-bones VR headsets.

Each firm hopes that its headset will become next year's big consumer product for geeky early-adopters. So far none has announced prices, but a few hundred dollars for a full rig seems a good bet. That is well within the means of many people of the sort likely to be attracted to VR, and has led some to suggest it will be the Next Big Thing in consumer electronics. Digi-Capital, a consultancy in San Francisco, reckons the market for virtual reality could be worth \$30 billion a year by 2020—if, of course, people actually want to buy it.

The reason that VR failed in the 1990s, it is widely believed, was that computers back then could not create graphics good enough to persuade users they were in a different world. Brendan Iribe, Oculus's chief executive, disagrees. He reckons high-quality graphics are not the most important piece of the puzzle. "You have to remember," he says, "that VR is, essentially, a hack on the human sensory system." In the 1990s that hack was clumsy and inelegant. Nowadays it is much slicker. Three things, according to Mr Iribe, have made this possible. Better graphics, a big consequence of the extra computational power available these days, is certainly one of them. But better screens and improvements in the sensors needed to keep track of what a user is doing are more important.

If at first you don't succeed...

Start with the screens. The headsets now in development have two tiny, high-resolution liquid-crystal displays (LCDs), one for each eye. A computer creates the scene to be displayed, and each screen shows part of it to the eye it is in front of. This is an old trick, called stereoscopy, which takes advantage of the fact that human brains create a perception of depth by noting differences between the images received by the left and right eyes. Displaying appropriately different images to each eye fools the brain into thinking it is looking at a fully three-dimensional world.

Making this illusion comfortable, though, is harder. It is true that people will happily tolerate poor-quality, badly animated images on television screens. (Standard TV is low resolution, using as few as 300,000 pixels per image, and is displayed at no more than 30 frames per second.) But a TV screen is merely part of a much wider environment. Things get more difficult when the picture on a screen fills a viewer's entire visual field.

A low frame-rate, meaning things move choppily rather than smoothly, is one cause of "VR sickness"—a motion-sickness-like affliction that can make a user lose his

lunch. And, because the screens on a VR headset are mounted so close to its wearer's eyes, low resolutions leave the individual pixels visible, breaking the illusion that what is being seen is real.

To combat these effects, the headsets from Oculus, Sony and Valve will all show between 2m and 2.6m pixels per image, half for each eye, and those images will be updated between 90 and 120 times a second. Even this, though, is not enough to banish VR sickness entirely. In a standard LCD, each frame of a moving picture remains on screen until it is time to display the next one. It is then replaced as instantly as the technology will permit. For reasons not yet properly understood, but probably something to do with the speed with which the brain is processing the images in



question, this contributes to the feeling of nausea. VR engineers have learned that inserting short-lived black frames, lasting about 2 milliseconds, between each frame of the picture, can help. Such blank frames are too short to be perceived consciously, but they make motion appear smoother, which helps to calm stomachs.

Satisfying all the requirements of effective VR is hard. One thing that has allowed the new generation of headsets to be created is the development of organic-light-emitting-diode screens. These have high resolution, can update themselves rapidly, can be made small and light enough for use in headsets and are cheap enough to be part of a consumer product. Another requirement for VR, however, is that the computer running the show must be aware of the position of a user's head, so that it knows which part of the scene to dis-

play on the screens. VR headsets therefore employ a mixture of cameras and the sorts of miniaturised gyroscopes and accelerometers found in smartphones, to keep track of what that user is doing.

These sensors must report back to the computer hundreds of times a second, and the image must be updated to reflect the new information as rapidly as possible. Even a tiny amount of delay is enough to have users reaching for the barf bags. Such quick-reacting sensors were not readily available even a few years ago. Indeed, pioneers of VR such as Mr Carmack had to ask specifically that they be made. It is this tracking technology that has allowed firms to develop controllers which create for the user a pair of virtual hands that can be moved around almost as naturally as the real things. Tracking technology can even follow the user's body, meaning that as he walks around in the real world, he also seems to walk around in the virtual one.

Ready player one

Many people, after having had VR explained to them but before trying it themselves, assume it will be a bit like a gigantic television set. But the illusion is more convincing than that. A well-built VR program creates a sense of presence—of actually being inside an alternative reality—that, though far from perfect, is much better than any TV can manage. And to do that, a VR headset must obscure a user's view of the real world, which makes it more akin to a blindfold than a TV.

Nor do tricks from the world of TV and its cousin, video gaming, necessarily work in VR. Shaking the image on a screen to suggest an impact, for instance, is a common technique in video games. Experience has shown that a player does not need to feel himself shaken in order to believe an impact has happened. In the immersive environment of VR, however, the conflict between seeing an impact's effects and not feeling them can provoke nausea.

Because VR is so new, no one is quite sure, in the matter of suspended disbelief, what does and does not work. Video-game developers, though, often have a better idea than most. And Oculus, Valve and Sony are all aiming their headsets at gamers, at least at first. Gamers tend to be open-minded and technologically astute, and many of the people making the headsets are gamers themselves.

Patrick O'Luanagh, for example, is the boss of nDreams, a British games studio that is developing a VR adventure game called "The Assembly". In the course of the game's development, he and his team have learned a lot about what does and does not work in a virtual world. "The Assembly" begins with the player restrained on a trolley, so that all he can move is his head. "The idea is to ease players gently into the illusion," says Mr O'Luanagh. Cut-scenes, in ►

► which the camera cuts to a new angle or a different scene, are a staple of video-game storytelling. But they are a no-no in VR. "You generally don't want to take camera control away from the player," notes Jackie Tetley, a senior designer at nDreams, "because if you do, you've effectively sent their head zooming around the room."

One striking effect of VR, says Mr O'Luanaigh, is that it boosts the emotional intensity of whatever a user is experiencing. Partly, that is because of the experience's all-enveloping nature. But it may also be because audiences have not had time to become jaded and genre-savvy. Analogies with the early days of cinema abound. One much-discussed example is the (possibly apocryphal) story of a film called "Train Pulling into a Station", made in 1895, which is said to have induced naive viewers to scramble out of their seats in fear of an impending collision.

SCE London Studio, a British games developer that has been experimenting with Sony's VR headset, is playing on this heightened sensitivity in its products. One is a sedate deep-sea dive that culminates in a shark attack. Another is a game that opens with the user tied to a chair in an anonymous London warehouse, about to be "interrogated" with the help of a blow-torch. Even hardened gamers, according to Dave Ranyard, the studio's director, report feeling more than a little nervous as the virtual torturer looms over them.

That the new generation of VR's first software products will mostly be games, then, seems in little doubt. But the industry's boosters point out that it could have plenty of other uses as well. One is film. All of the proposed headsets will come with cinema apps that put the user inside a virtual picture palace with an ordinary flat screen. But immersive films that place the viewer at the centre of the action, and which are made with special panoramic cameras, are possible too. One, called "Clouds over Sidra", which chronicles life inside a refugee camp in Jordan, has already proved a hit online.

Pornography, an industry which has often been at the cutting edge of technology, is also pondering the possibilities of VR. Its practitioners, such as BaDoinkVR, are already making VR films intended for use with the cheap headsets that transform smartphones into low-spec VR machines. And, for those in need of other, less vigorous, forms of relaxation, VR may provide an alternative to noise-cancelling headphones when it comes to the matter of shutting out the outside world. nDreams, for example, makes a program called "Perfect Beach", in which users can lounge in the sun on virtual versions of real tropical beaches. Glance to a radio on your left, and you can listen to music. Look at a book on a table to your right, and the program will open up e-books for you to read.

For those who prefer their pleasure shared, rather than solitary, VR might also improve social media, using the ability to create shared tele-reality of the sort described at the beginning of this article. Indeed, this is thought to be one reason why Facebook bought Oculus. And there is also talk of creating, once the industry is properly established, shared tele-real applications in education, news broadcasting and collaborative working. Architects, for instance, might use VR to plonk a planned new building into a realistic simulation of its surroundings. Museums might let visitors wander around a virtual version of an object that, in the real world, must be kept safe behind glass.

Curb your enthusiasm

That, at least, is what the boosters promise. Not everyone is quite so enthusiastic. The current generation of headsets, though impressive, is not perfect. Neither is the software. VR sickness is rarer than it was, but some programs still cause it. And taking full advantage of the technology may be tricky. Although modern VR systems can track their users as they walk around, few people will have enough space at home to create a personal version of the holodeck from "Star Trek".

There are other, more fundamental criticisms, too. The effort of putting on the headset and adjusting it makes using one much more of a commitment than simply glancing at a screen. And the very immersiveness of the illusion makes VR feel less sociable than using a traditional flat screen with friends, where viewers can chat about what they are watching. (Though sometimes, that may be an advantage. For instance, long-distance passengers in cramped economy-class cabins might quite like the idea of blotting out their dreary reality in favour of an entertaining

computer-generated one.)

Similarly, there is no getting around the fact that watching VR users turn their heads to stare at things that are not there, while pawing the air with the hand-held controllers, looks odd. None of the proposed headsets is what you would call stylish. Even the most ardent technophiles may be wary of kit that makes them look silly. And one lesson of consumer electronics is that just because something is possible—nifty, even—does not mean it will come to pass. Attempts to revive 3D movies, for example, have been less transformative than the initial hype suggested.

Still, there is an infectious sense of experimentation and ferment around the technology. Hardware-makers are already researching improvements, such as tracking the pupils of a user's eyes (which would let him glance around without moving his head) and haptic feedback (which employs special gloves to provide the sensation of touch, alongside sound and vision). And even if full virtual reality proves too overwhelming either to produce or to consume, many of the lessons learned will transfer to the field's cousin, augmented reality, in which computer-generated images are overlaid on the real world rather than replacing it completely.

Moreover, it is hard to overstate the improvement in the hardware, which, unlike the abortive attempts of the 1990s, does more or less exactly what it promises. Virtual reality is still far from the verisimilitude imagined by novelists and screen writers. Like the smartphone, which went through many failed iterations before Apple hit on a winning formula with the iPhone, it is hard to tell which (if any) of the forthcoming headsets will take off. But it is also hard to believe that nothing of interest will be done with it. This time, for virtual reality, actual reality beckons. ■





What caused the Cambrian explosion?

The other Big Bang

In the fourth of our series of articles on scientific mysteries we ask why, a mere 542m years ago, animal life suddenly took off

IN THE 1800s, when early geologists started to work out the order in which things had happened in Earth's history, they quickly assembled a rough chronology. Though their successors had to wait until the invention of radio-isotopic dating, a century or more later, to find out how old the rocks these pioneers were looking at actually were, 19th-century geologists were able to discover those rocks' ages relative to one other.

The chronology they created was based on the ever-changing species of fossils within the rocks. These fossils are mainly animals, mainly marine and mainly ones with hard parts such as shells, which are easily preserved. The method worked well, but only up to a point. Below the strata they dubbed the Cambrian, fossils vanished. Unknown, lifeless aeons stretched into the past. It was as if an almost biblical act of creation had populated the Earth overnight, after an indeterminate period of its being a desert.

That period, it is now known, lasted for 4 billion years: some 90% of the planet's history. It was not, as discoveries made in the second half of the 20th century have shown, quite as deserted as was once believed. But the Cambrian's beginning marked such a radical shift in the planet's

biology that the term "Cambrian explosion" is often used to describe it—for, in the course of perhaps 20m years, the world's fauna diversified from simple beginnings into something resembling its modern, complex variety. Annelids, arthropods, brachiopods, echinoderms, molluscs and backboneless ancestors of the vertebrates all made their first appearances then. No animals yet lived on land, but the seas were suddenly teeming with them. What has never been clear is why.

Shell game

Part of the mystery is that it took so long for the explosion to detonate. Fossils unknown to the Victorians show bacterial life goes back at least 3.5 billion years, while chemical traces in rocks 3.8 billion years old are interpreted by some as signs that biology was at work even then. About 2 billion years ago bacteria were joined by more complicated (but still single-celled) creatures called eukaryotes. Then, some time before 760m years ago, some of these eukaryotes linked up to form tiny sponges. Those were the first animals, though not very complicated ones.

Signs of more complex creatures appear 632m years ago in rocks from the Doushantuo formation in China, just after the beginning of a period called the Ediacaran (see chart on next page). These early fossils are interpreted by some (though not all) palaeontologists as eggs or early-stage embryos. What they would have grown into is obscure, for the Doushantuo contains no adult animals. But creatures as much as a metre across that may or may not be jellyfish, sea pens and worms of some description (see pictures), and which are known as the Ediacaran fauna, appear and become abundant from about 575m years ago. None, though, had shells, so they did not preserve easily—one reason why early fossil hunters missed them.

Then, suddenly, animals started putting on armour. The fossil record of these

armoured creatures, known as the small shelly fauna, marks the beginning of the Cambrian period, 542m years ago. Crucially, although the small-shelly-fauna fossils are mainly disarticulated bits and pieces, those bits and pieces come from different types of animal, and are made of a variety of materials. They are probably, therefore, the result of parallel evolution rather than of a single innovation which bestowed upon its descendants the power to take over the world.

Where the creatures of the small shelly fauna led, others rapidly followed. Echinoderms (a group represented today by starfish and sea urchins) were there from 540m years ago. Brachiopods (lampshells) appeared 530m years ago and the Cambrian's most iconic fossils, the trilobites, date from 521m years ago. In a geological eyeblink, the explosion had happened.

Once more, though, things are not straightforward. The diversity of form of the first known trilobites, for instance, suggests they had been evolving for millions of years before they all, simultaneously, acquired coats of armour. And some people claim that an Ediacaran fossil called *Arkaria* is an echinoderm, though it lacks the shelly exoskeleton characteristic of the group. Moreover, certain strata with particularly good preservation, such as the Burgess shale in western Canada, show that the explosion was not just connected with the evolution of hard body parts. Soft-bodied creatures diversified as well.

One explanation for the Cambrian explosion is that something changed in the physical environment. Perhaps it was a rise in oxygen levels, which allowed the respiratory requirements of larger animals ➤



A jellyfish?



A who-knows-what



► to be accommodated. Perhaps it was more calcium in the sea, providing material for the construction of shells—for these are often made of calcium carbonate, calcium phosphate or both.

Evidence for either of these possibilities is scarce, but there may be a link to a phenomenon dubbed “Snowball Earth”. This was a period of huge, intermittent ice ages, known formally as the Cryogenian, when glaciers sometimes stretched close to the equator. When these glaciers melted, huge areas of rock were suddenly exposed to weathering, and their mineral contents dumped into the oceans. This might have raised calcium levels (for rocks are full of calcium) or oxygen levels (by pouring nutrients into the sea, and encouraging the growth of photosynthetic algae) or both.

Unfortunately for this explanation, the last of these giant ice ages ended 635m years ago. They might thus have played some part in the evolution of Ediacaran animals, but invoking them to explain the Cambrian explosion is a stretch.

Alternative explanations focus on biology—specifically, the idea that the animals crossed some sort of evolutionary threshold at the beginning of the Cambrian. Their history of increasing complexity certainly makes this plausible. Sponges are mere agglomerations of cells, but jellyfish and sea pens belong to a group called diploblasts, which have much more structure. Diploblasts develop from specialised embryos that have two cellular “germ layers”, the endoderm and the ectoderm. Their adults have proper tissues (for example, nervous systems) and regular, radially symmetrical body shapes. The most complex animals of all, though, are triploblasts. Their embryos have a third germ layer, the mesoderm, between endoderm and ectoderm, and they have many more sorts of tissues than diploblasts, and also discrete organs. In addition, they are bilaterally symmetrical, at least when they are young. And it is the triploblasts that do most of the exploding in the Cambrian.

Bilateral symmetry is advanced as an explanation of the Cambrian explosion because it encourages animals to have a front and a rear. That means they can move purposefully in a particular direction, which radially symmetrical animals find hard. When that happens, sense

organs and the nerves associated with them tend to accumulate at the front, where they are most useful. This process, called cephalisation, encourages bilateral animals to evolve brains, in order to interpret and integrate the signals from the sense organs. And bilateral animals also have linear guts, with a mouth and an anus. That is a much more efficient arrangement than the diploblastic one of expelling the undigestible parts of food items back out of the mouth.

On this view, bilateralism was an advance akin to the evolution of wings. It opened previously unavailable opportunities, one of which was active hunting that relied on directed movement and a cephalised nervous system. That would explain the sudden rise of armoured skeletons in different sorts of animal, as a response to being hunted. Bilateralism alone, then, might have triggered the explosion—but for the inconvenient fact that some Ediacaran fossils (such as the one pictured bottom right on the previous page) are bilaterally symmetrical.

Transitional benefits

There is, however, one other thought—that the Cambrian explosion is not the fundamental mystery it seems to be. The true mystery, rather, is the Ediacaran, whose animals really did appear out of nowhere, and then vanished for reasons unknown before the Cambrian got going.

The fossil record is full of sudden cast changes like this. They are known as mass extinctions. The most famous is the disappearance of the dinosaurs (and a lot of other reptiles) at the end of the Mesozoic era. In due course, these were replaced by

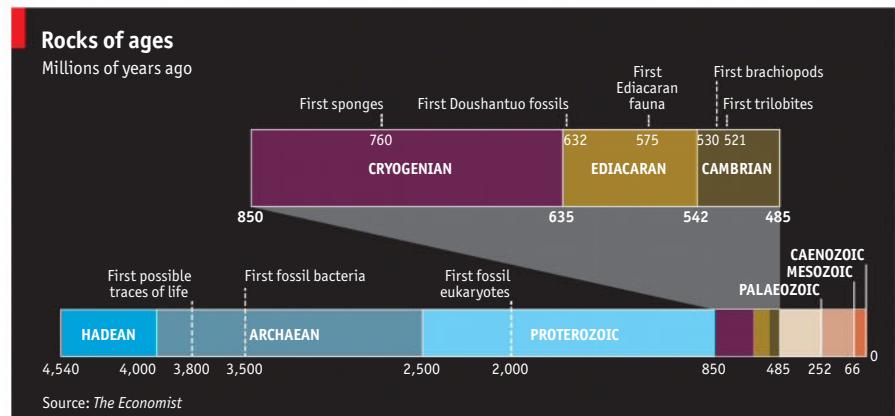
- IN THIS SERIES**
- 1 How did life begin?
 - 2 Is the universe alone?
 - 3 What is the universe really made of?
 - 4 What caused the Cambrian explosion?
 - 5 Why does time pass?
 - 6 What is consciousness?

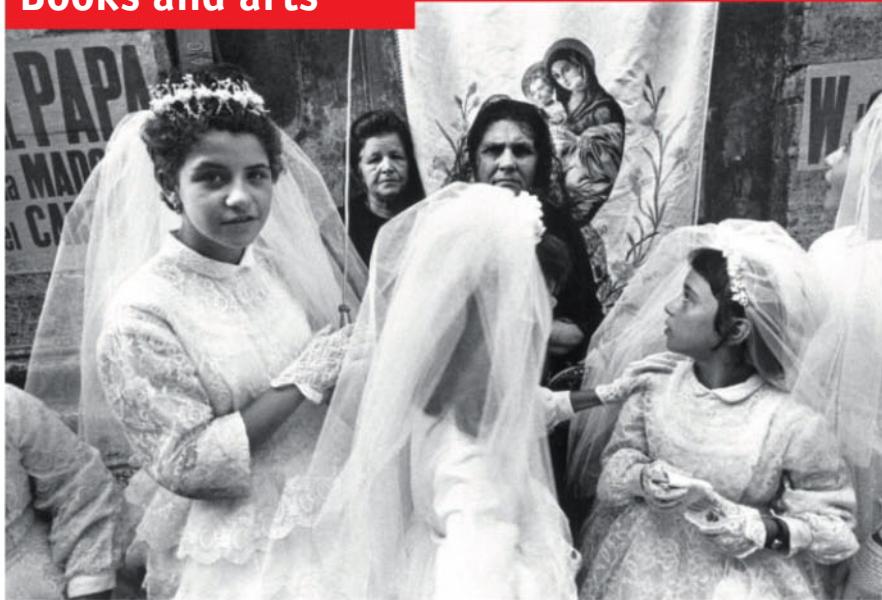
a hitherto unimportant group, the mammals. Much of the supposed uniqueness of the Cambrian explosion is a hangover from the 19th-century belief that there were no Precambrian animals. But, as the Ediacaran fauna shows, that is not true.

In a mass extinction the board of life is cleared of many pieces by an external event, such as the asteroid strike that did for the dinosaurs. It then takes several million years for replacements to evolve from whatever is left. Those remnants might have been (as Mesozoic mammals were) insignificant in the previous regime. In the case of the Ediacaran, given how long ago it was and how few of its rocks are available for inspection, they might thus remain almost undetected by palaeontologists. *Arkarua*, known from a single site in Australia, may be an example of one of these cryptic animals-in-waiting.

It is true that no evidence of an extinction-causing event has been found in rocks that straddle the Ediacaran and Cambrian periods, but several later mass extinctions have no known cause, either. And, if such an extinction did happen, it is perfectly plausible that some unidentified Ediacaran triploblasts went on to play the role of the Mesozoic mammals by emerging from obscurity when the competition had been eliminated. In the chaotic aftermath of the extinction, they would have been able to multiply, diversify and drive each other's evolution (by such means as hunting one another) in ways that foreshadowed those of the modern world, red in tooth and claw. ■

A video to accompany this brief is available at economist.com/sb2015





Italian fiction

Ties that bind

A four-volume feminist novel from Naples has become an unlikely global hit

NOVELS become literary blockbusters for many reasons. Some are created by mountains of marketing cash, some by media saturation. "Fifty Shades of Grey" and Harper Lee's long-lost work, "Go Set a Watchman", both fit this mould. Others are fuelled by something quite different, and their success is impossible to predict. In recent years "The Neapolitan Novels", four volumes by an anonymous Italian author calling herself Elena Ferrante, have become a fictional juggernaut that not even the author's English-language publishers, Europa Editions, saw coming.

Starting with "My Brilliant Friend", which came out in Italy in 2011, the books focus on the lifelong attachment of two women from a tough Neapolitan neighbourhood. In America, where Ms Ferrante had a modest following, not much happened until 2013, when the translation was written up by James Wood, chief critic of the *New Yorker*. (Ann Goldstein, the translator, is an editor at the magazine.) By the time the fourth and final instalment, "The Story of the Lost Child", appears in English next month, the saga will have sold well over 1m copies, with 27 foreign translations to come. A Twitter hashtag coined by an impassioned reader says it all: #FerranteFever is raging.

Italy produces few international best-sellers, and Ms Ferrante's unexpected stardom has caused a stir at home. Some critics have made the sour point that Italians are unable to recognise one of their own. Oth-

The Story of the Lost Child. By Elena Ferrante. Translation by Ann Goldstein. Europa; 464 pages; \$18 and £11.99

ers have speculated about the author's identity, even claiming that work this good could only have been written by a man. The truth is that this serial novel of 1,700 pages is highly unusual. The saga is both comfortingly traditional and radically fresh; it gives readers not just what they want, but something more that they didn't even know they craved. The story, which unfolds over 60 years, is high drama set in an exceptionally vivid world. The two girls, Lila and Elena, inhabit an operatic universe of violence, jealousy, love triangles and political upheaval; they are unforgettable characters in the grand tradition of the 19th-century novel.

Yet it is Ms Ferrante's ability to serve up scorching emotional truth that gives the books their raw power. "If I feel physically as if the top of my head were taken off, I know that is poetry," Emily Dickinson once wrote. Many critics have singled out Ms Ferrante's visceral truth-telling. Elena, the narrator, is unsparing in her descriptions of the seductive, malicious Lila, and her own deepest, most unpalatable feelings. "We have used each other up," she muses in the final book, recalling how she'd once wished that Lila would fall ill and die. "I felt that I had been invented by men, colonised by their imagination," she later ob-

Also in this section

- 67 Why companies fail
- 67 The French Resistance
- 68 The Lewis chessmen
- 69 Islamist violence
- 69 The artist who shocked Japan

For daily analysis and debate on books, arts and culture, visit

Economist.com/culture

serves. The effect of such admissions is electric: relief at the breaking of taboos, recognition of one's own darkest thoughts. Readers have had equally intense responses. Claire Messud, an American novelist (and Mr Wood's wife), says "my private relationship with [the author], so intense and so true, is one that nobody else can fully know." Yet only a few critics have explicitly acknowledged the real subject of this soul-baring. "The Neapolitan Novels" are about what Elena, the narrator, calls "the unforeseen subject, the woman, I"; they are deeply, insistently feminist books.

This is a great novel of female friendship, one that reveals admiration and envy, competition and self-sabotage, emotions that many women experience but do not discuss. Of course the complex, combustible sisterhood is hardly new in Western literature, but here it gains renewed strength, celebrating female survival instead of the suicides or marital redemption of the traditional *Bildungsroman* by male writers like Tolstoy or Flaubert. Misogyny is not experienced in the same way everywhere, yet Ms Ferrante articulates a female rage about it that to many readers—male and female alike—feels universal.

The books' route to success has been equally unconventional. Though effusively praised in highbrow literary circles, they did not immediately gain a wide audience, becoming a cult favourite slowly, through word of mouth. Ms Ferrante's anonymity became the story; innumerable articles speculating on her identity have proved an unintentional marketing bonanza. But while the focus on the author helped to spread her fame, it did little to explain what gives her work enduring value.

From a literary perspective, Ms Ferrante's approach is masterly. She uses the melodramatic tropes of soap opera to tell a cracking good story, all the while smuggling in piercing observations, like a file ➤

baked in a cake. Her work is reminiscent of a Neapolitan theatrical tradition called *sce- neggiata*, a kind of over-the-top musical melodrama about honour, betrayal and crime. Through this fusion of high and low art, Ms Ferrante emerges as a 21st-century Dickens, with readers clamouring for the next instalment at the shops.

The novel may have struck a chord for other reasons, too. Readers are bored by the sameness of Anglo-American fiction, with its middle-class focus and its insistence on dialogue and scene. Above all, the story has what Marina Warner, a British writer and academic, calls "hallucinatory vividness", a density of detail that makes it burn. Ms Ferrante's fiction reminds some of Karl Ove Knausgaard's explicitly autobiographical "My Struggle". But no one really knows how autobiographical Ms Ferrante's work might be. Nor, frankly, should they care. The shelter of anonymity has allowed these exceptional books to emerge; Ms Ferrante has said she would no longer publish if she were to be unmasked. One can only hope that, having spared herself the book tours and the tweeting, she is using that shelter to write something new. Millions of readers will be waiting. ■

Management theory

Blighting the horizon

The Silo Effect: The Peril of Expertise and the Promise of Breaking Down Barriers. By Gillian Tett. Simon & Schuster; 304 pages; \$28.00. Little, Brown; £20

WHY do organisations fail? Sometimes it is because their market or purpose disappears completely, as in the case of, say, video-rental shops. But often it is because as they grow, they lose the same innovative streak that made them a success. Like individuals, groups can become stuck in their ways, with fatal results.

In her new book Gillian Tett, a columnist with the *Financial Times*, blames silos for such failures to adapt. Through eight fables, Ms Tett argues that internal divisions and classifications, say, between doctors and surgeons, hold back creative thinking and encourage turf wars. Breaking them down can lead to innovation and, subsequently, success.

Take Sony. Having invented the path-breaking Walkman, a portable cassette player, in the late 1970s, Sony was one of the world's foremost technology companies. Yet it fell behind during the transition to digital music, despite launching three different digital music players two years before Apple invented the iPod.

The problem, argues Ms Tett, was

Sony's silos. The firm knew it needed to evolve, but its divisions did not work together on a unified strategy or draw on each other's strengths. Instead, Sony's staff were concerned with protecting or expanding their own turf by producing their own—incompatible—products. The company's record label, which should have been an asset, was a hindrance: it feared losing revenue and therefore resisted the digital transition.

Ms Tett contrasts these rigidities with the flexibility of modern organisations like Facebook. By rotating staff through different teams, having only one profit-and-loss account for the entire company and designing offices to encourage social "collisions", it avoids divided thinking. Lest this seem woolly, Ms Tett devotes another chapter to showing how silo-busting has created profitable trading opportunities for hedge funds that ignore the usual distinction between debt and equity analysis.

This is not just a business book. An anthropologist by training, Ms Tett is fascinated by how people organise themselves. Early on, she describes the anthropologist's thirst to seek out and question "social silences"—unspeaking acceptance of the status quo. She compares norms for domestic arrangements in the Kabyle people of Algeria to the rules dictating the layout of New York's City Hall. In both cases, the choices seem natural to those involved but appear strange—even random—to an outsider. To escape cultural silos, people should question everything.

Sometimes Ms Tett stretches the definition beyond recognition. She claims, for instance, that economists who failed to predict the financial crisis fell into a single intellectual silo. Such herding behaviour is the product of thinking that is too homogeneous, not too divided; elsewhere she criticises banks whose different teams value the same security using different models. Using the term "silos" so indiscriminately makes the book's thesis seem imprecise.



Many readers will recognise the problems Ms Tett describes. Although the human tendency to categorise and subdivide can increase efficiency, groups often forget that the divisions they create are artificial. That makes them hard to break down; the success stories Ms Tett describes are typically the result of a new venture, like Facebook, or of a change in leadership. For those languishing at the bottom of a silo, there may be no way out. ■

The French Resistance

Freedom force

Fighters in the Shadows: A New History of the French Resistance. By Robert Gildea. Belknap; 608 pages; \$35. Faber & Faber; £20

GUY MOQUET was just 17 years old when he was executed by firing squad in Nazi-occupied France. In a poignant letter to his family before his death in 1941, the young Communist résistant wrote: "My life has been short, I have no regrets, if only that of leaving you all. I am going to die ... Mummy, what I ask you, what I want you to promise me, is to be brave and to overcome your sorrow." Môquet swiftly entered French history as a Resistance martyr, and remains a potent symbol. In 2007, on the day of his inauguration as president, Nicolas Sarkozy vowed that Môquet's farewell letter would be read out each year in every French high school.

That a Gaullist president should devote his first day in office to the memory of a Communist is a measure of how far the narrative of the Resistance continues to shape France's sense of itself. Môquet, said Mr Sarkozy, embodied more than a patriotic belief in France: he showed that "the greatness of man is to dedicate himself to a cause greater than himself." To this day, French history textbooks dwell on such Resistance heroes. Men in berets, rifles slung over their shoulders, have become in the collective imagination an emblem of the national spirit, uncrushed by terror, defeat or occupation. The greatest mythmaker of them all, Charles de Gaulle, wartime leader of the Free French in London, declared to cheering crowds at the city hall in the summer of 1944 that Paris had been "liberated by its own efforts". "France in combat", he exclaimed, was "the only France, the true France, eternal France."

Yet, as Robert Gildea puts it in an important new book, "Fighters in the Shadows", "de Gaulle's resistance myth was military, national and male." The general's founding narrative was not only part of a skilled rebuilding exercise designed to restore pride to a battered nation. This much, and ►

► the fact that many of the French edged in reality towards some form of compromise with occupied or Vichy France, has been written before. Mr Gildea's point goes further: that de Gaulle's account pushed aside not only women but any sense that resistance in France was part of an "international struggle against fascism and Nazism", which drew in Spanish republicans, eastern European Jews and others.

A historian at Oxford University, Mr Gildea is not the first scholar to document the diverse nature of what has come to be known collectively as the Resistance. He draws on work by many French historians, such as Rolande Trempé and Denis Peschanski (on foreign résistants), or Anny Latour, David Diamant and Annette Wieviorka (on the role of Jews). Mr Gildea's skill has been to weave these together into a scholarly account that blends top-down history with the bottom-up stories of those who schemed, improvised, grabbed chances and risked their lives.

The women who emerge from these pages range from cautious pragmatists to defiant idealists. Even decades later, some underplayed their part. "I don't have much to say," said one elderly French résistante when interviewed 40 years later. Her job in the coal-mining north of France had been to transport dynamite sticks and weapons, hidden under lettuce and leeks in her basket. Some defied the social codes and got to see action. Anne-Marie Walters was described in a paramilitary-training report as "inclined to get overexcited and is slightly hysterical". Despite these apparent deficiencies, she was successfully parachuted into France in 1943. Another, Colette Nirouet, fought underground in Auvergne and was shot dead in late 1944 when trying to force a German unit to surrender. It was not until this year that female résistantes, Germaine Tillion and Geneviève de Gaulle, the general's niece, were admitted for the first time to the Panthéon, the resting place for French heroes.

A similarly mixed cast of foreign résistants peoples the book: Jewish Bolsheviks, Spanish refugees, Italian anti-fascists, immigrant Russian and Polish Jews. Among them was Marcel Langer, a Polish-born Jew, who led a unit of immigrant fighters in Toulouse known as the 35th brigade, before being arrested, sentenced to death by a Vichy court and guillotined. Or Vicente López Tovar, a Spanish-born Communist guerrilla well used to "battle and hardship" from fighting Franco's regime, who led the liberation of Périgueux and Agen in the French south-west.

Mr Gildea is good too on the competing aspirations of Communists and Gaullists, and the distrust between de Gaulle and the Allies, in the run-up to liberation and after. Communist résistants sought national insurrection; de Gaulle intended to "reassert the authority of the French state". A week

before General Leclerc led his tanks into Paris, a concession secured from the Allies by de Gaulle, the Communist-led Paris Liberation Committee ordered a popular uprising. Insurgents ignored the truce with the Germans negotiated by the Gaullists; chaos ensued. Right up to the end, in other words, resistance in France was far more complex and divided than the linear legend of liberation allows. ■

The Lewis chessmen

Bones of contention

Ivory Vikings: The Mystery of the Most Famous Chessmen in the World and the Woman Who Made Them. By Nancy Marie Brown. St. Martin's Press; 288 pages; \$26.99

IN 2010 an amateur Icelandic historian crashed an international symposium on the Lewis chessmen, the greatest cache of medieval game pieces ever found. Guðmundur Thorarinsson, a chess-player (and an engineer by profession), hoped to convince the assembled scholars that the 92 walrus ivory pieces unearthed on the Isle of Lewis, off the west coast of Scotland, in 1831 were the work of a woman carver commissioned by a medieval Icelandic bishop. He was dismissed as a "nuthead". Though no one really knows where the chessmen were made, the consensus of curators of the Lewis hoard held by the British Museum and the National Museum of Scotland is that they probably originated in Norway late in the 12th century.

Mr Thorarinsson's theory, however, caught the eye of Nancy Marie Brown, an American who has written extensively on the Viking age. Alerted by the disparaging of medieval Iceland as a "scrappy place full of farmers", she begged to differ. The result is "Ivory Vikings", the absorbing story of long-ago links between the British Isles and Scandinavia that puts the Lewis chessmen into a vivid and much broader cultural context of Viking trade, plunder and sophisticated gift-giving.

These stolid, expressive little figurines are star draws in the museums that possess them. Ms Brown aptly calls them "Norse netsuke" (after the little Japanese carvings), shaped with skill and whimsy from what the Icelandic sagas term "fish

teeth": the queens, one hand pressed in alarm or woe to a cheek; the grim kings with braided hair, thrones elaborately detailed with Romanesque loops; the doughty, somewhat ludicrous knights; mitered bishops; and most of all the rooks, several biting their shields, unmistakably representations of Viking "berserks", the warriors of the Norse god Odin.

The pieces, which come from several sets, are the earliest to include bishops, and also among the first to include queens rather than counts and viziers, highlighting the evolution of the war game as it travelled from India to Europe. Ms Brown uses her extensive knowledge of Icelandic literature to try to deduce just who might have put those bishops and queens on the board. Her book is a social history that romps through the evolution of chess, walrus hunting in the far north, Viking marauding from the Mediterranean to the Caspian seas, and recent discoveries of walrus tusks and carvings across the North Atlantic that reveal the Vikings as "players in a huge cultural network, trafficking in goods and ideas".

Ultimately she concurs with the amateur who argued that Bishop Pall Jonsson of Skalholt in Iceland might well have commissioned the Lewis chessmen from his favourite carver, one Margret the Adroit. The 13th-century "Saga of Bishop Pall" describes an aesthete fond of lavish gifts: beautifully carved crosiers of walrus ivory he sent to fellow bishops, made by Margret, "who at that time was the most skilled carver in all Iceland". At a time of strife between king and pope over who wielded authority, Ms Brown argues, Bishop Pall Jonsson was the Norse bishop "whose role in real life most closely matches that of the bishop on the chessboard".

Despite the book's subtitle, readers learn frustratingly little about Margret; the historical record is too lean. But the story bristles with fascinating facts: walrus tusks were so valuable that they were "Arctic gold"; 80% of farm names on Lewis are Norse. The Scottish National Party insisted last year

that if the independence referendum passed, the treasures should be repatriated. The mystery of their finding is as deep as that of their making, involving secrets that intersect with the Highland Clearances and Sir Walter Scott.

Ms Brown describes landscapes and her Norsemen and women with a lucid, dry humour. Though rather too heavy on the sagas, with their dizzying procession of chieftains and kings, she has done the reader a great service by widening the debate into an engaging, accessible tale. ■



Islamist violence

Hydra-headed

The New Threat from Islamic Militancy. By Jason Burke. *The New Press; 304 pages; \$24.95. Bodley Head; £16.99*

ISLAMIC STATE (is) poses a terrorist threat that is greater than any before or since the terrorist attacks of September 11th 2001, at least according to the British home secretary, Theresa May, speaking last November as she sought to justify extensive new counter-terrorist powers for the government. Barack Obama, also seeking greater powers to attack the group, made a similar assertion three months later: that is threatens the American homeland itself. With the fall of Ramadi in Iraq and Palmyra in Syria in May, is has shown that it is still on the march. How much ought the West to fear the self-styled “caliphate”?

Perhaps not as greatly as politicians make out, according to Jason Burke. In his latest book, “The New Threat from Islamic Militancy”, he usefully divides the dangers into three main sources, and readers may gain a degree of reassurance from each; so long, that is, as they are not living in the Middle East or parts of Africa.

Into the first category of threat fall the two main organised groups, al-Qaeda and is. Much of the book consists of a detailed (if somewhat familiar) account of their history and progress. Al-Qaeda, Mr Burke rightly notes, has been constrained and degraded by punishing drone strikes, the killing of its leaders and impressive intelligence-gathering. The September 11th attacks marked its high-water mark, not the start of a series of victories.

The same goes for is, which broke away from al-Qaeda in part because is believes that attacking the “far enemy” (the West) rather than the “near enemy” (the regimes that now rule in place of the dismembered Ottoman caliphate) was a counter-productive distraction. is, as Mr Burke notes, has generally shown little interest in committing or even inspiring acts of terror in the West (though that could change). But is, and to a lesser extent al-Qaeda, does pose a huge, and still growing, threat to governments across the Middle East and parts of Africa.

Much of that danger comes not from al-Qaeda or is themselves, but from the organised groups that are loosely connected to them. And it is in discussing these developments that Mr Burke’s work is at its most comprehensive. Significantly, the author finds that there is very little, if any, central control exercised; pledging allegiance to al-Qaeda or is is not much more than a matter of branding.

Contemporary art in Japan

Educating Aida

TOKYO

A show for children by Makoto Aida offends the adults in government

ABABY giggles as its headphones supply a critique on Japanese society to accompany a video of school girls whirling with phallic “moya-moya” sticks fashioned from imaginary heart tissue. The video installation is part of an exhibition at the Museum of Contemporary Art Tokyo that includes Makoto Aida, who has specialised for years in being offensive. Bizarrely, the show is intended for youngsters on their summer holidays, and is all the more provocative for that.

Mr Aida is often labelled sadist, racist and misogynist. An exhibition at the private Mori Art Museum in 2012-13 included a video of himself masturbating in front of the kanji characters for “beautiful young girl”. Another notorious work showed countless naked and bloodied schoolgirls being mashed up in a fruit blender.

The artist usually demurs when asked what his works mean, but here he says his aim is to show a highly unusual family speaking in a blunt way, to encourage

others. His wife, also an artist, and his son built some of the exhibits. Japanese mothers are mocked in a study of a Channel-logoed “Lunch Box of a Brand Addicted Housewife”. Bi-racial couples (dorky American male paired with cutesy Japanese girlfriend) are also sent up as they construct a vagina from raw shellfish in a video called “Love and Hate Bento”.

The heart of the show is perhaps weightier—a ceiling-high vertical banner of handwritten script in the style of the 1970s radical left wing, attacking Japan’s education system, including the “shit” way it evaluates students for university and teaches youngsters to conform.

Mr Aida reckons it was this direct attack on the education ministry, not the exhibition’s barely concealed eroticism or its general weirdness, that almost caused the museum to cancel it just after its July opening. International reporting about the threat of censorship kept it in place.

As if to guard the work, Mr Aida sits in a corner of the gallery. More than one tot looks rattled by another video installation, the spooky yet (to adults) hilarious “Video of a Man Calling Himself Japan’s Prime Minister Making a Speech at an International Assembly”. In it, Mr Aida appears as Shinzo Abe, the current prime minister, saying sorry for Japan’s role in the second world war. (The real Mr Abe avoided doing so in his statement on the war earlier this month.)

It is Mr Aida’s first exhibition in a public space, which may signify that he is edging towards the mainstream. Not all of the public are appalled. A strong theme of the show is how Japan stamps kids from a mould, says Akane Watanabe, a 35-year-old woman with her six-year-old daughter. Instead, she says, “we should bring them up without damaging their minds and honesty.”

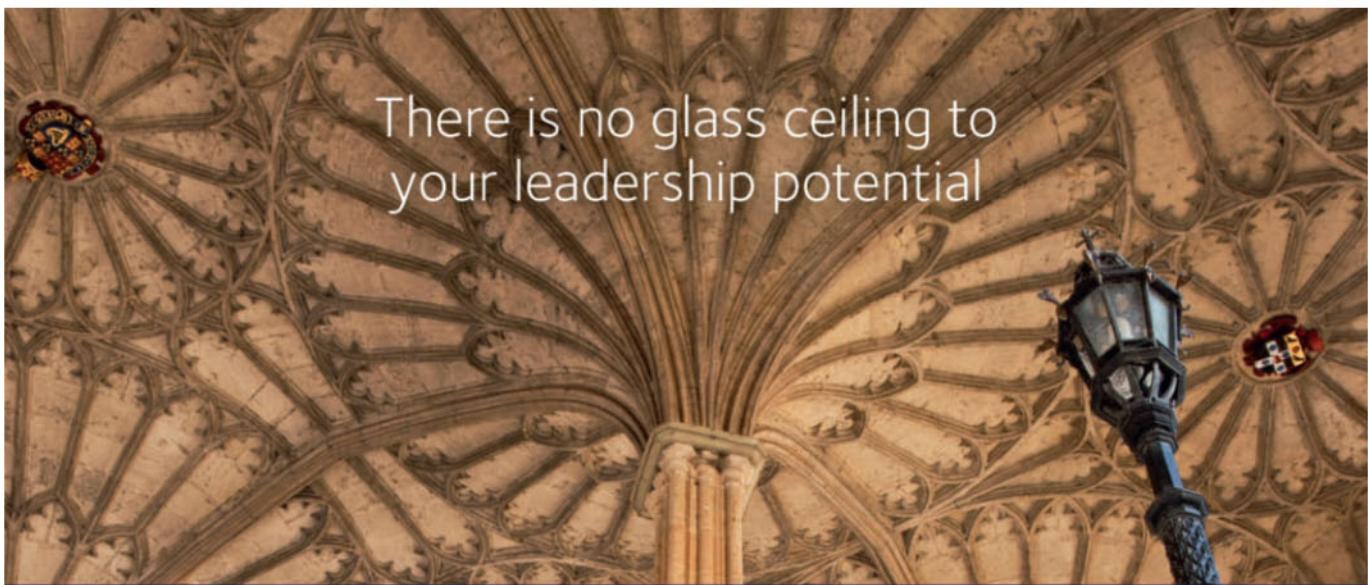


Good clean family fun

The third category the book investigates will be of most interest to policymakers in the West. These are what Mr Burke calls the leaderless jihadis, home-grown terrorists like the killers of Drummer Lee Rigby in London in 2013, or the brothers who carried out the Charlie Hebdo attack this year. Mr Burke calls this informal grouping of dangerous malcontents “The Movement”, though that term exaggerates its cohesion.

The West’s leaders know that such attacks cannot all be prevented, but there is good news here, too. First, revulsion

against such crimes has led to greatly enhanced co-operation by Western Muslims with the security services; though at the same time, the power of social media has allowed the Movement’s poisonous message to spread with greater ease. And second, there is no reason to suppose that even the horrors of the war in Syria, which have drawn perhaps a few thousand foreign fighters from Western lands, will lead to more violence when the fighters come home. That did not happen with Afghanistan or Bosnia and it does not look likely to happen now. ■



There is no glass ceiling to your leadership potential

At Oxford Saïd, leadership is at the core of what we do, challenging leaders to think deeply and care fully about the future of business. From our MBA programmes and executive education portfolio on leadership, to our Responsible Leadership Speaker series and Power Shift conferences, we challenge traditional thinking and find unexpected solutions to complex global problems.

To find out more about leadership at Oxford visit:
www.sbs.ox.ac.uk/oxfordleadership



Cambridge Judge Business School

SHARPEN YOUR FINANCIAL THINKING

The Cambridge Financial Management Programme of Achievement is a comprehensive, in-depth suite of six, two-day finance modules offering a holistic view of all the major concepts in finance. The programme is designed for those wishing to switch into a finance position, or those in a new finance role. Gain the confidence and competence to enhance your future in finance in our unique Cambridge learning environment.



 UNIVERSITY OF CAMBRIDGE
Judge Business School
Executive Education

Find out more >>
www.jbs.cam.ac.uk/fmpa

Ranked #1 in Austria

why not study at the top?
 Undergraduate · Graduate · Executive · Corporate

Apply now!
MBA online
www.mci.edu/mba-online

Business · Management · Entrepreneurship · IT
 Law · Media · Communication · Tourism · Health
 Engineering · Social · Technology · Life Sciences

>> Global Scholarships available <<



www.mci.edu
 THE ENTREPRENEURIAL SCHOOL®


MCI
 MANAGEMENT CENTER
 INNSBRUCK

Appointments



Chief Executive Officer

ECFR seeks a CEO to work alongside the founding Director in a co-leadership team based at the London office of this award-winning pan-European foreign policy think tank with offices in Berlin, London, Madrid, Paris, Rome, Sofia and Warsaw. The CEO will shape and facilitate organisational strategy, programme priorities and operations that ensure ECFR's impact and sustainability.

Applicants should possess sound experience of leading a dynamic organisation, operating in multiple countries, mentoring senior managers and engaging with a high-profile Board. Prior experience in a not-for-profit environment an advantage. Competitive salary and benefits.

For further information, visit www.ecfr.eu. **Closing date: 27 September 2015**

*ECFR is an equal opportunities employer. Registered Company and Charity in England and Wales
Company Reg. Number 07154609 Charity Number 1143536*



This intergovernmental organization seeks to recruit a

Head of Operations

You will be responsible to the Executive Director for all operational activities of the ICO. This will include managing the following departments: Economics, Projects, Statistics, Documents, Library/Information and the Secretariat.

Qualifications: advanced university degree in a relevant subject; proven professional competence in the ICO's field, and the coffee sector in particular; at least 10 years senior management experience; excellent command of written and spoken English, plus knowledge of at least two of French, Spanish or Portuguese.

Salary: UN scale D1.

For further details, please see the 'Contact Us' section on our website: www.ico.org

Applications to:

Executive Director, ICO, 22 Berners Street, London W1T 3DD or ed@ico.org by 11 September 2015. Applicants must be from Member countries of the International Coffee Organization.

Business & Personal

OFFSHORE COMPANIES & TRUSTS
OVER 20 YEARS EXPERIENCE • LICENCED TRUST MANAGERS • OWNED BY UK LAWYERS

PERSONAL & CORPORATE TAX PLANNING
WEALTH & ASSET PROTECTION
PRIVATE & SECURE CREDIT CARDS

✉ +44 (0) 207 731 2020
✉ enquiries@scfgroup.com


www.scfgroup.com

To advertise within the classified section, contact:

United Kingdom

Martin Cheng - Tel: (44-20) 7576 8408
martincheng@economist.com

Europe

Sandra Huot - Tel: (33) 153 9366 14
sandrahuot@economist.com

Asia

David E. Smith - Tel: (852) 2585 3232
davidesmith@economist.com



EXPERTS, Ministry of Development Planning and Statistics (MDPS), Qatar



وزارة التخطيط والتعمير والجودة
Ministry of Development Planning and Statistics

MDPS coordinates and prepares Qatar's national development strategies, follows up on their implementation, and monitors and reports on achievements. MDPS is also Qatar's official statistical agency.

The MDPS is looking to recruit EXPERTS with national level strategic planning experience and subject matter knowledge of ECONOMICS, ENVIRONMENT, HUMAN DEVELOPMENT, and STRATEGY IMPLEMENTATION. MDPS is also looking to recruit experts in STATISTICS.

Requirements: Masters' degree with at least 8 years relevant experience or a PhD with at least 5 years relevant work experience. Arabic and English language reading and writing fluency is strongly preferred. Applicants should demonstrate a track record of results.

Experts with the following subject matter or functional knowledge and experience are sought:

ECONOMICS and ENVIRONMENT

Public finance and fiscal policy; capital investment; private sector; energy and natural resource economics; macroeconomics; "green economy" and industrial policy; climate change; waste management; marine and built environment; environmental policy and regulation

HUMAN and SOCIAL DEVELOPMENT

Human development; health; education and human capital; labour market and social protection; social innovation and social policy

INSTITUTIONAL DEVELOPMENT

The design, follow-up and evaluation of national development strategies, and institutional performance management.

STATISTICIANS

Economic, social and environment statistics; census and survey design and implementation; statistical analysis, data interpretation and visualization.

Please send a detailed CV with a supporting letter, before 25 September 2015, to recruitment_experts@mdps.gov.qa.

Clearly state in the subject line which position you are applying for. For more information, visit www.mdps.gov.qa. Only short-listed candidates will be contacted.

Tenders



Call for proposals – Pre-investment Inception Study: Iron, Steel & Metal Products Manufacturing Project (ISMP), Ethiopia

The Government of Ethiopia, in collaboration with the UK Department for International Development (DFID), would like to invite qualified organisations to submit proposals to carry out a pre-investment inception study of iron-steel-metal product sector investment opportunities, with the ultimate aim of creating a sustainable and internationally competitive iron, steel and metal industry in Ethiopia.

The study will comprise four components: 1. market study; 2. technical configuration; 3. institutional structure; 4. transport and logistics. The key output will be a comprehensive, evidence-based report containing recommendations on whether to proceed to the next pre-investment/pre-feasibility stage. It is expected that the inception study will be completed by February 2016.

The successful bidder will be contracted through the DFID-funded Private Enterprise Programme Ethiopia (PEPE).

To obtain the terms of reference for this work please contact ismp tender@pepeteam.org.

Deadline for applications: 18 September 2015

Economic data

% change on year ago

	Gross domestic product			Industrial production latest	Consumer prices latest 2015 [†]	Unemployment rate, %	Current-account balance		Budget balance % of GDP 2015 [†]	Interest rates, % 10-year gov't bonds, latest	Currency units, per \$ Aug 26th	Year ago
	latest	qtr*	2015 [†]				latest	% of GDP 2015 [†]				
United States	+2.3 Q2	+2.3	+2.4	+1.3 Jul	+0.2 Jul	+0.4	5.3 Jul	-406.4 Q1	-2.6	-2.6	2.12	-
China	+7.0 Q2	+7.0	+6.9	+6.0 Jul	+1.6 Jul	+1.5	4.0 Q2 [§]	+291.4 Q2	+3.0	-2.7	3.21 ^{§§}	6.41
Japan	+0.7 Q2	-1.6	+0.9	+2.3 Jun	+0.4 Jun	+0.7	3.4 Jun	+97.1 Jun	+2.6	-6.8	0.37	120
Britain	+2.6 Q2	+2.8	+2.6	+1.5 Jun	+0.1 Jul	+0.2	5.6 May ^{††}	-180.5 Q1	-4.8	-4.4	1.84	0.65
Canada	+2.1 Q1	-0.6	+1.5	-4.1 May	+1.3 Jul	+1.1	6.8 Jul	-42.2 Q1	-2.7	-1.8	1.44	1.33
Euro area	+1.2 Q2	+1.3	+1.4	+1.2 Jun	+0.2 Jul	+0.2	11.1 Jun	+317.6 Jun	+2.5	-2.1	0.71	0.88
Austria	+0.4 Q2	-2.9	+0.6	-0.1 Jun	+1.2 Jul	+1.0	6.0 Jun	+6.5 Q1	+1.2	-2.1	1.08	0.88
Belgium	+1.3 Q2	+1.8	+1.3	-4.5 Jun	+0.5 Jul	+0.4	8.6 Jun	+12.1 Mar	+1.3	-2.6	1.14	0.88
France	+1.0 Q2	nil	+1.2	+0.6 Jun	+0.2 Jul	+0.3	10.2 Jun	-4.2 Jun [‡]	-0.9	-4.1	1.13	0.88
Germany	+1.6 Q2	+1.8	+1.7	+0.6 Jun	+0.2 Jul	+0.5	6.4 Jul	+283.1 Jun	+7.4	+0.7	0.71	0.88
Greece	+1.5 Q2	+3.1	+0.5	-4.3 Jun	-2.2 Jul	-1.0	25.0 May	+2.1 Jun	+2.6	-3.8	9.31	0.88
Italy	+0.5 Q2	+0.7	+0.6	-0.3 Jun	+0.2 Jul	+0.2	12.7 Jun	+45.6 Jun	+2.1	-2.9	1.98	0.88
Netherlands	+1.6 Q2	+0.3	+2.0	+3.6 Jun	+1.0 Jul	+0.4	8.5 Jul	+91.4 Q1	+9.6	-1.8	0.95	0.88
Spain	+3.1 Q2	+4.1	+2.9	+7.4 Jun	+0.1 Jul	-0.3	22.5 Jun	+15.8 May	+0.7	-4.4	2.10	0.88
Czech Republic	+4.0 Q1	+3.6	+3.1	+8.0 Jun	+0.5 Jul	+0.3	6.3 Jul [§]	+0.8 Q1	-0.1	-1.8	0.91	24.0
Denmark	+1.5 Q1	+2.0	+1.8	+10.6 Jun	+0.7 Jul	+0.6	4.7 Jun	+21.4 Jun	+6.7	-2.9	0.94	6.60
Norway	+2.2 Q2	-0.4	+0.7	+5.7 Jun	+1.8 Jul	+1.6	4.5 Jun ^{††}	+39.3 Q1	+9.3	+6.0	1.48	8.38
Poland	+3.7 Q1	+3.6	+3.4	+3.7 Jul	-0.7 Jul	+0.2	10.1 Jul [§]	-1.0 Jun	-1.4	-1.5	2.95	3.74
Russia	-4.6 Q2	na	-3.6	-4.6 Jul	+15.6 Jul	+14.8	5.3 Jul [§]	+68.7 Q2	+5.0	-2.8	11.71	68.9
Sweden	+2.9 Q2	+4.0	+2.5	+1.2 Jun	-0.1 Jul	+0.2	6.5 Jul [§]	+38.1 Q1	+6.1	-1.2	0.64	8.49
Switzerland	+1.1 Q1	-0.8	+0.7	-0.5 Q1	-1.3 Jul	-1.0	3.3 Jul	+53.7 Q1	+6.7	+0.2	-0.15	0.95
Turkey	+2.3 Q1	na	+2.9	+7.4 Jun	+6.8 Jul	+7.4	9.3 May [§]	-44.7 Jun	-4.6	-1.6	10.21	2.93
Australia	+2.3 Q1	+3.8	+2.4	+2.8 Q1	+1.5 Q2	+1.7	6.3 Jul	-41.9 Q1	-3.1	-2.4	2.66	1.40
Hong Kong	+2.8 Q2	+1.6	+2.3	-1.6 Q1	+2.5 Jul	+3.1	3.3 Jul ^{†‡}	+5.9 Q1	+2.8	nil	1.72	7.75
India	+7.5 Q1	+11.0	+7.6	+3.8 Jun	+3.8 Jul	+5.4	4.9 2013	-27.5 Q1	-1.2	-4.1	7.79	66.0
Indonesia	+4.7 Q2	na	+4.9	+5.8 Jun	+7.3 Jul	+6.3	5.8 Q3 [§]	-21.6 Q2	-2.6	-2.0	8.97	14,046
Malaysia	+4.9 Q2	na	+5.5	+4.4 Jun	+3.3 Jul	+2.6	3.1 Jun [§]	+8.8 Q2	+3.4	-4.1	4.45	4.23
Pakistan	+5.5 2015**	na	+5.7	+3.9 Jun	+1.8 Jul	+4.1	6.0 2014	-2.2 Q2	-0.6	-5.1	9.20 ^{†††}	102
Philippines	+5.6 Q2	+7.4	+6.6	-3.6 Jun	+0.8 Jul	+2.6	6.4 Q2 [§]	+14.5 Mar	+4.1	-1.9	4.27	46.6
Singapore	+1.8 Q2	-4.0	+3.1	-6.1 Jul	-0.4 Jul	+0.4	2.0 Q2	+69.5 Q2	+21.3	-0.7	2.68	1.41
South Korea	+2.2 Q2	+1.2	+2.8	+1.2 Jun	+0.7 Jul	+1.0	3.7 Jul [§]	+102.2 Jun	+7.6	+0.4	2.26	1,183
Taiwan	+0.5 Q2	-6.6	+3.4	-3.0 Jul	-0.7 Jul	+0.2	3.7 Jul	+72.8 Q2	+12.8	-1.1	1.07	32.5
Thailand	+2.2 Q4	+7.1	+3.5	-8.0 Jun	-1.0 Jul	+0.8	0.8 Jun [§]	+16.1 Q1	+2.4	-2.0	2.61	35.6
Argentina	+1.1 Q1	+0.8	-0.2	+0.6 Jul	— ***	—	6.6 Q2 [§]	-6.0 Q1	-1.4	-3.3	na	9.28
Brazil	-1.6 Q1	-0.6	-1.7	-3.2 Jun	+9.6 Jul	+8.7	7.5 Jul [§]	-89.4 Jul	-4.1	-5.8	13.98	3.60
Chile	+1.9 Q2	nil	+2.9	+1.6 Jun	+4.6 Jul	+3.8	6.5 Jun ^{††}	-0.3 Q2	-1.3	-2.0	4.51	705
Colombia	+2.8 Q1	+3.3	+3.3	+1.5 Jun	+4.5 Jul	+4.2	8.2 Jun [§]	-20.7 Q1	-6.6	-2.1	7.76	3,262
Mexico	+2.2 Q2	+2.0	+2.6	+1.4 Jun	+2.7 Jul	+3.0	4.4 Jun	-25.3 Q2	-2.4	-3.4	6.09	17.0
Venezuela	-2.3 Q3	+10.0	-4.2	na	+68.5 Dec	+76.4	6.6 May [§]	+10.3 Q3	-1.8	-16.5	10.96	6.31
Egypt	+4.3 Q4	na	+4.2	-0.5 May	+8.3 Jul	+9.9	12.7 Q2 [§]	-10.2 Q1	-1.4	-11.0	na	7.83
Israel	+1.9 Q2	+0.3	+3.4	+5.0 Jun	-0.3 Jul	-0.2	5.3 Jul	+11.7 Q1	+4.8	-2.9	2.14	3.93
Saudi Arabia	+3.5 2014	na	+2.7	na	+2.2 Jul	+2.7	5.7 2014	+39.7 Q1	-2.4	-12.1	na	3.75
South Africa	+1.2 Q2	-1.3	+2.0	-1.0 Jun	+5.0 Jul	+4.9	25.0 Q2 [§]	-18.7 Q1	-5.3	-3.8	8.43	13.1

Source: Haver Analytics. *% change on previous quarter, annual rate. [†]The Economist poll or Economist Intelligence Unit estimate/forecast. [§]Not seasonally adjusted. [‡]New series. **Year ending June. ^{††}Latest 3 months. ^{†‡}3-month moving average. ^{§§}5-year yield. ^{***}Official number not yet proven to be reliable; The State Street PriceStats Inflation Index, July 27.18%; year ago 37.89%. ^{†††}Dollar-denominated bonds.

Independence
we
still
whatever
we

Markets

	% change on			
	Index Aug 26th	one week	Dec 31st 2014 in local currency terms	in \$
United States (DJIA)	16,285.5	-6.1	-8.6	-8.6
China (SSE)	3,066.6	-22.9	-9.5	-12.4
Japan (Nikkei 225)	18,376.8	-9.1	+5.3	+5.9
Britain (FTSE 100)	5,979.2	-6.6	-8.9	-9.3
Canada (S&P TSX)	13,381.6	-4.7	-8.5	-20.4
Euro area (FTSE Euro 100)	1,055.5	-7.4	+1.8	-4.1
Euro area (EURO STOXX 50)	3,170.7	-7.6	+0.8	-5.0
Austria (ATX)	2,266.7	-7.2	+4.9	-1.1
Belgium (Bel 20)	3,346.2	-7.0	+1.9	-4.0
France (CAC 40)	4,501.1	-7.8	+5.3	-0.7
Germany (DAX)*	9,997.4	-6.4	+2.0	-3.9
Greece (Athex Comp)	622.7	-7.8	-24.6	-29.0
Italy (FTSE/MIB)	21,473.8	-6.5	+12.9	+6.5
Netherlands (AEX)	428.7	-8.6	+1.0	-4.8
Spain (Madrid SE)	1,012.2	-7.4	-2.9	-8.5
Czech Republic (PX)	984.9	-3.5	+4.0	+0.2
Denmark (OMXCB)	818.9	-7.8	+21.3	+14.0
Hungary (BUX)	21,190.9	-4.2	+27.4	+19.9
Norway (OSEAX)	615.0	-5.2	-0.8	-10.8
Poland (WIG)	49,318.6	-6.0	-4.1	-8.3
Russia (RTS, \$ terms)	754.6	-5.0	+10.5	-4.6
Sweden (OMX30)	1,458.2	-6.1	-0.4	-7.7
Switzerland (SMI)	8,548.8	-7.6	-4.8	-0.1
Turkey (BIST)	73,615.9	-2.2	-14.1	-31.6
Australia (All Ord.)	5,178.9	-3.7	-3.9	-16.2
Hong Kong (Hang Seng)	21,080.4	-9.0	-10.7	-10.7
India (BSE)	25,714.7	-7.9	-6.5	-10.8
Indonesia (JSX)	4,237.7	-5.5	-18.9	-28.9
Malaysia (KLCSE)	1,580.4	-0.1	-10.3	-26.2
Pakistan (KSE)	33,537.4	-5.4	+4.4	+0.9
Singapore (STI)	2,873.0	-5.5	-14.6	-19.5
South Korea (KOSPI)	1,894.1	-2.3	-1.1	-8.4
Taiwan (TWI)	7,715.6	-3.8	-17.1	-19.4
Thailand (SET)	1,320.1	-4.3	-11.9	-18.7
Argentina (MERV)	10,290.2	-6.1	+19.9	+9.4
Brazil (BVSP)	46,038.1	-1.2	-7.9	-32.7
Chile (IGPA)	18,013.8	-2.4	-4.5	-17.8
Colombia (IGBC)	8,892.6	-6.2	-23.6	-43.8
Mexico (IPC)	42,323.0	-2.6	-1.9	-15.3
Venezuela (IBC)	14,924.9	+0.1	+287	na
Egypt (Case 30)	6,873.5	-5.1	-23.0	-29.7
Israel (TA-100)	1,390.6	-6.9	+7.9	+6.6
Saudi Arabia (Tadawul)	7,384.5	-7.8	-11.4	-11.4
South Africa (JSE AS)	48,359.2	-3.6	-2.8	-14.3

Market volatility

The CBOE volatility index, or VIX, is also known as the "fear index". This week it jumped to its highest level since 2011. The VIX, which is calculated using S&P 500 options prices, has been placid most of this year, with the exception of a brief spike last month during Greece's debt crisis. But on August 24th, after a Chinese stockmarket crash triggered a global sell-off, the fear index rose to over 40 points (a reading below 20 suggest markets are unusually calm, and one over 30 indicates investor uncertainty). European and Chinese volatility indices also rose sharply. The main source of anxiety is the state of the Chinese economy, but an impending interest-rate increase in America is also fuelling worry.



Source: Bloomberg

Other markets

	% change on			
	Index Aug 26th	one week	Dec 31st 2014 in local currency terms	in \$
United States (S&P 500)	1,940.5	-6.7	-5.8	-5.8
United States (NAScomp)	4,697.5	-6.4	-0.8	-0.8
China (SSEB, \$ terms)	279.1	-21.5	-0.8	-4.0
Japan (Topix)	1,479.0	-10.3	+5.1	+5.7
Europe (FTSEurofirst 300)	1,380.9	-8.3	+0.9	-4.9
World, dev'd (MSCI)	1,616.5	-6.3	-5.5	-5.5
Emerging markets (MSCI)	787.3	-6.3	-17.7	-17.7
World, all (MSCI)	389.0	-6.3	-6.8	-6.8
World bonds (Citigroup)	883.8	+1.5	-2.0	-2.0
EMBI+ (JP Morgan)	686.1	-1.2	-0.8	-0.8
Hedge funds (HFRX)	1,194.6 [§]	-2.4	-2.0	-2.0
Volatility, US (VIX)	30.3	+15.3	+19.2 (levels)	
CDSs, Eur (iTRAXX) [†]	74.0	+8.7	+8.1	+1.8
CDSs, N Am (CDX) [†]	82.7	+6.1	+17.9	+17.9
Carbon trading (EU ETS) €	8.1	-2.8	+11.1	+4.7

Sources: Markit; Thomson Reuters.

*Total return index.

†Credit-default-swap spreads, basis points. [§]Aug 25th.

Indicators for more countries and additional series, go to: Economist.com/indicators

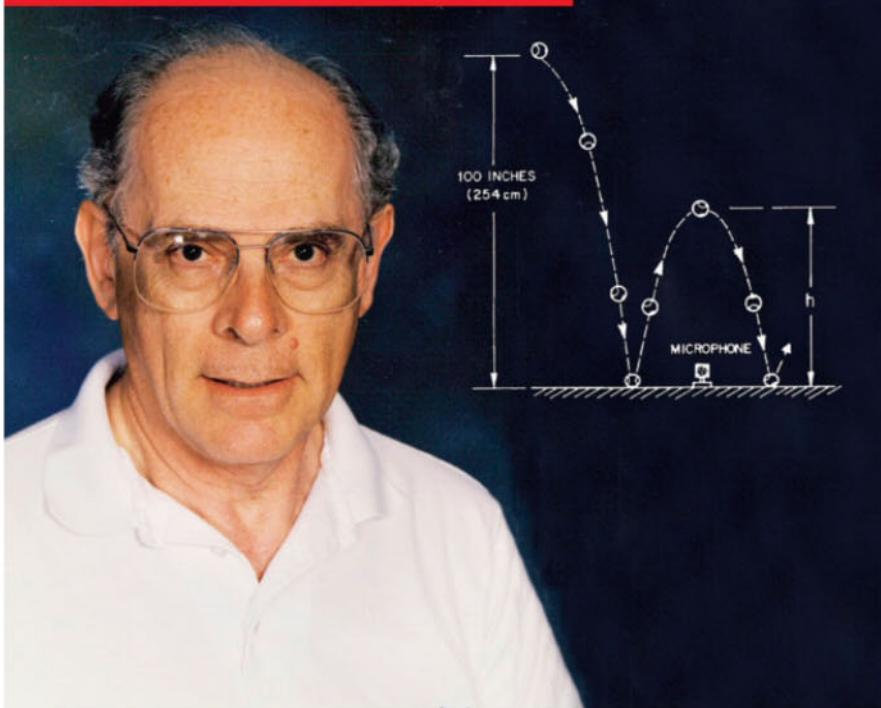
The Economist commodity-price index

	% change on			
	Aug 18th	Aug 25th*	one month	one year
Dollar Index				
All Items	132.9	130.5	-5.3	-20.1
Food	154.6	151.7	-5.4	-14.7
Industrials				
All	110.2	108.3	-5.3	-26.9
Nfa [†]	114.3	110.8	-3.8	-18.4
Metals	108.5	107.3	-6.0	-30.1
Sterling Index				
All items	154.3	151.2	-6.0	-15.6
Euro Index				
All items	149.7	142.1	-8.4	-7.6
Gold				
\$ per oz	1,116.0	1,135.0	+3.6	-11.6
West Texas Intermediate				
\$ per barrel	42.4	38.8	-18.7	-58.7

Sources: Bloomberg; CME Group; Cottlook; Darmenn & Curl; FT; ICCO; ICO; ISO; Live Rice Index; LME; NZ Wool Services; Thompson Lloyd & Ewart; Thomson Reuters; Urner Barry; WSJ. *Provisional

[†]Non-food agriculturals.

means
can
take
side
want.



The science of swing

Howard Brody, physicist of tennis, died on August 11th, aged 83

DID Isaac Newton play tennis? He certainly liked to watch it, for as he first observed light rays bending in and out of his prism, in 1666, "I remembered that I had often seen a Tennis ball, struck with an oblique Racket, describe such a curve line." His three laws of motion, too, as Howard Brody liked to point out, make a pretty good synopsis of a game of tennis: 1, An object in a state of uniform motion will remain in that motion unless it encounters an external force; 2, force equals mass times acceleration; and 3, for every action there is an equal and opposite reaction (unless the ball goes out).

Professor Brody's love of tennis, perhaps like Newton's, was never quite matched by his skill. From fumbling tournaments in high school ("The coach gave up"), he progressed to four years of varsity play at MIT, and for one heady month coached the men's team at the University of Pennsylvania where, for almost all his career, he was a physics professor. His original field, though, was particle and nuclear physics, the result of a boyhood fascination with a little book called "Atoms in Action"; and it was only by a fortuitous piece of topspin, or backspin, or rotation about an axis, that he found himself focusing not on photons and quarks but on relatively massive fluffy yellow balls, bouncing.

From his office at Penn he could see the courts, and on holiday he made for them; and around the mid-1970s he noticed that racket heads were getting bigger. Were they therefore better? As he tried to find out, to his surprise, an almost unexamined branch of science opened out before him. The timing was good, for after a stint at CERN in Geneva he was tired of being just one more PhD in a crowd. True, his kudos took a bit of a dive between working on the Large Electron-Positron collider and pitching balls at a racket hung on a string, or dropping them from a stepladder, in a Heath Robinson way. (One footnote read, "It was suggested that the author not rip out the tiles for the purpose of performing this experiment.") But it was a lot more fun.

Within a few years he found himself the world authority on the elasticity of strings, the "dwell time" of balls on them, ball trajectories, windows of acceptance (the gap between the minimum angle needed for the ball to clear the net and the maximum that allowed it to stay inside the baseline), twistweights and sweet spots. In 75 articles he laid out his findings, with copious graphs and equations. He became an adviser to the Professional Tennis Registry and the International Tennis Federation, among others. Not as much time was spent on court as he might have liked, since

oscilloscopes and simulators worked better indoors. But he jauntily turned up to meetings and dinners in tennis shoes, just the same.

His chief satisfaction was that ordinary players could profit from his work. His academic articles ruefully conceded that ordinary Joes and Janes, standing by the racket display in Dick's Sporting Goods, might not have a torsional oscillator to hand. So in 1987 "Tennis Science for Tennis Players" laid out his findings for those for whom "dwell time" means sitting under a towel eating a banana; a "polar moment of inertia", the realisation that the ball is heading for the neighbour's window; and the "apparent coefficient of restitution", the hope that he will still chuck it back.

Finding sweet spots

Players mostly wanted to know how tightly they should string their rackets. Professor Brody's advice was, not as tightly as they thought they should. Looser strings (not too loose, though; "a butterfly net would clearly be no good") conserved more of the energy fed to them by the ball, deformed themselves more and deformed the ball less. For the same reasons, better elasticity and a little roughness, gut strings were better than synthetic ones. On the other hand, stiff frames, which vibrated less, played better than the flexible kind. As for sweet spots, where the player barely felt the impact of the ball, Professor Brody found that there were in fact three per racket, tantalisingly close together. A wider head made the sweet area more central, allowed more room for topspin and reduced the risk that a miss-hit would make the racket twist in your hand. So yes, a Prince Thunder Bolt would play better than a Spalding Smasher—in theory.

In practice, as he admitted, an awful lot still depended on how good the player was. Side-by-side video clips of himself and Roger Federer showed no difference in the physics, but rather a lot in the physique. No one had yet analysed ball control either on court or in the lab—though, without it, sheer power was not much use. The science of swing was still under investigation. The grip of a hand on a racket, he had found in one of his favourite experiments, added almost nothing but steering. For that matter, no one had worked out the biomechanics of tennis elbow, either.

He had, however, a little list of tips for avoiding unforced errors and improving technique. Don't change the ball angle on the return; don't hit the ball too hard; when serving, hit the ball as it's falling; and add lots of topspin, giving gravity a helping hand to curve the ball downwards. It was topspin, of course, that Newton had admired. In short, Professor Brody concluded, players had to obey the laws of the universe. Simple, really. ■

THE PRIVACY AND FLEXIBILITY YOU WANT

FOR LESS THAN THE TAX
ON A £2M LONDON HOME

Buying a second home for occasional use – with initial outlay, tax implications and commitment of managing a property outright – rarely seems justified.

47 Park Street offers a selection of luxuriously furnished, spacious apartments in Mayfair for the amount of time you personally require in London each year - at a fraction of the cost of whole ownership.

Residential benefits include:

- Fully Integrated Property Management
- 24-hour Concierge, Maid and Room Service
- Valet Storage Facility and a wide range of usage options
- Free of Stamp Duty

We know our members by name and cater to their tastes and preferences, ensuring that every visit feels like coming home.

**LESS THAN 20 INDIVIDUAL AND CORPORATE
FRACTIONAL INTERESTS REMAIN FROM £117,000**

47 PARK STREETSM
Mayfair - London

GRAND RESIDENCES BY MARRIOTT.

Open daily 9 am – 5 pm

T: +44 (0) 20 7950 5528 E: enquiries@47parkstreet.com

47parkstreet.com/Econ

Data Protection: Your personal information and details will be stored in a database controlled by MVCI Europe Limited and may be used and transferred outside the EU to Marriott Vacation Club International companies and their approved agents worldwide (including but not limited to, countries with a lower or higher level of data protection standards) to administer this promotion and to advise you of other offers. To exercise your data protection rights of opposition, access, rectification and deletion, you may write to the Consumer Affairs Manager at: MVCI Europe Ltd, Barnard's Inn, 86 Fetter Lane, London, EC4A 1EN, UK. IQL-15-006. THIS ADVERTISING MATERIAL IS BEING USED FOR THE PURPOSE OF SOLICITING THE SALE OF FRACTIONAL RESIDENCE CLUB MEMBERSHIP. Subject to applicable terms and conditions. This is neither an offer to sell nor a solicitation to buy to residents in jurisdictions in which registration requirements have not been fulfilled or where marketing or sale of fractional residence club membership is prohibited and your eligibility and the membership clubs available for purchase will depend upon the jurisdiction of your residency. Prices are subject to change. Key information is available upon request by contacting 47 Park Street Grand Residences by Marriott, Mayfair, London, W1K 7EB, United Kingdom or email enquiries@47parkstreet.com. Marriott Vacation Club International and the programs and products provided under the Grand Residences by Marriott brand are not owned, developed, or sold by Marriott International, Inc. Marriott Vacation Club International uses the Marriott marks under license from Marriott International, Inc. and its affiliates. © Copyright 2015, Marriott Vacation Club International. All rights reserved.



waterislife|.slack.com

The organization **Charity: Water** brings clean and safe drinking water to people in need. Their teams use Slack, an easy-to-use messaging app that integrates with your existing tools and gathers all your communication in one place. It's teamwork made simpler, more pleasant, and more productive.

